ISCTE IUL
Instituto Universitário de Lisboa

# Organizational Life Cycle: Leadership Style and Employee Satisfaction - A Case Study of Hospital in China

**WANG Xinglin**

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

**Doctor of Management**

Supervisor:

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

Co-supervisor:

Prof. Weidong Xia, Full Professor, Florida International University

March, 2019

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**Declaration**

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

Signed: Wang Xinglin  Date: 28th,Feb,2019

Name: Wang Xinglin

作者申明

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作者签名：王兴琳  日期：2019 年 2 月 28 日

姓名(拼音)：Wang Xinglin

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# Abstract

There is a lack of empirical research on the leadership styles applicable to hospitals, particularly in the fast-changing healthcare environment of China. This study answers the following two questions: What are the different leadership styles that are suitable for different hospital development stages? What are the relationships between leadership styles, strategic positioning, culture and satisfaction? Using a combination of qualitative and quantitative analyses of a large Chinese hospital, referred to as GZR hospital, this study shows that four different leadership styles are suitable for different hospital development periods. Transformational and charismatic leadership are suitable for the start-up and the recession/regeneration periods; charismatic and parent leadership are suitable for the growth period; maintained leadership is suitable for the maturity period. The effectiveness of the different leadership styles is in a descending order: transformational, charismatic, parent, and maintained. The findings suggest that hospitals need different leadership styles in different development stages. Analyses of survey data suggest that leadership style is significantly associated with strategic positioning, sub-culture and employee satisfaction. This research contributes to the literature by proposing and empirically examining a theoretical model of the different types of leadership styles and their relationships with strategic positioning, sub-culture and staff satisfaction in the unique fast-changing environment of Chinese healthcare sector. It also makes practical contribution by highlighting how hospitals should align leadership styles with their development stages and make appropriate management choices to achieve desired organizational outcomes.



**Keywords:** leadership style; employee satisfaction; strategic positioning; culture

**JEL:** I11; M54

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# Resumo

A falta de pesquisa empírica sobre os estilos de liderança aplicados aos hospitais tornou-se numa questão mais importante devido à mudança constante dos serviços de saúde da China. Este estudo responde às duas perguntas seguintes: Quais são os diferentes estilos de liderança adequados para os diferentes períodos de desenvolvimento dos hospitais? Quais são as correlações entre o estilo de liderança, a posição estratégica, a cultura e o grau de satisfação dos empregados? Aplicando métodos quantitativos e qualitativos na análise de um grande hospital chinês (adiante denominado de GZR) , este estudo identificou quatro estilos diferentes de liderança adequados aos diferentes períodos de desenvolvimento do hospital. A liderança transformacional e carismática é adequada para as fases de arranque e recessão / regeneração; a liderança carismática e parental são adequados para o período de crescimento; a liderança de manutenção/prática é adequada para o período de maturidade. A eficácia dos diferentes estilos de liderança ordena-se de uma forma decrescente: transformacional, carismática, parental e manutenção. Os resultados sugerem que os hospitais precisam de diferentes estilos de liderança em diferentes períodos do seu desenvolvimento. A análises dos dados da pesquisa sugere que o estilo de liderança está significativamente associado à posição estratégica, à subcultura e à satisfação do pessoal. Esta pesquisa efetuou um estudo empírico e propôs um modelo teórico dos diferentes tipos de estilos de liderança e as relações com a posição estratégica, a subcultura e a satisfação do pessoal no ambiente único de mudança constante dos serviços de saúde chineses, contribuindo para a literatura da área de saúde. Ao destacar que os hospitais devem alinhar os estilos de liderança e práticas de gestão com os diferentes períodos de desenvolvimento e que se encontram, este estudo está a contribuir para a melhoria das práticas de gestão hospitalar na China.



**Palavras-chave:** estilo de liderança; satisfação do funcionário; posição estratégica; cultura

**JEL:** I11; M54

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# 摘要

对于医院的领导风格缺乏实证研究，尤其是在中国快速变化的医疗环境中。本研究回答了以下两个问题：适合不同医院发展阶段的不同领导风格是什么？领导风格、战略定位、文化和满意度之间的关系是什么？本文基于对我国某大型医院 (在本论文简称GZR) 的综合定性和定量分析发现四种不同的领导方式适合不同的医院发展时期。变革型和魅力型的领导适合创业和衰退/再生时期；魅力型和家长型领导适合成长时期；维持型/实用型领导适合成熟时期。不同领导风格的效果呈递降顺序：变革型、魅力型、家长型、维持型。结果表明，医院在不同的发展阶段需要不同的领导方式。对调查数据的分析表明，领导风格与战略定位、亚文化和员工满意度有显著相关性。本研究通过对我国医疗行业独特的快速变化环境中，不同类型的领导风格及其与战略定位、文化和员工满意度的关系，提出领导风格理论模型并进行实证研究，为文献研究做出了贡献。此外，通过强调医院应如何使领导风格与其发展阶段相一致，并作出适当的管理选择，以实现预期的组织成果作出实际贡献。

**关键词：**领导风格；员工满意度；战略定位；文化

**JEL:** I11; M54

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I enrolled in 2011 and should have completed the thesis in 2014. Because of the busy work and age, I have had the idea of giving up writing. There are two people who I need to give special thanks for giving me the motivation to restart and complete the thesis. One is Eva Xu who never give up on me. The other is my chairman and brother Eric, who give me encouragement all the time. In addition, I would like to thank my family and colleagues Jamie Tang and Amy Luo for their supports. Also, thanks to the mutual encouragement of my classmates!

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# Contents

# List of Tables

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# List of Figures

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# Chapter 1: Introduction

## 1.1 Basis for thesis topic selection

In 2009, China launched a new round of medical reform to mainly solve the social issues brought by the difficult access and high cost of seeking medical treatment. For the first time, basic medical and healthcare services have been provided as public goods for all the citizens in China and by 2011, all urban and rural residents were able to enjoy access to basic medical security services (Ren, 2014). China has also extended the medical reform to county-level so as to realize the goal of medical reform, which is to cure serious diseases in county-level hospitals (Sina, 2009). According to A Conspectus of the Research Project of Grassroots Hospitals' Survival and Development during the Transformation Period, the three-level medical care network led by grassroots county-level hospitals covers about 70% of the population in China (Guo, Zhang, & Yu, 2010). Therefore, whether grassroots hospitals can succeed in the reform will affect the final result of the new medical reform (Guo, Zhuang, Yu, Yue, & Yao, 2010). Faced with the squeeze by public hospitals, community hospitals, town health centers and non-public hospitals, grassroots hospitals, especially county hospitals, are in a very serious form of survival and development. (Wang, Guo, Zhang, & Cao, 2010). For example, in human resources, the ratio of doctors and nurses is unreasonable since there are only a small number of nurses. Moreover, a lack of and difficult access to high quality personnel with a frequent brain drain also remains one of the problems. Furthermore, theses hospitals are running short of effective performance management in human resources (Long, Guo, Ma, Zhang, Lao, & Yu, 2010). The development of specialists in primary hospitals is struggling, subject to various constraints on talent resources, hardware facilities and markets (Fang, Guo, Liu, Xu, & Lao, 2010).

China’s New Medical Reform has been implemented for nine years. According to the National Health and Healthcare Planning for the 13$^{th}$ Five-Year Plan (2016-2020) period issued by the State Council in 2017, by 2020, nearly all serious diseases would be cured within grassroots hospitals of the county-level and the rate of county outpatients’ visits would be increased to approximately 90% (Chen, 2016). However, based on the report of top 500 county-level hospitals by Ailibi, quite a number of county-level hospitals fall far short of this

goal, especially those hospitals in the central and western regions of China, which are suffering from a lack of investment, medical talents, and medical technologies, with a lagged management system. This situation forces patients to travel further to seek for medical services, which serves as a major cause of the phenomenon that major hospitals are more appealing to patients than county-level hospitals. Therefore, it is still difficult to solve the access problems of medical services. Further, according to the Report on the Development of Competitiveness of China's Hospitals (2017-2018), except for the developed eastern regions, equilibrium indices, the distribution index of major hospitals, of most central and western regions in China, such as Ningxia, Xinjiang, Shanxi, Shaanxi, Inner Mongolia are almost zero (Fang, Guo, Liu, Xu, & Lao, 2010). It can be seen that having the capacity to treat serious diseases and retain patients is the key for county-level hospitals to break out of this present dilemma.

This study has found in the nine consecutive years' research on China's county-level hospitals that GZR is a special case. Though the hospital has gone through ups and downs in its development, its great efforts in breaking through technical limitations and providing affordable medical services present a lot of valuable experience worthy of learning. For example, since 1990, the four successive directors of GZR have shown various leadership styles, which lead to different positioning of development strategies, thus resulting in changes in development of the hospital. In particular, GZR’s experience in cracking problems faced by county-level hospitals, which are full of specific and practical methods that can pave a road of reform for county-level hospitals in the central and western regions and remote underdeveloped areas in China. At present, GZR boasts 5 key provincial specialties and a patient out-transfer rate of 0.05%. Besides it also provides free ambulance services and "free month for heart protection" volunteer services during summer holidays. All these are valuable explorations on the development of affordable and quality medical services for county-level hospitals in economically underdeveloped areas.

The main reasons why GZR, as a county-level hospital that truly provides affordable and quality medical services in economically underdeveloped areas of the western regions of Guangdong Province, can succeed in breaking out of the plight lie in the following aspects. On the one hand, the directors of GZR have been fully empowered by the government due to the lack of investment. On the other hand, a clear clue of its development can be sorted out, according to the multiple directors' strategic positioning, organizational system, choices of

hospital cultures, and different leadership styles. A comprehensive hospital with affordable and sound specialist facilities has therefore been built through various approaches: making full use of the external conditions to develop itself; focusing on some specialties; adhering to low price policy, cost control, and retaining patients with its own culture. After its brand and reputation suffered a great damage as a result of medical kickbacks, its new director led the staff to formulate rules and regulations and successfully managed to rebuild the brand within a short time by upgrading it into a 3A hospital, dedicated to repaying the society with charity medical services.

Currently in China, there are nearly 6,000 county-level comprehensive hospitals. According to Ailibi' s research, most county-level hospitals in the central and western regions of China, especially those in economically underdeveloped areas are facing the same development obstacles as GRZ at its early stage, namely, the short of government allocations, funding for building, equipment, specialist talents and technology. To achieve the medical reform goal of “treating serious diseases in county-level hospitals” and truly provide affordable and quality medical services, the successful case of GZR should be studied and learned, because it is of reference value for other hospitals to solve the problems from the root.

According to the literature review, there are quite a few studies on hospital leadership styles. However, this study covers several novel features as follows: targeting at county-level hospitals, especially starting from the perspective of a special case to compare the influence of different leadership styles on an organization following the timeline; starting with leadership styles of different departments to study the influence of subculture on the department development from a quantitative perspective; through a continuous dynamic study in a vertical and horizontal manner to explore how county-level hospitals with backward medical technology can own the capacity to treat serious diseases - the goal of medical reform - without sufficient funding, from the perspective of management.

*Notes:

“Difficulty access to seeking medical services”: Mainly represents the phenomenon that county-level hospitals serving 900 million people fall short of the capacity to provide satisfied services for the patients due to the lack of technology and talents, limited funding and backward equipment. This imbalance between supply and demand leads to social complaints since most people push themselves to only around 1000 3A hospitals in the big cities to seek for better medical treatment (Wang, Guo, & Zhang, 2010).

"High cost of seeking medical services": Before the new medical reform, medical insurance only covers a small area and people complained that "the cost of ambulance was equal to raise a pig, which is really expensive". According to the news of Xinhua News Agency in 2017, "15 years ago, there were less than one-third of people in China that could enjoy medical insurances...." (Wang, Guo, & Zhang, 2010).

"High-quality medical services": According to the medical reform, the goal that county-level hospitals own the capacity to treat serious disease should be achieved by 2020 and at least 95% patients will choose to seek medical treatment in county-level hospitals (Wang, Guo, & Zhang, 2010).

### 1.1.1 Challenges of management

County-level hospitals are generally facing three major problems: difficulty to appeal high- and medium-level talents and retain them to work at the grassroots level hospitals, difficulty to achieve a breakthrough in its development because of obsolete ideas, and unbalanced development. The problems can be summarized as lacking funds, high-level talents, and advanced technology, which are even more prominent in county-level hospitals in the economically backward and remote areas. For example, GZR never receives allocations from the government and therefore 1) the hospital needs to operate at their own expense to survive and develop; 2) talents have no interest in county-level hospitals and are not willing to stay. According to a survey on employment tendencies and salary expectations, most medical students tend to go to provincial or municipal major hospitals, even if they can only work as a trainee for experience. As for the geographical preference of employment, eastern coastal areas are the most popular choice, with a proportion of 36.5%. Secondly, 30.6% of graduates choose small and medium-sized cities; the last choice is small towns. Among the graduates, quite a few are reluctant to work in rural medical facilities ("*Three Reasons Why It Was Tough for Medical Students in China to Get a Job*", 2017). This study takes GZR as a sample of medical reform and compares the success or failure of different leadership styles of the four successive directors in strategic positioning and choices of hospital cultures, so as to study the influence of their leadership styles on organizational development. Also, this study employs the approach of quantitative modeling to explore the influence of various leadership styles of different departments on subculture, department positioning, and employee satisfaction, so as to identify the value and contributions of leadership styles to management.

### 1.1.2 Research questions

Under the background of new medical reform, this study takes affordable and quality medical services of county-level hospitals, namely, the aim of owning the capacity to treat serious diseases, as a starting point and how these four successive directors broke the stalemate through management in the past 30 years as a lead, facing the current situation that GZR hospital is still in short of funds, talents, techniques and technologies. Starting from this special case, this study explores the influence of different department leadership styles on subcultures of the hospital to build a management model that best suits the development of county-level hospitals. The main research questions are as follows:

1. Which leadership style suits the best during different organizational development periods?

2. What is the influence of different leadership styles on strategic positioning, culture, and satisfaction?

## 1.2 Research background

In economically underdeveloped areas, mainly in the central and western regions of China, quite a number of county-level hospitals are suffering from the lack of money (funding), talent (medical personnel), techniques and technology (medical technology) due to limited local fiscal support. There is a backward development of county-level hospitals in China's vast central and western regions, especially in economically underdeveloped areas Among 2010-2016 top 100 competitive hospitals, 76% of them located in the eastern region of China while 17% in the middle, and 7% in the west ("*2012 China Statistics Yearbook on Public Health*", 2012) ("*2013 China Health Statistics Yearbook*", 2013). Also, there is a huge gap among the top 100 county-level hospitals, especially between the top 10 and the bottom 10. Therefore, given the current situation of more than 6,000 Chinese comprehensive county-level hospitals, there is still a long way to achieve the goal of medical reform, namely, to obtain capacity to treat serious diseases. So, what is the development status quo of the county-level hospitals and how can they break out of the dilemma?

### 1.2.1 The status quo of affordable medical services of China's county-level hospitals

Director-General of Department of Healthcare Reform, National Health and Family

Planning Commission, Liang Wannian once pointed out that the reform of county-level public hospitals is a breakthrough for public hospital reform. County-level hospitals cover a large area, with around 5,370 county-level hospitals serving 900 million people in over 2,000 counties and cities. Starting from the basics at the grassroots level, China takes the road of medical reform that starts from the countryside and gradually extends to the cities (Wang & Huang, 2014).

The key of new medical reform is to solve the problem of expensive medical treatment for farmers and urban residents. Especially in terms of basic medical insurances, China has made important strategic arrangements for deepening medical and health system reform and established new types of rural cooperative medical insurance and medical insurances for urban residents and employees. In particular, the insured rate of the new rural cooperative medical insurance has exceeded 98% in 2012 (see Figure 1-1), the proportion of insured urban employees and insured urban residents are 71.4% and 38.2% respectively ("*2012 China Statistics Yearbook on Public Health*", 2012). In Fuzhou, Zhengzhou, Guizhou, Hainan and other cities, the new rural cooperative medical insurance reimburses 75% or even more hospitalization expenses ("*2012 Statistic Bulletin on Human Resource and Social Security Development*", 2013). County patients enjoy basic medical security and affordable medical services have been provided in many county-level areas.

According to the white paper released by the State Council Information Office of the People's Republic of China, by the end of 2015, the number of insured people with basic medical insurance reached 1.336 billion with the insured rate remaining above 95% (Sohu, 2016). In 2015, reimbursement rate for hospitalization expenses within the scope of the basic medical insurance for employees was over 80%. The reimbursement rate for hospitalization expenses within the scope of the basic medical insurance for urban residents' basic medical care was over 70%. The reimbursement rate within the scope of the basic medical insurance for new rural cooperative medical insurance was about 75% (Sohu, 2016). And the maximum payment limit of the insurance fund was raised respectively to 6 times the annual average salary of local employees and the annual per capita disposable income of local residents (Sohu, 2016). As a result, the new medical reform makes significant contribution to affordable medical services.

### 1.2.2 The status quo of quality medical services of China's county-level hospitals - county-level hospitals own the capacity to treat serious diseases

To truly realize the medical reform goal of "county-level hospitals have the capacity to treat serious diseases", the key lies in the development of affordable and quality medical services. Furthermore, the development of quality medical service depends on the hospital's strengths on medical techniques and technologies. Through the analysis of medical technology indexes and business volume of the county-level hospitals, it can be seen that the current development of these county-level hospitals is extremely unbalanced. Moreover, according to the provincial medical balance indexes of Ailibi, at present the medical technology ability of the county-level hospitals still faces big challenges.

Quality medical service is a more pressing problem in the development of county-level hospitals. There is still a long way to achieve the medical reform goal of basically realize the capacity of treating nearly all serious disease within county-level hospitals ("*Our Country Strives to Make County-level Hospitals Capable of Treating Serious Illness by 2020*", 2014). By 2016, the number of county-level hospitals accounted for 46.4% of the total number of hospitals in China, while the visits accounted for only 33.7% of the total hospital visits, and the out-transfer rate of patients in the local county-level regions was more than 20% ("*China Health and Family Planning Statistical Digest 2014*", 2014). It can be seen that there is still a long way to the goal of "county-level hospitals receive 90% of the patients within the county" ("*Our Country Strives to Make County-level Hospitals Capable of Treating Serious Illness by 2020*", 2014). Although there are various kinds of measures taken, including promoting hierarchical diagnosis and treatment system, establishing medical community, limiting expansion of the A-level hospitals, and even canceling outpatient services in First-grade hospitals at Grade Three at some regions or cities, so as to ease the siphon phenomenon of large hospitals and promote technology development and patient returning to the local grassroots level. However, the implementation results are not satisfying due to the lack of basic medical technology capabilities, coupled with the management concerns of major hospitals. The specific status quo is as follows.

#### 1.2.2.1 Soft technology are weaker than the hard equipment --- growth performance of top 100 county-level hospitals

According to Ailibi' s list of top 100 county-level hospitals, indexes to evaluate medical technology include annual patient discharge number, annual surgical volumes, number of

personnel with senior professional titles and their proportion accounting for the total employee population, and number of medical equipment assets. Number of medical equipment assets of the top 100 county-level hospitals grew fast at an average annual rate of 13.5% during the 7 years of 2010 to 2016 (see Figure 1-2). In sharp contrast, the annual patient discharge number, the number of personnel with senior professional titles and its proportion accounting for the total employee population only had an average annual growth rate of 10% or below, while the growth rate even declined at an average annual rate of 0.2%. It can be seen that the growth rate of technology is far lower than that of equipment (Liu, Wang, Yan, & Cai, 2014).

#### 1.2.2.2 The unbalanced growth in the eastern, central and western regions of China

Among the distribution of the top 100 county-level hospitals from 2010 to 2016, the eastern shortlisted hospitals (76%) have been leading the shortlisted hospitals in other regions. However, there is a downward trend year by year, and the number of hospitals in the central and western regions has increased year by year (Liu, Wang, Yan, & Cai, 2014).

One main reason for this imbalance may be the serious lack of financial support in the central and western regions. In 2012 the financial subsidies or fiscal funds received from the supervision department or organizers by medical institutions in the central and western regions were 63 billion yuan and 77.4 billion yuan respectively, a huge gap from that in the east, which is 131 billion yuan (“Work Plan for Comprehensively Improving the Overall Capacity of County-level Hospitals”, 2014). The director of one public hospital in the mid-west region once expressed that the situation where most public hospitals are under insufficient financial compensation would exist for a long time, and one of the biggest fiscal subsidies for the medical system of the city was only about one third of those for 3A hospitals in Beijing every year (Sohu, 2011).

In the meanwhile, the top 10 among the top 100 county-level hospitals all locate in the east, while only 24 of the top 100 locate in the central and western regions. The outpatient and emergency visits of the top 10 accounted for 20.25% of the total 100 while the last 10 only accounts for 6.73%. The overall medical technology of the top 10, which shows in the number of staffs with senior professional titles and medical equipment assets proportion, also takes the lead, accounting for nearly 20% of the top 100, which is far more than other shortlisted hospitals, while the last 10 accounts for less than 7% (Liu, Wang, Yan, & Cai, 2014).

## 1.3 Research significance

Talents, specialist capacities and equipment are some keys to boasting medical technology. The present situation the county-level hospitals face is difficulty in introducing and training talents, with talent shortage as a challenge in the development of the hospitals. As a result, the specialist capacities of the hospitals are limited. Even if there is a policy facilitating them to own the capacity of treating serious diseases, their specialist facilities with inadequate competencies still make it difficult for them to take up this important task.

In terms of competitiveness, county-level hospitals in the economically developed eastern region pose an absolute development advantage and they are capable to treat nearly all serious diseases. However, those hospitals in the central and western regions, especially in economically underdeveloped areas, the medical reform goal is still far away to achieve. The highly unbalanced medical layout has cast shadow on the overall development, and how to break the deadlock will be a big problem for the medical reform. Facing the current situation of insufficient funding and shortage of talents, how can county-level hospitals own the capacity to treat diseases and retain patients? GZR also once experienced this dilemma and therefore its successful experience is worth studying because it is of significant reference value for the development of other county-level hospitals.

### 1.3.1 Theoretical significance

Having studied the special case of GZR hospital for the past 30 years, especially under the leadership of four directors with different styles in its ups and downs, we identify two relationships: 1) between leadership styles and strategic positioning; 2) between the development of specialist brand and the integration of appropriate culture. Also, their significance to management science has been studied. Further, we establish an Empathy-Strategy-Tactics-Execution (ESTE) leadership model with Empathy as the core and Strategy, Tactics, and Execution as three closely related aspects. This is also the special contribution of this case to the management science and the theoretical significance and value of this study.

This study starts from the perspective of longitudinal and qualitative research to analyze different leadership styles; then with clinical departments known as tissue cells as the research subjects, explores the influence of leadership styles of organizational subsystem on preference of strategic positioning and subculture from the perspective of cross-sectional and quantitative

research. At last, we study the influence on satisfaction according to the changes and impacts of above-mentioned variables. This process -- establishing a leadership model of management science to find out the relationships among variables through empirical methods -- is of significance to management science.

### 1.3.2 Practical significance

In 1938, Barnard first extract organizational theory from management theory and strategy theory. He said that management and strategy are mainly related to leaders; also, the organization's 'matching' with the environment has become the basis for current analytical approaches to strategic theory (Li, 2010). Thus, a leader is the key to the development of an organization. The special case of GZR presents a very good mirror-like effect. Quality medical service is the greatest challenge for medical reform to be implemented in the county-level. What should these county-level hospitals do? How does GZR hospital develop from a small hospital with no funds and lack of technology into today's county-level benchmark? GZR hospital, as the top 3 among the county-level hospitals (Liu, Wang, Yan, & Cai, 2014), was also once trapped by economic backwardness. In the face of medical difficulties such as the lack of financial support, talents and technologies, which is common in county-level hospitals in economically underdeveloped regions, it abandoned the extensive growth pattern in development and developed itself by making technological breakthroughs. It took affordable and quality medical services as the goals and finally completed the goal of treating serious diseases within the county-level hospital. Its successful experience is worth learning by county-level hospitals, especially those in economically underdeveloped areas. Also, it not only achieved 98% of outpatient visits, but also 40% of its patients were attracted to seek medical treatment here.

By analyzing the different leadership styles of GZR, we find out how to break out of the dilemma. As one of the medical reform examples, the "special case of GZR" is expected to provide references and practical significance setting up the diversified benchmark for county-level hospitals in different regions with various backgrounds. At the same time, in order to confirm the influence of leadership style, this study deepens into the organizational subsystem, which is, the department, to study the leadership styles of all clinical departments. It is generally believed that the department is the organizational cell for the hospital development. Whether the leadership style is compatible with the subsystems and the overall

system will affect the implementation and execution of the whole organization. Therefore, quantitative research will help the selection and promotion of the department director in practice, so as to build and cultivate the appropriate leadership style of the director.

## 1.4 Research contents and research methods

### 1.4.1 Research contents

This thesis is divided into seven chapters.

Chapter 1: Introduction. This chapter focuses on introducing the development status quo of how county-level hospitals gain the capacity to treat serious diseases and the background as well as dilemma of this study, so as to point out the main research problems of this study. Further, this chapter illustrates the significance of the special case of GZR and the influence of different department leadership styles on subcultures. Meanwhile, this chapter describes the theoretical and practical significance of this study on the management science and reference value for county-level hospitals. The research methods and ideas are summarized, and the content framework and structure of the thesis is briefly described and introduced.

Chapter 2: Literature Review. This chapter mainly discusses about literature review on leadership styles. We make several comparisons in this chapter to further study the differences and relationships: charismatic leadership and maintained leadership, transformational leadership and parent leadership; material culture and behavioral culture, and institutional culture and spiritual culture in the organizational culture and organizational strategy and positioning; strategies between leaders and followers, niche and challengers.

Chapter 3: Research Model. Based on the literature review of leadership styles, strategic positioning and organizational culture, this chapter starts from the theoretical basis to explore the relationships among research variables as follows: leadership style as independent variable (VI); strategic positioning as intermediate variable (V2); department subculture as intermediate variable (V3); satisfaction as dependent variable (V4). Therefore, we establish a management model of leadership style from a quantitative perspective.

Chapter 4: Research Methods. This chapter includes qualitative and quantitative research. As for qualitative study, we analyze the influence of the leadership styles of the four directors on GZR hospital based on timeline and collect the hospital data and conduct in-depth interviews at the hospital for three times. As for quantitative research, after scale design and

data collection, we design a measurement scale of department orientation, subculture and satisfaction of different department leadership styles, and conduct a survey on the hospital employees thorough the design, distribution and collection of questionnaires.

Chapter 5: Case Analysis. GZR broke out of the plight to possess the capacity to treat serious diseases. We take the different leadership styles of the four directors as the starting point of the study and analyze the development and changes of GZR in the past 30 years. Further, we identify success and failure elements in this special case and summarize influences of different leadership styles of directors on strategy, innovation, and satisfaction.

Chapter 6: Research Model Analysis. Through the questionnaire survey of different department leadership styles, we establish a model to study the influence of leadership styles on department positioning, subculture, and satisfaction. This chapter includes sample background analysis of the data, describing statistical analysis and reliability and validity analysis of the questionnaire, factor analysis, and model building of the questionnaire items.

Chapter 7: Discussion. This chapter discusses the study of GZR hospital on the influence of leadership styles on the development of the organization during different periods, theoretical contribution of establishing ESTE leadership model, and implications for county-level hospital development, so as to explore the practical reference significance of this case to county-level hospitals in the underdeveloped regions. Meanwhile, starting from the perspective of quantitative research, we establish Leadership Style Model to study the influence of leadership styles on organizational positioning, subculture and employee satisfaction, so as to provide evidence of management science for the selection, training, and cultivation of department directors. This comprehensive research method, namely mutual proof of quantitative research and case studies, is the innovative contribution of this study to the management science.

### 1.4.2 Research methods

Qualitative research: We have read a lot of reports about GZR, its data analyses in different periods, and literature on leadership styles. Since 2010, the author has been engaged in the research on competitiveness of county-level hospitals and taken this experience as a basis for establishing hypotheses. Also, the author has been to the county-level hospitals for many times during 2012, 2014, and 2017 to conduct in-depth research through questionnaires and interviews as case-based empirical research methods, mainly using statistical analysis

methods such as SPSS and SAS.

Quantitative Study: Through the design of the measurement scale, we design cross-sectional and discontinuous questionnaires of different clinical departments and construct the hypothesis of the variable model. Then we revise the research model and establish the Leadership Style Model. The specific research methods are as follows:

#### 1.4.2.1 Literature search

The whole process of research has employed the method of literature search. We collate and summarize through systematic search of databases such as CNKI, Wanfang, Medline to seek for relevant studies on leadership styles, organizational culture, and strategic positioning inside and outside China. Therefore, we carefully sort out and summarize a large number of former research results to form theoretical basis and analytical framework of this thesis.

#### 1.4.2.2 Method of comparative analysis of historical data

Data from 1990 to 2017 has been collected to compare the changes in operation of four successive directors through methods of data analysis and chart comparison, so as to find problems and differences from the data to ease and solve the problem.

#### 1.4.2.3 Rating scale method

This thesis employs SPSS24.0 and SAS software to conduct scientific statistics and analysis of pre-test and formal test questionnaire data, including basic reliability, validity test, descriptive statistics, and relatively complex factor analysis (exploratory factor analysis).

On the basis of selecting the structural equation model, two comparative scientific revisions were made, and a new measurement scale was formed. (1) Theoretical section: we combine the different types of leadership style, organizational culture and hospital culture as well as their connotation in China and find their common points; (2) Measurement tools: I compare the advantages and disadvantages of the measurement tools by comparing various measurement tools. Therefore, in the selection of the organizational culture measurement tools, I finally selected the survey scale for the GZR using the structural equation model to conduct the empirical research.

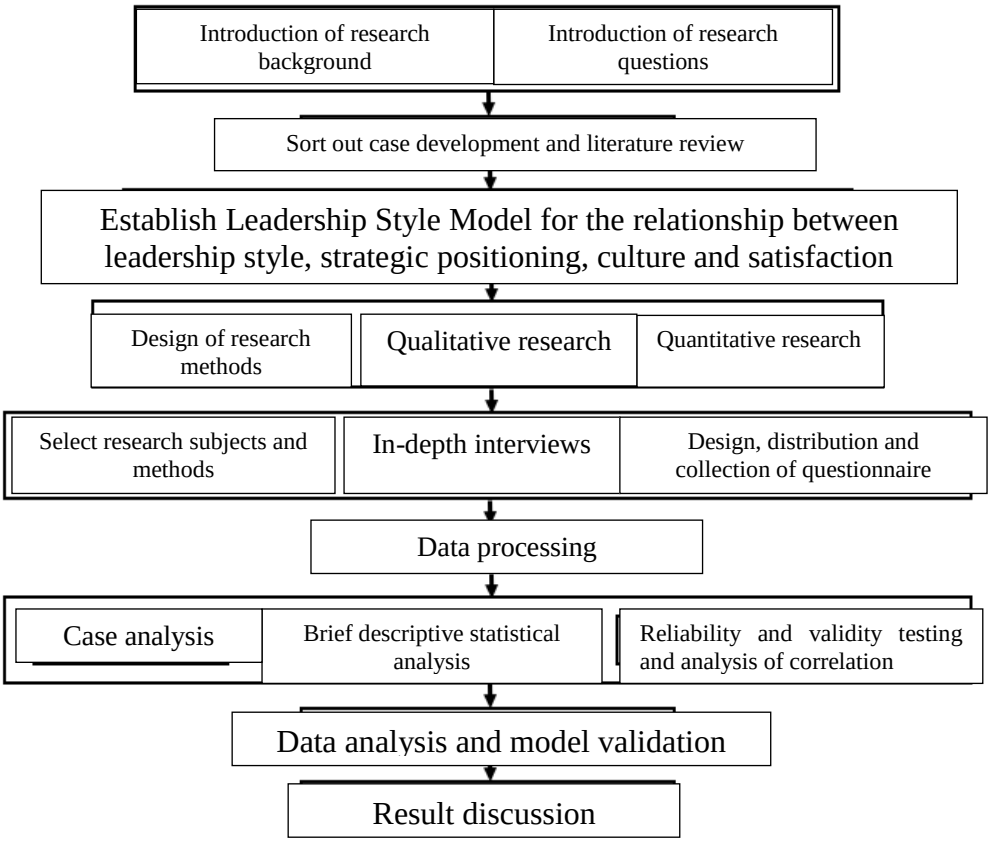
#### 1.4.2.4 Method of in-depth interview

Three interviews during 2012, 2014, and 2017 enabled us to deepen our understanding of the development of GRZ hospital, including its current situation, current major problems, and future development. The method of in-depth interview mainly adopts one-on-one interviews

with employees and sets up a round table.

## 1.5 Technology roadmap

Figure 1-1 Technology roadmap



# Chapter 2: Literature Review

## 2.1 Leadership

Leadership is mainly to guide the work. Leaders need to change their own judgment criteria to unify behaviors of the subordinates. There are five elements of leadership: leaders, followers, action objectives, authority, and leadership behavior. Regarding the concept of leadership, there are several points of view.

According to John (2002), Leadership is a process of leading by example. Through this process, leaders can lead groups to achieve common goals with their own qualities or actions. Carmeron and Quinn (2003) believe that the leader is a process that affects other members. The trust and obedience of other members of the team are required to complete the task. According to Ahmad and Bakar (2003), Leaders need to convey their goals to others, while being understood by others to drive and turn goals into reality. Fiedler (2003) has convened a number of leaders, including companies, academic research institutions and non-profit organizations, to conduct research and finally draw conclusions. The task of the leader can be divided into three parts: one is to convey the vision; the second is to achieve value growth; the third is to establish a reward mechanism.

### 2.1.1 Leadership

From the combing of the literature, we can also see that most of domestic literature on leadership or academic papers are the extension and localization of the theory of leadership based on foreign research. The new content of “National Management” and “Confucian Leadership” that were finally formed is also a hot topic in China.

We can see that there is a lot of literature on leadership research and there are at least more than 50 descriptions of the definition of leadership. In the following table, I have sorted out some representative views at home and abroad.

In summary, the concept of leadership means that leaders need to use the influence generated by themselves to achieve organizational goals, accomplish organizational work and achieve their own capabilities.

Firstly, leadership is generated in a specific context; secondly, it is a dynamic process.

Thirdly it is the result of the interaction of the leader and the follower; at last it is also reflected in the impact on the behavior of the follower.

As for the views of foreign scholars on leadership: Porter (2005) argues in the book *Leadership 21 Law* that influence is the essence of leadership. You can influence others and lead others only by relying on leadership. Chen（2011) contends that Good leaders don't always make orders, but they should create a good working environment for employees, so that excellent employees can follow them voluntarily. "Nothing is more convincing than what you believe". Bartlett (2001) believes that leadership is a transformative ability of leaders who can turn vision into reality. According to Schein (2014), leadership is summarized into four qualities: sincerity, ability, passion, and forward-looking. Hilletofth (2009) believes that leadership is divided into three types: charismatic leadership style, transformational leadership style and visionary leadership. Charismatic leadership style refers to the influence that leaders have on employees through their own charisma; transformational leadership style is that leaders use their material or spiritual culture to motivate team members to achieve their goals. Visionary leadership, as its name suggests, draws an organizational blueprint by giving employees an organizational vision. Bryman (2006) points out that learning leaders need to have three qualities of teaching, changing, and sharing. Learning leaders need to be clear that if you want to lead in the organization, you will need four dimensions: value, focus, situation and sharing.

As for the views of Chinese scholars on leadership, according to Liu (2012), firstly, it is believed that leadership is irrelevant with rights and status; secondly, it is a positive, optimistic and upward influence; thirdly, it is the embodiment of a group's comprehensive strength and quality. Geng and Zhang (2014) argues that leadership is actually a specific influence, an impact process and an activity carried out by the organization to set goals and achieve goals. Yang (2011) has three points: firstly, the theoretical research on the leadership of domestic scholars is further exploration mainly based on foreign research; secondly, foreign leadership theory has three cornerstones: trait theory, behavior theory and contingency theory; thirdly, most scholars are studying the dual types of leadership and change, and hope to effectively promote the improvement and development of internal staff capabilities. Li (2013) mainly focuses on charismatic leadership, combining with localization ideas; he carries out research through theory combined with solid evidence; leaders need to pay attention to team members, actively communicate with team members, find team members'

performance gap, and thus achieve common goals. Lu (2017) mainly studies the theory of situational leadership. Cognitive managers need to have four elements: knowledge, experience, wisdom, and vision. And he/she should be skilled in using these abilities. Liu (2012) has three main points. First, the leader should be able to position the role; second, comb the relationship and position between the leader and follower; third, improve the quality of the leader through eight links. Wu (2014) believes that the influence of leadership is special, and then the target is the leader and the follower. It is a power generated by the leader when changing the follower. Chen (2017) discussed a relatively new point of view. He believes that leadership has three levels: point, line, and face. That is, from the individual (leader) to the team (leaders and members, level and superior) and then to the entire organizational culture. Wei (2017) combed the empirical research on foreign leadership and found four characteristics shared by outstanding leaders: influencing the team, achieving the vision; giving value, giving meaning; mutual trust and mutual restraint. Ling (2015) believes that leadership is the embodiment of the overall quality and ability of the leader. It includes several contents: market acumen, tenacity, interpersonal coordination and personality charm. The leadership has been carefully analyzed from a quantitative perspective.

### 2.1.2 Leadership style

In the early 1990s, based on the theory of integrated organizational behavior, the era of situational leadership theory was opened, mainly to study the relationship between management environment and leadership style. The situational leadership theory is based on the goal and set human being as the core. More scholars have integrated the four types of leadership: charismatic, transformational, maintained and parent leadership, starting with a leader-style perspective.

#### 2.1.2.1 Charismatic leadership and maintained leadership

The concept of Charisma is developed by Max Weber, a German sociologist, which refers to a divine gift that is particularly attractive to others. According to Weber, charisma can be divided into two categories: physical attractiveness, including laughter, voice, expressions in one’s eyes, and body; and mental attractiveness, including charismatic personalities and personality charms (Yang, 2011).

Charismatic leadership is a theory of leadership indicating that leaders encourage their followers with their own appeals and promote major changes in the organizations. Leaders

can use their charisma to make major changes in the organization, and this charisma can be used to encourage the subordinates (Zheng, 2018). In 1977, Bass (1985) pointed out that charismatic leaders have the following three features: the tendency to dominate others, remaining steadfast in their own convictions, and a high degree of self-confidence (Tian, 2011). Moreover, House mentioned that charismatic leaders also have other characteristics of personality, including social sensitivity, adventurousness, confidence, creativeness, determination, values, a desire to influence others, and dominance. However, there are deficiencies in the theory of charismatic leadership proposed by House. Firstly, the influencing process is ambiguous, without explaining how the leaders influence their followers. Secondly, the analysis of this theory is mainly based on the relationship between immediate supervisors and subordinates, without explaining how the leaders influence the whole organization (Conger & Kanungo, 1998).

After studying a number of leaders, W. Bennis concluded that charismatic leaders have four competencies: (1) With great ideals and ambitious goals; (2) Able to convey these ideals and goals to their subordinates and make the latter agree with them; (3) Unswervingly pursuing ideals and implementing them consistently; (4) Aware of their strengths and take full advantage of these strengths. Conger and Kanungo (1998) elaborated the five behavioral dimensions of charismatic leaders: vision and articulation, environmental sensitivity, sensitivity to follower needs, personal risk, and unconventional behavior. Gardner and Alvolio (1998) described charismatic leadership from a dramaturgical perspective, pointing out that this kind of leadership is an impression management process enacted theatrically in acts of framing, scripting, staging, and performing. In 1987, Conger and Kanungo (1998) from McGill University systematically studied charismatic leaders. They summarized their features as the following nine perspectives: (1) essentially opposed to status quo but strives to change it; (2) establish a long-term goal prospect; (3) confident about their own judgment and competencies; (4) make their subordinates agree with their ideals and ambitious goals; (5) expert in using unconventional means to transcend the existing order (6) sensitive and decisive to take actions in order to make a difference; (7) only enjoy legal powers and often rely on expertise power as well as referent power; (8) use extraordinary methods to achieve long-term goals; (9) being representatives of innovations and reforms (Conger & Kanungo, 1998).

Maintained leaders are also generally called as transactional leaders, who strive to

maintain the status quo and his approach is to be a business-oriented one. Maintenance leaders are more inclined to maintain the current order, stability, and ability to run in an orderly and efficient manner. In Chinese, the word “Wei Chi” (maintain) is to keep in order to continue. Therefore, maintained leaders focus on impersonal performance indexes and strictly comply with the regulations and values of their organization (Baidu, 2018).

The difference between charismatic leaders and maintained leaders is that the former has ambitious goals, motivations to make a change, and impact on their subordinates. They often do not follow the common template, have the courage to break the orders and framework, and use unconventional methods to succeed in innovations and reforms. Therefore, the charismatic leaders are suitable to lead the organizations make reforms and innovations and deal with crisis. The maintained leaders would strictly comply with and maintain the orders and operate the organization within the present framework.

#### 2.1.2.2 Transformational leaders and parent leaders

The concept of transformational leadership was proposed by Burns (1978), who believed that leadership should be divided into either transformational leadership or transactional leadership (Burns, 1978). To be more specific, transactional leaders influence the behaviors of their employees by awards and punishment while transformational leaders encourage their employees to have better performance by idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration (Burns,1978). Moreover, transformational leaders are considered to be innovative, having positive effects on organizational performance. Generally, behaviors of the leaders would be both transformational and transactional. Bass (1985) put forward that transformational leaders can change employees’ work attitude, inspire their employees, and improve their work enthusiasm, which not only make their employees work hard to finish work tasks, but also improve the performance of the whole organization. Moreover, Bass believed that behaviors of transformational leaders are related to charismatic leaders, individualized consideration, and intellectual stimulation (Bass, 1985). Fiedler (2003) considered that the impact of leaders and organizational environment on leadership was more complicated. In the same period, Bryman suggested that the theories of transformational leadership, charismatic leadership, and strategic leadership should be collectively referred to as “theory of new leadership” (Fiedler, 2003). Apart from focusing on leaders’ satisfaction about their employees’ work and work status, theory of new leadership also concerns the impacts of leaders on the personal values, self-esteem, self-confidence, and demands of their employees (Bryman, 2006). It is fair to say

that Bryman (2006) raised the recognition of theories of leadership to a higher level. In their research, Sun and Tian (2012) believe that every dimension of transformational leadership has significant influence on each dimension of innovation culture. Moreover, there is a positive correlation between transformational leadership and innovation culture and the influential degree of each dimension of transformational leadership can be ordered from the largest level to the smallest one as shared vision, individualized consideration, idealized influence, and intellectual stimulation (Sun & Tian, 2012). Furthermore, there are cultural differences among transformational leaders in different countries. For example, more emphasis is laid on intellectual stimulation and shared vision in China while importance is attached to intellectual stimulation and individualized consideration in the US. Moreover, Li, Meng, and Shi (2007) studied the influences of transformational leadership on organizational citizenship behaviors (OCBs) under the Chinese cultural background. The results show that transformational leaders have strong predictive capabilities on subordinates' OCBs. Particularly, the individualized consideration of transformational leaders can accurately predict the altruistic behaviors, civil virtues, decorum, and sense of responsibility of the employees (Li, Meng, & Shi, 2007).

Parent Leadership is a centralized management mode with main features represented in the powers of the leaders. The more representative scholars of parental leadership are Fan and Zheng (2000). They believe that "parent leadership is a fatherly kind and moral leadership style (Fan & Zheng, 2000). It is an environment of human governance, but with strict and severe discipline and authority". In *Research on Parent Human Resource Management*, Ling (2008) pointed out parental leadership refers to a state in which leaders and employees complement each other. It is to change the system by establishing a good working environment for employees, improving the working environment, and improving the working atmosphere, so as to achieve the goal of allowing employees to fully exert their subjective initiative in the work. Therefore, employees can be devoted to their job, which would help to promote their work performance (Ling, 2008). However, there are shortcomings in parent leadership. For example, the Parent-Adult-Child (PAC) mode proposed by the American psychiatrist. Fiedler (2003) in 1950s is one of well-known western personality theories. For example, in the parent (P) state, the positive ego can be regarded as open parents (OP) state while a negative ego will be believed as closed parents (CP) state. Therefore, in parent leadership, the positive side would be featured with responsibilities, leading by examples, and encouragement while the negative side would be characterized by censure, centralized

authority, and conservativeness as well as closedness (Fiedler, 2003).

The difference between transformational leaders and parent leaders is: transformational leaders, with intellectual stimulation and shared vision, can lead and stimulate their subordinates' work enthusiasm so as to meet high expectations (Baidu, 2012). The positive parent leaders share many common features with transformational leaders while the negative parent leaders may bring negative effects to the organization.

## 2.2 Culture

The definition of culture has broad and narrow meanings. The broad sense of culture encompasses material and spiritual wealth and refers to the sum of human effects on nature and society. The narrow sense of culture refers to the spiritual wealth, including religion, beliefs, customs, moral sentiments, academic thoughts, literature and art, science and technology, and various systems (Baidu, 2012).

Culture is the thoughts, ideas, behaviors, customs, habits, representative figures formed by a group (state, nation, enterprise or family) in a certain period of time, and all activities radiated by the overall consciousness of this group. In the traditional sense, a person with or without culture refers to the level of education he/she receives (Baidu, 2012).

### 2.2.1 Organizational culture

#### 2.2.1.1 Connotation of organizational culture

In the 1970s, the study of organizational culture began. Because of the high content of organizational culture and the high value of influence, it has always been a hot spot in academics. The following is a compilation of some of the more valuable insights of famous scholars at home and abroad in organizational culture:

Schein is a representative of organizational culture research. He published *Organizational Culture and Leadership*, in which he directly proposed that organizational culture is the organization's value orientation and the embodiment of employees' common beliefs (Ahmad & Bakar, 2003). The research he made, and the definition of organizational culture have the widest range of influences in the theoretical world (Li, 2013).

The research of Deal and Kennedy is primarily to define the definition of organizational culture, mainly from the perspective of its constituent elements. They mainly propose from

the perspective of the constituent elements that the definition of organizational culture is the embodiment of employee values at different levels and the culturally concentrated expression of the environment inside and outside the organization (Ahmad & Bakar, 2003).

Denison believes that organizational culture is the basis for most leaders to manage member behavior. At the same time, this potential awareness develops at different stages of organizational development and the formation of a value system is more stable. Therefore, it will promote promoting management practices to achieve or exceed expected results (Bartlett, 2001).

Japanese-American scholar William G. puts forward: "Tradition and spirit together constitute the culture of the organization. It determines whether the organization values innovation, steady progress or adventurous progress, etc. All of these are long-term explorations. Through their own actions, leaders gradually guide and instill the thoughts and behaviors to members in their daily work, and gradually inherit them over time (Bartlett, 2001).

Liu (2012) studied organizational culture in terms of material, behavior, institution, and mentality. He pointed out that organizational culture is formed in the context of specific national culture, morality and ethical culture. It plays a vital role in the thinking, experience and behavior of employees.

Zheng (1981) believes that organizational culture is a psychological creed that guides members' behavior in organizations (Zheng & Zhuang, 1981).

In short, scholars generally believe that organizational culture is a shared value shared by all members of the organization, including values, beliefs, principles, codes of conduct, traditional customs and ways of doing things. It can transform the behavior of internal members into a higher and better direction for the organization (Wu, 2014).

#### 2.2.1.2 Types of organizational cultures

##### 2.2.1.2.1 Research by Deal and Kennedy

Deal and Kennedy set the standard for organizational culture types. They have developed four types of standards, namely, tough-guy/macho culture, the work-hard/play-hard culture, the bet-your company culture, and the process culture. They are based on two criteria for employees to cope with crisis and feedback speed after completing specific tasks. Organizational culture with high risk and rapid response must pay attention to flexible and

diversified management outside the organization (Ahmad & Bakar, 2003).

#### 2.2.1.2.2 Research by Denison

Denison proposed the cultural trait theory of organizational culture. It reveals that organizational culture has four characteristics: adaptability, mission, consistency and involvement. It believes that organizational culture is the implicit nature of the organization. It is generated and formed by the values and beliefs of each member's mind and reveals in detail the influence of organizational culture on organizational behavior association (Bartlett, 2001).

#### 2.2.1.2.3 Research by Wallach

Wallach studied organizational culture from the following three perspectives: bureaucratic, innovative, and supportive (Chen, 2013).

#### 2.2.1.2.4 Research by Cameron and Quinn

Cameron and Quinn (2003) studied the organization's internal-external, flexible-stat ionary two-dimensional dimensions, and then proposed to divide organizational differen tiation into four types of theories, namely, clan culture, hierarchy culture, adhocracy c ulture, and market culture.

Clan culture is to create harmonious atmosphere of interpersonal relationship inside the organization. The organization resembles a large and warm family and all employees belong to this family. Employees are members of this big family. They care about each other and grow together, so as to make progress together. The organization attaches importance to the loyalty of the employees while the employees will be encouraged to cooperate and communicate with each other, as well as cooperate to solve the problems they are facing (Cameron & Quinn, 2003).

In hierarchy culture, the criteria for assessing excellent leaders is whether they have the ability to coordinate internal and external organizations and their ability to resolve problems quickly. Organizations rely on strict systems and policies to seek their own development. Therefore, ensuring the smooth operation of the organization is the most important part of organizational efficiency. Once a problem occurs at one level of the organizational structure, other parts of the organization will be paralyzed. So, the focus of the leader is to ensure the stability of the employment relationship (Cameron & Quinn, 2003).

In adhocracy culture, it is key for every employee to be innovative and adventurous. Leaders often have the courage to break the rules and they are not afraid of danger. Moreover,

leaders of this culture would explore a unique development path of the organization. In other words, to pursue higher market value by creating new products and services. Organizations with adhocracy culture encourage the individual creativity and freedom of their employees and hope that employees can create value for products and services, so as to realize organizational and individual value (Cameron & Quinn, 2003).

In the result-oriented market culture, results-oriented is the measure of performance by completing tasks. From a long-term perspective, the organization gains a competitive advantage by expanding market share and implementing strategies of price penetration, so as to guarantee an expanding market share and achieving the targets at the same time. In organizations with market culture, both managers and employees have a sense of competition, goal-oriented and prudent work style to achieve the organization's target market and achieve leadership goals (Cameron & Quinn, 2003).

#### 2.2.1.2.5 Research by E.B. Taylor

In 1871, the British anthropologist Taylor, E.B. (1871) published *Primitive Culture*. In his book, he puts forward: "Culture or civilization is a complex whole. It is any other ability and habit that members of society acquire through learning. It includes knowledge, beliefs, art, ethics, law, customs (Taylor, 1871)."

The British anthropologist B.K. Malinowski developed the definition of culture on the basis of Taylor. He published *A Scientific Theory of Culture* in the 1930s, proposing: "Culture refers to a set of traditional objects, goods, techniques, ideas, habits and values. This concept encompasses and regulates all social sciences. We will also see that social organizations cannot be understood unless they are considered part of culture. It further divides culture into physical one and the mental one, the so-called, “the converted environment” and “the changed human organisms” (Taylor, 1871).

#### 2.2.1.2.6 Research by Pettigrew

In 1979, Pettigrew released *On Studying Organizational Cultures* and Pondy and Mitroff published *Beyond Open System Models of Organization*, ushering the study on culture models of organizational management (Ahmad & Bakar, 2003). A majority of scholars outside China regard organizational culture as a specific cultural concept, a value system, a code of ethics, tradition, custom, habit, and production concept related to the long-term production and operation of the organization. The early study on organizational culture (Cameron & Quinn,

2003) was mainly based on anthropological studies. In his masterpiece *Corporate Culture and Organizational Effectiveness*, Cameron and Quinn (2003) defined organizational culture as "the potential values, beliefs, and principles are the foundation of all the management systems, management practices, and managerial behaviors in an organization, as well as some basic principles reflected and strengthened by these management systems, management practices, and managerial behaviors."

#### 2.2.1.2.7 Research by Feng and Zhang - overt culture and implicit culture

Feng (2006) and Zhang (2009) believe that corporate culture is a complex concept, which includes "external culture" (physical culture and behavior) and "internal culture" (institutional culture and mental culture). The external culture refers to enterprises' cultural facilities, cultural education, technical training, and cultural entertainment activities and the like. Internal culture refers to value standards, ethics, work attitudes, behavioral orientations, life concepts and the integration of these factors. These factors are constantly promoted, gradually formed and enriched to achieve the overall goals within the enterprise (Feng, 2006).

### 2.2.1.3 Literature of organizational culture in China

Michael (2005), a professor of psychology at Taiwan University, established the VOCS (values in organizational culture scale) scale. The research object of this scale is Taiwanese enterprises, which is cut from the perspective of psychology and build on Schein's research on organizational culture. The VOCS scale is divided into nine dimensions: scientific truth-seeking, customer orientation, excellence and innovation, sharing weal and woe, teamwork, integrity and honesty, performance, social responsibility, and a harmonious neighborhood. These nine dimensions are close to the domestic reality and have oriental cultural characteristics (Zheng, 2004).

According to Taiwanese scholar Zhang (2009) "Organizational culture is an internalized culture that can be used to regulate the beliefs of organizational members and to guide the behavior of members of the organization.

Li, Zhang, Qiu, and Yang (2014) pointed out that organizational culture refers to a culture that is different not only from society but also from individual organizations (such as the military, schools, enterprises, groups, etc.). Corporate culture is the sum of specific cultural concepts, value orientations, historical traditions, behaviors and ethics, and the concepts of production and management that companies form. It runs through the entire process of corporate activities and is the soul of the company.

Chen’s (2016) research is based on two different companies. The author explains the organizational culture of the two companies and gives the results of the research by using Edgar H. Schein's “Overall Interpretation” method as the research method.

Chen (2017) believes that the main manifestation of corporate culture is a concept and a form. It is based on the value system of the enterprise, which is inseparable from the management philosophy and management behavior of the enterprise.

Hu (2012) believes that the core of organizational culture is the values of the company. It is the subconscious of companies and organizations. The components are the values and practices of the company. It is not only the product of the behavior of the members of the organization, but also the “common psychological process” of the members, guiding the behavior of the members of the organization.

The theoretical basis of Zhan and Zhang (2013) is the five cultural scales of Geert Hofstede. On this basis, the empirical study of the dimensions of corporate culture is re-examined.

Guan and Guo (2015) felt that corporate culture is the values, spirit, norms and ethical standards of the company. It has unique and stable features. It is formed and developed in the long-term production and operation process of enterprises in specific economic, social and cultural conditions.

Wei (2017) proposes that organizational culture is the product of the development of the organization to a certain stage. It is the product of integrating the internal culture, values and corporate psychology. Organizational leaders use their consensus on management concepts, basic assumptions, etc. in the organizational management process of an organization or enterprise startup phase.

Feng (2006) and Zhang (2009) regard corporate culture as a complex concept, which consists of overt culture and implicit culture. Li, Zhang, Qiu, and Yang (2014) have revised the specific dimensions in the Organizational Culture Questionnaire (OCQ) developed by Denison. They revised and summarized the specific dimensions in the scale and came up with nine dimensions, so as to better conform to the actual situation of enterprises in China.

The Tsinghua University Scientific Research Group for Organizational Culture (2015) has conducted systematic research on the organizational culture of various enterprises. They summed up eight dimensions, and the assessment scale specifically includes more than 40

measurement items.

#### 2.2.1.4 Literature of organizational culture outside China

American scholar Taylor (1871) first coined the definition of "organizational culture" in 1970, and he proposed this concept in the book Comparative Management: Organizational and Cultural Perspectives. It also systematically summarizes the theory of organizational culture management from various angles, and clearly expounds the relationship between organizational culture and national culture and social culture.

Quinn and Carmeron (2003) believe that organizational culture may be reflected by beliefs of the organization, including values, the dominant style of leadership, language, symbols, process, customs, and success.

Fiedler (2003) defines organizational culture as a value system shared by members of the organization as well as values and basic beliefs of the organization, which guides all activities and behaviors in the organization.

Nong, Liao, and Huang (2011) believes that organizational culture is a shared mode of attitudes, beliefs, assumptions, and expectations, which might not be recorded but can shape the behaviors and interactions of members in the organization and promote the accomplishment of the work. Astrong also points out that organizational culture consists of the main philosophy of the organization, which can be expressed through fictional stories, hero figures, stories, jargons, etiquettes, and legends.

Ketchen, Thomas, and Daniel (1996) defined organizational culture as the basic beliefs, values, and assumptions of members in the organization, as well as their practice and behaviors. Some aspects of organizational culture, such as individual behaviors and group standards, are obvious. However, the other aspects are hard to be observed because they reflect assumption, values, and core concepts, which are implicit. In general, organizational culture is a set of values, beliefs, and mode of behavior, which consists of the core of the organization.

In his *Organizational Culture and Leadership*, Schein (2014) statically elaborates on organizational culture as a pattern of basic assumptions, which includes values, regulations, principles, and assumptions shared by members of the organization.

Li, Zhang, Qiu, and Yang (2014) used qualitative and quantitative methods to study organizational culture and clarified a range of dimensions of organizational culture. Qualitative research includes observation methods, interview methods, case study methods,

and field investigation methods. Quantitative research method refers to measurement, statistics, mathematical model and so on. Firstly, conduct instrumental hypotheses on organizational culture. Secondly, conduct data verification on models. Thirdly, conduct empirical analysis. Some of the theoretical models proposed by Quinn, a representative in quantitative research, can be directly applied to the organizational culture of the enterprise, including some models of measurement, evaluation, and diagnostic research.

### 2.2.2 Hospital culture

#### 2.2.2.1 The connotation of hospital culture

The concept of hospital culture was proposed by John Cott in the 1980s. On the basis of summarizing a large number of domestic and foreign literatures, most scholars believe that hospital culture includes both micro and macro levels. Microscopic hospital culture refers specifically to the material and spiritual culture of the hospital. Macro hospital culture contains all material and spiritual cultures associated with hospitals (Nong, Liao, & Huang, 2011).

The hospital culture in the broad sense is divided into hard culture and soft culture. Hospital hard culture refers to the tangible culture, referring to the material culture of the hospital (Nong, Liao, & Huang, 2011). For example, the hospital's environment, construction, equipment and technology. The carrier of hospital soft culture is mainly human. It is an ideology and a unique idea formed by the hospital in the long-term development process. Strengthening the soft power of the hospital can enhance the core competitiveness of the hospital.

The term Soft Power first appeared in the early 1990s in the book Can America lead the world? It was first proposed by Joseph S. Nye, a professor at Harvard University (Nong, Liao, & Huang, 2011). He wrote in the book that a country includes both hard power and soft power. A country can embody the country's hard power through economy, technology, and military; culture and ideology can reflect the country's soft power. Yu Guoming, a professor at the School of Journalism at Renmin University of China, pointed out that the comprehensive national strength of a country includes both the hard power expressed by the country's GDP and hardware facilities, as well as the soft power embodied in culture, institutions, and media (Nong, Liao, & Huang, 2011).

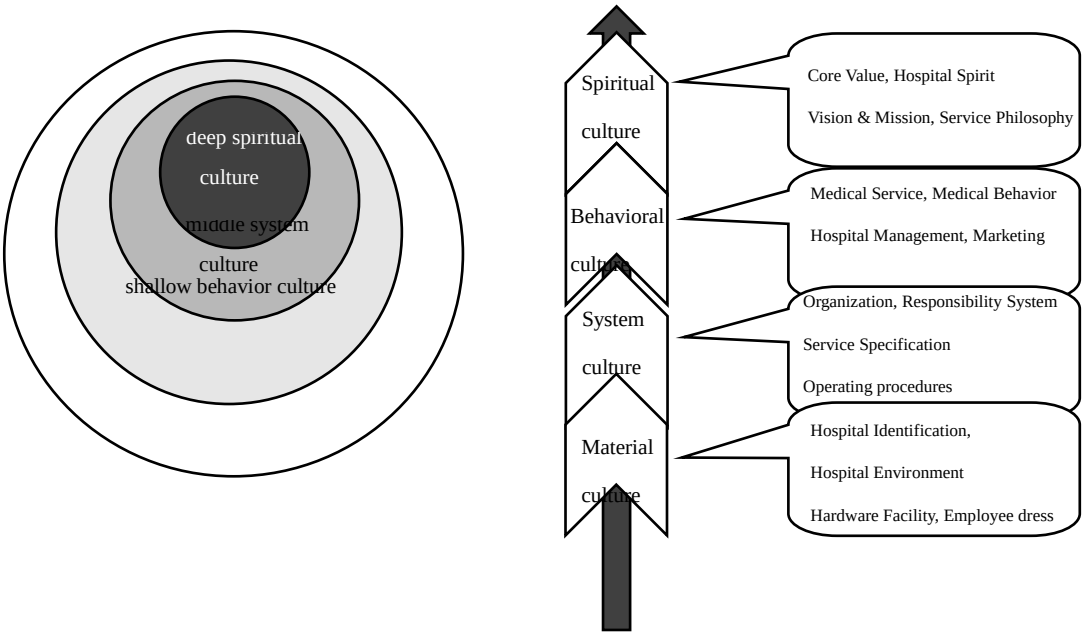
Domestic scholars divide the hospital culture into four levels (Figure 2-1): surface

material culture, shallow behavior culture, middle system culture and deep spiritual culture.

### 2.2.2.2 Characteristics of hospital culture

Hospital culture is a special cultural form formed by the hospital in the historical development and historical creation of human health and quality of life. It has different cultural characteristics from other groups and is an industry culture with hospital characteristics. See the table below for details:

Figure 2-1 Four levels of hospital culture




The characteristics of hospital culture are as follows:

1. Social humanity: Paying attention to the culture of "people". Firstly, emphasize the importance of human values. Secondly, pay attention to social benefits and give back to the society and serve the society. Finally, not only care for patients, but also care for their families and meet the medical and health needs of the people.
2. Advanced nature of the times: Hospital culture is a modern consciousness that reflects the environment, world history, modern science and technology and society of a particular society. It can also reflect the spirit of the development of the times.
3. Professional elegance: Hospital culture has professional characteristics and focuses on the pursuit of elegant culture. It achieves the integration of hospital culture through high-quality medical ethics, superior medical technology, beautiful environment, good action and culture.

4. System openness: By promoting the reform of China's medical system, all areas of the hospital have gradually broken ownership in various fields. Hospital culture should also face the world.
5. Inheritance: Hospital culture is an indispensable part of inheriting the traditional excellent culture of the Chinese nation. At the same time, it also inherits the essence of national culture.
6. Innovative development: The innovation of hospital culture is not only the innovation of medical technology and services, but also the innovation of concepts, consciousness and related systems.

#### 2.2.2.3 Role of hospital culture

Hospital culture mainly has the following effects.

1. Guiding, forming a leading effect. Hospital culture plays the role of compass. One is to lead their own development. The second is to lead the development of the industry.
2. Cohesion, forming a magnet effect. Employees' individual values and hospital values can be unified. The first is the unity of the individual goals of the employees and the overall goals of the hospital; the second is to form the power of unity.
3. Educating, forming an inspirational effect. Firstly, hospital culture can improve the quality of employees; Secondly, cultivate the cultural cultivation of employees and let employees accept the hospital culture.
4. Excitation, forming a catalytic effect. Firstly, employees can stimulate positive working conditions and a sense of collective honor; Secondly, achieve hospital goals and bring direct services to the hospital.
5. Radiation, forming a social effect. Firstly, it plays a role in the hospital; Secondly, it works systematically in the industry; Thirdly, it can radiate to specific social groups and the whole society.
6. Binding, forming a normative effect. It is the unification of external constraints and internal constraints and is bound by the moral and legal formation of employees themselves.
7. Coordination, forming a lubricating effect. Firstly, it uses the common beliefs and goals put forward by the hospital culture to guide employees to self-regularity, accountability, mutual trust between employees, and honest communication, so as to

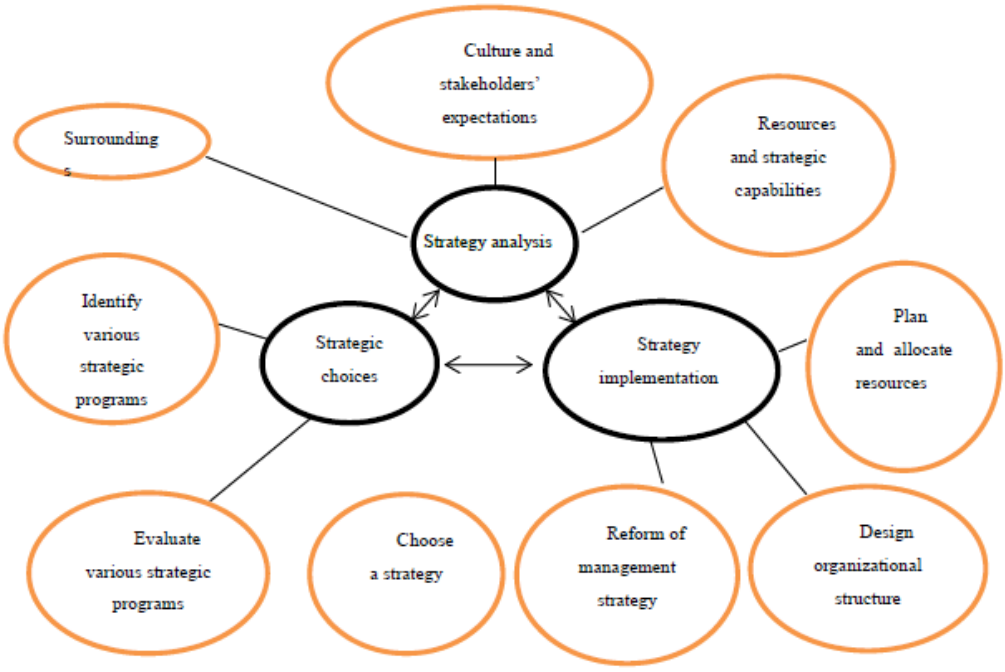
effectively solve problems and disputes. Secondly, it provides feedback through communication and active collection of social information. It establishes a good image and brand image of the hospital, adjust the relationship between the hospital and the society, coordinate the activities of the hospital with the society, and coexist harmoniously with the patients.

8. Benchmarking, forming a brand effect. It demonstrates a successful management style, excellent service status and noble spirit of the hospital for the society. It creates an excellent brand image and an excellent social evaluation of the hospital and produces a brand effect (Li, Zhang, Qiu, & Yang, 2014).

## 2.3 Organizational strategy and organizational orientation

The word "strategy" originates from the military field, which initially refers to the methods to realize aims of war. The strategy has a strong purpose and aim in the military field. Organizational strategies are a series of related behaviors used to improve organizational performance. The organizational strategy consists of three processes, as shown in the following diagram: strategic analysis, strategic choice and strategy implementation, and it is human-related behavior in Figure 2-2.

Figure 2-2 Model of elements in strategic management of an enterprise



### 2.3.1 Strategic analysis

Strategic analysis is to analyze the industry environment in which an organization or a company is located at a strategic level (Chen, 2011). It is necessary to judge the development of the organization from different perspectives, such as analyzing the external competitive environment and internal conditions of the organization, advantages, disadvantages, opportunities and threats, and provide a certain basis for the company's strategy formulation.

#### 2.3.1.1 Strategic choices

Strategic choice refers to the development of an organization's strategic plan. It should not only rely on the advantages of the organization, but also overcome the shortcomings of the organization (Chen, 2011). Use external opportunities to remove external threats and find solutions that meet the organization's ideals, values, and goals. A development strategy that is consistent with an executable business model must maximize the benefits of the organization, both in the long-term interests of the company and in the context of the organization.

#### 2.3.1.2 Strategy implementation

The implementation of the strategy is a crucial part of the strategy. The implementation of the strategic plan is to turn the entire strategy into concrete actions, develop plans based on previous specific strategic plans, and achieve organizational goals (Chen, 2011).

Strategic analysis, strategic choices, and strategic implementation interact with each other. If one link fails, it may affect other links. Because the organization's environment changes frequently, these three phases are also cyclical processes. When the environment is changing, it is also necessary to adjust the organization's strategy, and the strategic manager re-enters the strategy analysis from the implementation of the strategy (Chen, 2011).

### 2.3.2 Characteristics of organization strategy

The goal of an organizational strategy is to manage all resources across the organization and organization. Therefore, the traditional organizational strategy has three characteristics: being overall, being long-term and being programmatic. However, from an environmental point of view, the organizational strategy needs to adapt to the organizational environment. Once the organizational environment changes, the organizational strategy will change accordingly. Therefore, the modern organizational strategy has three more characteristics, namely, being risky, being phased, and being competitive (Chen, 2011).

First, being overall. All members need to consider the internal and external environment of the organization, and all members need assistance. Not only that, organizational strategy is not the personal interest, but the interests of the entire organization. The overall nature of the strategy is related to the regional nature of the tactics. Of course, strategy and tactics are relevant, and both are indispensable.

Second, being long-term. It is an organization's action plan that requires long-term organization. It can neither harm the company's existing interests nor be planned for the company's long-term interests. Focus on the analysis of internal resources and changes in the external environment of the enterprise, so that the development of the enterprise is compatible with changes in the external environment and promote the long-term development of the company.

Third, being programmatic. It is the action and countermeasures taken by the organization and needs to be clarified based on the future development direction of the organization. The content of the organizational strategy is a programmatic document. After the organization develops a strategy, it needs to decompose the strategy and guide the organization to achieve its goals.

Fourth, being risky. It combines the changing environment of the organization's growth and development. Strategy development is based on trends in future environmental changes. Future environmental changes are full of uncertainty. Even a skilled management position may exceed expectations.

Fifth, being phased. The organization enters the strategic execution phase after conducting strategic analysis and strategic selection steps, and the strategic practice is divided into phases and steps. The organizational strategy defines the overall goals for this time period. The overall goal can be divided into several sub-goals, which are implemented step by step rather than simultaneously. Therefore, the organization's strategy is gradual, with strategies ranging from near too far, from simple to difficult.

Sixth, being competitive. A simple analysis of the stage involves an analysis of the organization's business environment. Analysis of the business environment requires analysis of competitors and analysis of competitors' strengths and weaknesses. If you want to catch up with your competitors, your organization may be in a fiercely competitive environment.

### 2.3.3 Types of strategic positioning

#### 2.3.3.1 Leading strategy and following strategy

Philip Kotler (Porter, 2005) proposed that market leaders have the largest market share in the relevant product market. In order to maintain the advantage, first of all, to expand the Philip Kotler overall market demand, leaders are always looking for new users, new uses and more product uses. Second, market leaders can take some steps to defend and maintain market share, such as position defense, flank defense, offensive defense, defensive counterattack, sports defense and contraction defense. In this way, competitors would have no chance to attack. Third, leaders can also increase their market share. If high market share increases profitability and the enterprise's techniques do not trigger antitrust actions, then increasing market share makes sense.

The market follower is in a secondary position. Without disturbing the market, it hopes to maintain its market share and moves smoothly. Market followers should also have strategies to maintain and increase their market share and expand the market. The role of market followers is: counterfeiters, followers, imitators, changers.

#### 2.3.3.2 Complementing strategy and challenging strategy

Market challengers generally gain more market share by attacking competitors. For example, offensive market leaders and other competitors. Challengers can choose the following offensive strategies: positive, side, encirclement, roundabout, guerrilla, and joint offense. As a specific offensive strategy, challengers can also take advantage of price discounts, bargains, branded goods, product proliferation, product or channel innovation, improving service, and reducing manufacturing costs (Ketchen, Thomas, & Daniel, 1996)

The market vacancies are the market segments that choose small pieces, and generally do not have large company services (Porter, 2005)

For traditional small enterprises, the key to filling this gap is specialization. Generally, they choose one or more of the following areas of expertise: end use, vertical level, customer scale, specific customer, geographic area, product or production line, product characteristics, workflow, quality/price level, service or channel. Various fillers are generally more advantageous than a single filler.

#### 2.3.3.3 Relevant literature of strategic positioning in China

Lu Taihong is a famous scholar in marketing in China. He proposed the positioning theory and summarized the five main points of positioning: (1) regional location. By advertising, get a position in the mind of the consumer; (2) psychological position. In combination with advertising, it is necessary to work hard in the consumer psychology to create a psychological position; (3) unique position. The use of the Hiroshima effect produces a unique advantage in consumer psychology; (4) the difference between brands. Differentiated positioning, showing the difference between different brands; (5) pre-emptive effect. Whenever and wherever consumers think of this product, they think of the brand and achieve the implant effect (Lu, 2017).

Fu, Liu, Li and Xin (2010) are four famous scholars in China. They mainly discuss USP, brand image theory and positioning theory. Three main points are summarized: 1. The purpose of positioning is emphasized. First, products or brands can bring benefits to consumers, and secondly, these benefits can be advantageous in the hearts of customers. (2) The positioning theory is not only at the advertising level, but also at the strategic level. (3) Where there is a difference between the positioning and the USP: USP shows product characteristics, and positioning is showing psychological characteristics.

Wang and Zhang (2013) mainly studied the level and methodology of positioning. They believe that positioning can be divided into three steps: product positioning, brand positioning and company positioning. And these three steps are interrelated.

Lan Jin's research is to distinguish market positioning, product positioning and competitive positioning. It also points out the internal relationship between them. Market positioning is the battle for setting goals and directions, and it serves the strategic positioning of enterprises; while product positioning and competitive positioning are to serve the market positioning, and formulate specific methods and strategies (Lan, 2007).

Zhang Fan is mainly doing research on empirical analysis. He studied and analyzed the success of the case of Nao Baijin and pointed out that the reason for the success of Nao Baijin is mainly due to the proper application of positioning by Shi Yuzhu (Lu, 2010).

Geng Yicheng and Zhang Peng jointly published the paper Different Viewpoint from Ogilvy and Mather, Positioning: China's Practice Version, and studied a series of cases, pointing out the success of such brands as Xueer Oral Liquid, MiiOW Thermal Underwear, Jiangzhong Jianwei Xiaoshi Tablet (a kind of digestive and stomachic medicine), Wong Lo

Kat Herbal Tea etc. are mainly due to re-strategic positioning (Geng & Zhang, 2014).

Chen and Zhou (2017) also made a series of case studies, mainly to study the two cases of Baisha cigarettes and Baidu and analyzed their success to provide analysis data for the practice of China's positioning theory.

Qu Yang, Li Feixia and Sun Guohui mainly studied the case of Wahaha. They believe that Wahaha has a problem of unclear positioning and lack of strategy. The strategic positioning is wrong, and the name is not innovative, such as positioning in the target market, positioning of product functions, positioning in competition, and positioning of brand building. And in response to these problems, a series of measures to improve the strategic positioning strategy are given (Qu, Li, & Sun, 2017).

#### 2.3.3.4 Literature in other countries

*Differentiate or Die: Survival in Our Era of Killer Competition* is the well-known work of the famous American marketing guru Jack Trout published in 1969. He mentioned in the book that in a highly competitive market environment, companies need to find ways to make them different. This is the basis for successful positioning. In fact, this is another manifestation of the “differentiation” strategy. For example, it is the first, has characteristics, market expertise, manufacturing methods, new generation products, etc. Since then, strategic positioning has been applied to market positioning and product positioning.

At the beginning of the 20$^{th}$ century, Henri Fayol, the father of modern management and the founder of the management process school, put forward the “five elements of management activities”, which is the earliest strategic thinking of enterprises. Therefore, the famous Harvard professor Porter (2005) believes that this is the first view of corporate strategy.

In 1938, Barnard first proposed organizational theory. He proposed that first, management and strategy work is mainly related to leaders; second, the basis of organizational theoretical analysis is that organizations and the environment must match. So, Michael Porter thinks this is the second view of corporate strategy.

In 1965, Andrews proposed the strategy theory and its analytical framework. He believes that Market opportunities, company strength, personal values and social responsibility are the four elements of strategic composition. Among them, external objective factors are market opportunities and social responsibilities, and internal subjective factors are company strength and personal value.

Porter (2005) puts forward the same view as the “four elements of strategy”. He believes that the components of strategy are: market scope, growth vector, synergy effect and competitive advantage.

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# Chapter 3: Research Model

## 3.1 Theoretical basis of the study

Leadership style theory was researched by Kurt Lewin and his colleagues on group atmosphere and leadership style since the 1930s. Kurt Lewin and others found that different leadership styles have different impacts on departmental members and have different effects on job satisfaction and job performance (Lan, 2007). Starting from the research reality, this study has set four kinds of leadership styles: Parent Leadership, Transformational Leadership, Maintained Leadership and Charismatic Leadership. Leadership style refers to the leader's mode of action. When leaders influence others, they adopt different modes of action to achieve their goals. Each leader has a different style of work environment, experience and personality than other leaders. Strategic positioning is first and foremost a “top-down” process, which requires senior management to have relevant capabilities and literacy.

Starting from the literature research of the second chapter, the review of all the researches on leadership style indicates that different leadership styles reflect different personal ability, personal characteristics and have different impact on the organization and team, as shown in Table 5 and Table 6. It is shown that different leadership styles will affect their different strategic choices and their impact on organizational culture and employee satisfaction.

As can be seen from Tables 3-1 and 3-2, the leadership style can be divided into four types. In summary, different types of leaders represent different characteristics, strategic choices and strategic positioning, and even affect their organizational culture and employee satisfaction.

Charismatic leadership: According to sociologist Max Weber, charismatic leaders have particular attraction, which includes external attraction and inner attraction, showing the charm of disposition and personality. Their personal abilities and characteristics are charismatic. This type of leader influences and encourages followers through their own glamour. Robert House points out that they have adventurous, confident, creative, and determined values. Therefore, in organizational choice and strategic positioning, they tend to be entrepreneurial, innovative, and tends to choose leading strategy. Conger and Kanungo

point out that charismatic leaders have a lofty vision and goal to can win trust from subordinates. Success with unconventional behavior allows subordinates to identify with their own ideals and ambitious goals, to enable employees to become loyal followers and to be satisfied with their work status. Nevertheless, they may blindly follow the leaders and turn into blind followers for lack of rational thinking (Zheng & Zhuang, 1981).

Table 3-1 Comparison of different personal characteristics and strategic choices affected by different leadership styles

| Leadership Style | Personal Ability | Main Characteristics | Strategic Choice |
|---|---|---|---|
| Charismatic Leadership | 1. Have personal dreams and goals<br>2. Can affect the subordinates to make them recognize and follow the goals and dreams<br>3. Have the ability of constantly pursuing and prosecuting the dreams<br>4. Clearly know their own power and the ability to make use of the power | far-sighted, brave to take risks, anti-traditional | entrepreneurial, innovative |
| Maintained Leadership | Committed to maintaining the status quo, maintaining order and stable operation. Strictly adhere to the organization's norms and values. | Adhere to discipline, follow the tradition, do not take risks | Stick to and maintain the established order |
| Transformational Leadership | Have the ability to change the work attitude of employees, motivate employees and increase their enthusiasm for work, which can not only make employees work hard to complete tasks, but also improve organizational performance. | Innovative, positive to the organizational performance | Organizational reform |
| Parent Leadership | Positive: responsible, exemplary, encouraging<br>Negative: critic, centralized, conservative and old-fashioned | Strict, authoritative, disciplinary, kind | Organization Growth |

Maintained leadership: Committed to maintaining the status quo, maintaining order and operating steadily, they strictly adhere to the organization's norms and values. As seen in the author's work practice, this type of leaders is generally relatively introverted, abide by the rules, maintain the tradition, and do not risk. On strategic choices and positioning, they maintain the established order. As for organizational culture, they respect the hierarchical system, relying on strict systems and procedures. There are rules to follow, but employees

lack vision incentives.

Table 3-2 Comparison of different strategic positioning, organizational culture and employee satisfaction affected by different leadership styles

| Leadership Style | Strategic Positioning | Organizational Culture | Employee Satisfaction |
|---|---|---|---|
| Charismatic Leadership | Leading strategy: suitable for leaders with entrepreneurial and innovative ability | Team/market-oriented: attach importance to employees' loyalty to the organization; the charisma of leaders can unite the employees to overcome difficulties and make achievements | Advantage: satisfaction is raised because of high loyalty<br>Disadvantage: can lead to conformity |
| Maintained Leadership | Following strategy: Suitable for leaders who stick to and maintain established order | Hierarchical/ maintained: rely on strict rules and regulations to ensure the smooth working of the organization | Advantage: rule-based and keep everything on track<br>Disadvantage: lack of vision encouragement |
| Transformational Leadership | Leading/challenging strategy: both suitable for leader with organizational reform ability | Innovative/market-oriented: courageous to go against the rules, expand unique development road, create and innovate to pursue higher values | Advantage: encourage personal creativity and freedom of employees<br>Disadvantage: large unknown pressure |
| Parent Leadership | As they focus on the organization growth, the strategic positioning should be determined according to organization growth | Hierarchical/ requiring: have strict systems and norms and responsible order and set an example among the organization | Advantage: explicit hierarchy, clear order, little responsibility of employees<br>Disadvantage: employees have little space to show their talent |

Transformational Leadership: Burn JM points out that they motivate employees through idealized influence, inspirational motivation, intellectual stimulation, and Individualized consideration (Burns, 1978). Bass (1985) believes that transformational leadership and innovation culture have positive correlation. They can change the attitude of employees at work, give employees incentives, and improve their enthusiasm for work, which not only enables employees to work hard to complete tasks, but also improve organizational performance (Bass, 1985). In terms of strategic choice and positioning, they advocate goal-oriented organizational reform and innovation, with market awareness and innovative

spirit. As for organizational culture, they have the courage to violate the rules, open up a unique development path, and pursue higher value. In this way, employees are encouraged and have great individual creativity and freedom, and innovation becomes easy. But the disadvantage is that it may bring more pressure.

Parent leadership: Scholars represented by Zheng Boxun and Fan Jingli believe that this is a kind of leadership style that shows strict discipline and authority, fatherly kindness and morality in the environment of human governance (Zheng & Zhuang, 1981). According to the PAC personality structure theory put forward by psychologist Eric Berne, parents' parental status is marked by authority and superiority, manifested as: responsibility, dedication, encouragement, accusation, centralization, conservative closure (Zhang & Sun, 2017). In strategic choice and positioning, they focus on organizational growth and the strategic positioning depends on the needs of organizational growth. On organizational culture, there are strict systems and procedures, as well as responsible orders and set up examples. The employees have little responsibility, and little space to show their talent.

Therefore, this study uses qualitative and quantitative methods to study different leadership style.

Qualitative research: the study will longitudinally excavate the case of a hospital of 30 years. By dividing the directors into different leadership types, the author will study the impact of the different four directors (leaders) on hospital development and verify the relevant impacts of leadership style on organizational culture, strategic positioning, hospital culture and employee satisfaction in a qualitative way.

Quantitative research: Starting from a quantitative data model, the author use the data of the hospital which section in dot-distribution, and compare a dozen of clinical departments of the horizontal direction to see if the director (leader) of each tissue cell (clinical department) may influence the sub-culture of the department for different leadership styles, and whether the influence of culture on the positioning of the department and employee satisfaction can confirm the relevance of the theory and case.

## 3.2 Research model hypothesis

Based on the literature and research issues, combined with a large number of research data, the author found that there is little research on the relationship between leadership style

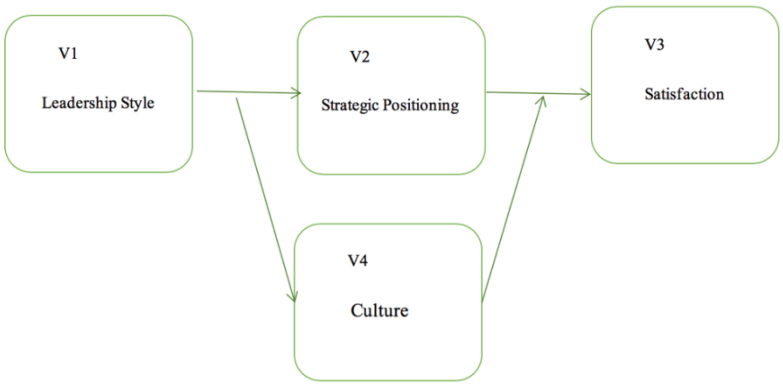
and employee satisfaction. Therefore, based on the literature summary, case observation and a lot of project experience, through problem refinement and deductive reasoning, the author found that different leadership styles can be seen in different personal abilities and characteristics. As is pointed out by Robert House, the tendency to dominate others, the unwavering belief in oneself, and high self-confidence are the three characteristics of a charismatic leader. House's charismatic leadership theory also has its shortcomings. First, it is ambiguous on the process of influence and does not explain how the leader influences the followers. Second, the analytical basis of this theory is mainly based on the direct leader-member relationship, without explaining how leaders influence the entire organization group. Bass (1985) believes that transformational leadership can change the attitude of employees at work, motivate employees and improve their enthusiasm, which not only will enable employees to work hard to complete tasks, but also improves organizational performance (Bass, 1985). The study of Sun Jianguo and Tian Bao's believes that each dimension of transformational leadership significantly influences the dimensions of innovation culture (Sun & Tian, 2012). Transformational leadership is positively related to the innovation culture. Combined with the actual case of GZR hospital, it is shown that different leaders have different preferences in decision-making and organizational positioning because of their differences in personal abilities and characteristics.

In China, the director has absolute authority in the organization. For example, "Three Important and One Large (important decision, important appointment or dismissal of cadres, important project arrangement and large amount of capital uses" is called the "the top project". By analogy, the director of the department also has decision-making power in the management of the department. Therefore, combining theory with practice, this study assumes that "leadership style" is an independent variable, because leadership styles are divided into four types. First, will quantitative research support its theory to have different choices for "strategic positioning" for different types of leadership? Second, positioning is not a result, but an intermediary, an intermediate variable. Meanwhile, different leadership styles will bring different "organizational cultures" as intermediate variables. Culture is not a result either. It is like climate and environment, regulating and influencing employees' feelings. Finally, leadership style, strategic positioning and organizational culture will affect employee satisfaction, so "satisfaction" is taken the dependent variable.

The model is based on the assumption that the level of employee satisfaction is not directly affected by the independent variables, i.e. the leadership styles, but the independent

variables will directly affect the intermediate variables “strategic positioning” and “culture”, and then acts on the dependent variable “satisfaction” through the influence of intermediate variables. The hypothetical model (see Figure 3-1) is as follows:

Figure 3-1 Leadership style theory model




V1 leadership style (independent variable): Since the independent variable can cause factors or conditions for the dependent variable to change, the independent variable is considered to be the cause of the dependent variable. V1 satisfies the condition of the independent variable, which causes the variation of the dependent variable V3 (dependent variable).

V2 strategic positioning (intermediate variable): The influence of the independent variable V1 on the dependent variable V3 is considered. However, in the organization, V1 generally affects V3 through strategic positioning and various organizational behaviors, therefore this study defines V2 as an intermediate variable.

V3 satisfaction (dependent variable): The dependent variable is the result of the change in the independent variable. Because satisfaction (dependent variable) is a reaction caused by changes in leadership style (independent variable), it is interdependent with V1. V3 is the primary target for measurement and observation as well as a variable to be measured or recorded.

V4 culture (intermediate variable): it can influence the direction (positive or negative) and strength of the relationship between the dependent variable and the independent variable. Because the culture shows both explicit and implicit parts, the explicit part can be displayed through the visible identification system and the behavioral habits of the employees; the implicit part should be formed through the organization’s vision, goals, positioning and

system, rules and regulations. Therefore, culture creates a hard environment and a soft environment. The relationship and direction of the independent variable V1 and the dependent variable V3 may even affect the change of V2.

In the construction of this model, leadership style (V1) is taken as an independent variable, strategic positioning (V2) as an intermediate variable, satisfaction (V3) as a dependent variable, and subculture of the department (V4) as an intermediate variable. The four dimensions interrelated layers. The leadership style affects the strategic positioning of the entire department and the culture of the department, and different cultures in the departments also affect employee satisfaction.

## 3.3 Research variables and variable relationship

The purpose using factor analysis in this quantitative study is to describe the rela tionship between many indicators or factors with a few factors, that is, to classify sev eral closely related variables into the same type, and each type of variable becomes a factor. A research variable is a concept or attribute that can vary in quality or quanti ty, which is a variable and different factor (Sun & Tian, 2012). Variables mainly inclu de the following types: leadership style (independent variable), satisfaction (dependent variable), positioning of the department (intermediate variable), and subculture of the d epartment (intermediate variable).

A “leadership style model” is established by using mathematical tools and through various variables to study the interrelationship between variables in the model, and to seek a way to break down complex multivariate problems into smaller parts, so as to establish a logical management system, to prove and promote the scientific nature of management decisions.

### 3.3.1 The influence of leadership style on strategic positioning

According to Barnard’s organization theory, management and strategy are primarily jobs related to leaders (Ling, 2015). In practical work, people with different leadership styles have a preference for strategic positioning, and different positioning often have an impact on organizational development. Therefore, studying the influence of leadership style on strategic positioning is conducive to the correlation analysis of organizational ecology and employee satisfaction.

This study takes the leadership style of the department directors as an independent variable and explores its influence on the positioning of the department through factor analysis. If leadership style is positively related to department positioning, department positioning will change as leadership style changes. It can be inferred that the four leaders' styles--transformational, charismatic, parent, and maintained--will present different strategic positioning. According to the literature review, transformational and charismatic leaders tend to choose leading strategies, courageous in innovation, entrepreneurship, and organizational reform, showing a strong influence and appeal to strategic positioning. Parent leadership's choice of positioning will be determined following the organization's development needs, but they have stricter requirements on institutions, procedures and levels. Maintained leadership is more inclined to choose following strategy or conservative stability.

### 3.3.2 The influence of strategic positioning on satisfaction

Andrews pointed out in his "Strategy Theory and Its Analytical Framework" in 1965: "There are four aspects to defining a strategy. The components are: market opportunities, company strength, personal values and social responsibility. The objective factors are market opportunities and social responsibilities, as well as external environmental factors. Subjective factors are company strength and personal value, as well as internal factors" (Hilletofth, 2009). It can be seen that strategic positioning affects the individual values and aspirations of employees and employee satisfaction is a personal experience and feeling. According to *Customer Expectations, Product Performance and Perceived Product Quality* (published by Olshavsky and Miller) and *Customers' Dissatisfaction: The Effect of Inconsistent Expectation and Perceived Quality* (published by Anderson), satisfaction is the difference between personal expectation and actual perception. Expectation value > actual perception = unsatisfactory, expectation value < actual perception = satisfaction (Fu, Liu, Li & Xing, 2010). Therefore, strategic positioning has a positive influence on satisfaction. However, because satisfaction is significantly influenced by individual perception, the influence of strategic positioning is estimated to be affected by many factors such as environment, culture and interpersonal relationship. Due to the limitations of the questionnaire, other factors are not included in this study except culture.

### 3.3.3 The influence of leadership style and strategic positioning on subculture

Sun Jianguo and Tian Bao's study believes that each dimension of transformational

leadership significantly affects all dimensions of culture (Sun & Tian, 2012). Porter (2005) believes that organizational culture is the imperceptible principle, belief and values that most members generally support, and is the cornerstone of the management behavior of managers at all levels. In the author's consulting practice, leadership style plays a very important role in organizational development. For an organization's healthy development, leaders first need to set up visions and goals to guide directions for the organization, and they also need accurate strategic positioning. Ketchen, Thomas, and Daniel (1996) pointed out that in the fierce competition in the market environment, companies need to find a differentiated approach and make themselves a successful player in the market. Ling (2015) once suggested that cadre culture determines hospital culture. Therefore, the leadership style of the department director not only affects the strategic positioning of the department, but also directly affects the subculture of the department (Lu, 2010). In this study, different department positioning, and cultural types are presented. There is culture that dares to innovate, culture that accepts challenge, culture that attaches importance to competition, culture that emphasizes stability and results, culture that emphasizes department control, culture that is as harmonious as a big family, culture that emphasizes teamwork. Among many factors, it is important to play its role of mediation and regulation.

### 3.3.4 The influence of leadership style, strategic positioning and culture on satisfaction

In summary, leadership style affects strategic positioning, and strategic positioning affects satisfaction. At the same time, leadership style and strategic positioning influence the subculture of the department. Thus, leadership style (independent variable), strategic positioning (intermediate variable), subculture (Intermediate variable) and satisfaction (dependent variable) should form an interactive relationship.

Differences in leadership style usually determine their preference and choices, which affects the leaders' choice for strategic positioning, as well as the organizational climate and the formation of different cultural categories. Ling (2015) and Zhang and Sun (2017) believe that: "Corporate culture is a complex concept, which consists of two parts: the explicit culture and the implicit culture of the enterprise". Hospitals and enterprises are culturally similar organizations. For the implicit part of culture, it is comparable to the fact that biological DNA cannot be touched, but it can be expressed through its biological properties. Therefore, although implicit culture is not physical, it will be expressed through employee behavior. The author believes that culture can be regarded as an organization's spirit and temperament,

cultivation and behavior, habits and conventions. Although these seem to have nothing to do with the survival and development of the organization, the organization without culture is like a living vegetative. To this end, all of these factors will affect employee satisfaction, and the level of satisfaction may be affected by many known and unknown factors. But what is certain is that it will be multiply influenced by the leadership style, strategic positioning and culture.

# Chapter 4: Research Method

## 4.1 Case study (qualitative)

### 4.1.1 Data review

Data of GZR in previous years are analyzed. In 2012, 2014 and 2017, the case study and brand promotion survey were conducted to GZR, and the survey included collection of historical data, questionnaire survey, and employee interviews.

### 4.1.2 Questionnaire survey

Questionnaire survey investigates patients and employees, as well as the public. Patients are subdivided into outpatients, inpatients and discharged patients; survey of the public will be conducted in different locations, usually in places with a lot of people such as downtown areas and competitor hospitals. Generally, four to five locations will be selected.

### 4.1.3 In-depth interview

In-depth interviews are conducted face-to-face with the hospital leadership and middle management so as to get an in-depth understanding of the hospital's specific development history, including the current status of the hospital, major existing problems, and future development.

The hospital leadership includes the hospital president, vice president and party secretary. The middle management includes the directors and deputy directors of the clinical departments, the directors and deputy directors of the medical technology departments, and the persons in charge of the functional departments. The functional departments of the interview include the hospital general office, medical affairs department, nursing department, equipment department, pharmacy department, information department, publicity department, personnel department, science and education department, and finance department.

### 4.1.4 Round-table meeting

For the primary-level employees of the hospital, the main method adopted is round-table

meeting. Each group consists of six to eight people, which are employees from different departments. They are divided into the groups of doctors, nurses, medical technicians and administrative and logistics staff. Each of the meeting lasts generally one to one and a half hour.

## 4.2 Questionnaire survey (quantitative)

Questionnaires designed by questionnaires are used to collect the information or materials needed by the investigators to issue questionnaires (in paper or electronic form). This survey uses two sets of questionnaires. The “double three-circles model” questionnaire is adopted for the evaluation of the hospital presidents, and the Likert 7-point scoring method is adopted to measure sub-cultures leadership styles in different departments.

### 4.2.1 Theoretical basis

The theory shows that the leadership of the dean may affect the hospital's effectiveness, but there is no specific connection. Need to study the objective indicators of the hospital. The main research is two parts: First, although the economic indicators do not reflect the leadership ability of the dean, if the benefits are not good, it indicates that the leadership of the dean may be insufficient. Second, the end result of management is the effect. How to observe its impact is related to the strength of management ability, which indirectly reflects the strength of the president's leadership. Therefore, we have adopted a theoretically authoritative leadership model in the evaluation of hospital leadership, namely the “double three-ring model”.

### 4.2.2 Scale design

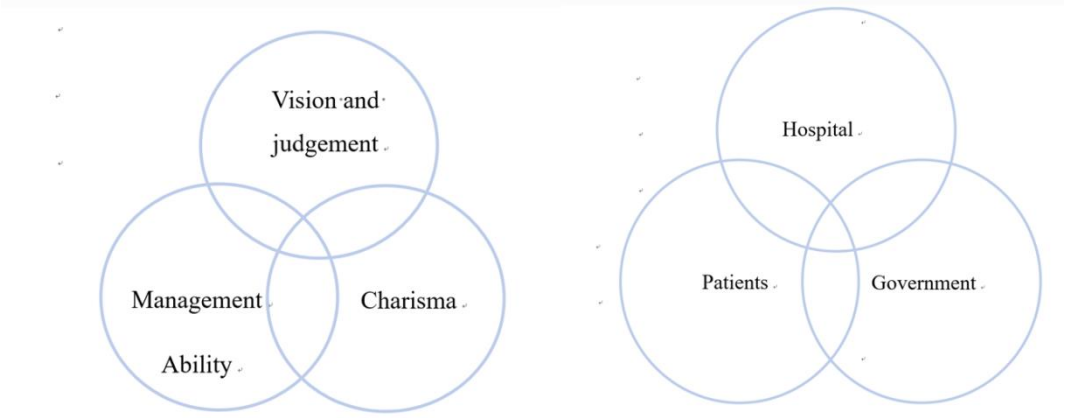
#### 4.2.2.1 Design of the “double three-circles model” scale

Based on the selection dimensions of “The Top Leading Chinese Hospital Presidents” of China Hospital CEO magazine, this thesis identifies the dimensions of the Three-Circles Model after repeated analysis and research as well as review of considerable literature.

Subjectively, the hospital presidents are taken into consideration and are investigated from the leader’s inner three-circles model, namely, vision, management ability and charisma (as shown in Figure 4-1). In this three-circles figure, vision has two secondary indicators:

strategic positioning, and reform and innovation ability; management ability has five secondary indicators: hospital governance ability, motivation ability, communication ability, crisis response ability, and the ability to discover able people and put them at suitable posts; charisma has four tertiary indicators: words to convince people (influence), proposals to call on people (appeal), behaviors to guide people (exemplariness), instructions to enlighten people (persuasion) (Song & Lin, 2011).

Figure 4-1 Inner three circles model and outer three circles model




Objectively, the author starts from the interaction between the hospital and the society, and indirectly examines the leadership of hospital presidents from the perspective of the hospital-patient-government outer three-circles theory, forming an outer three-circles model (as shown in Figure 4-1) (Song & Lin, 2011).

. The scoring in the outer three-circles model is mainly based on the local government's authorization for hospitals, the intensity of hospital competition, local economic conditions, and the proportion of non-local patients to the whole patients.

The questionnaire adopts the hundred-mark system, that is, 100 points is the full mark, 60 points is the passing line, and 0 point is the worst, and the scale is in Appendix Ⅰ.

**4.2.2.2 Scales of influence of different department director styles on sub-cultures**

The measurement scale mainly referred to in this thesis is the scale of Zeng, Zhang and Wei (2016) on authoritative leadership. The scale is widely used in Taiwan, and it also shows good reliability and validity, so it is of important reference value.

It also refers to the scale compiled by Zeng, Zhang and Wei (2016), which is divided into seven aspects: positive incentives, describing vision, promoting cooperation, respecting feelings, inspiring intelligence, and so on.

Scales of Zeng, Zhang and Wei (2016) are refereed to and four dimensions are summarized including “improving the sense of justice in work”, “promoting employee participation in decision-making”, “expressing confidence in the performance of employees” and “cultivating the self-control of employees”.

There are many studies on leadership and leadership styles. This study combines the views of Bemardin, Campbell, Spencer and others. In addition, the scales proposed by domestic scholars Yuan (2015) and Wei (2016) were also designed to design the current scale.

#### 4.2.2.2.1 Questionnaire design description

By reviewing domestic and foreign literature on relevant topics, this study finds the scales widely accepted by scholars as a reference, compares the meanings and actual conditions of each variable, identifies the scale that is most suitable to the actual situation of the study, design the questionnaire on this basis.

The initial questionnaire designed by the Institute is divided into four modules, namely the background information module, the department subculture module, the department management module and the experience and feeling module.

The scale is measured using the Likert 7-point scoring method to evaluate the degree of conformity between the contents of each item and the actual situation. One point stands for “strongly disagree”, two points stands for “disagree”, three points stands for “somewhat disagree”, four points stands for “hard to say”, five points stands for “somewhat agree”, six points stands for “agree”, and seven points stands for “strongly agree”.

After modification, a department sub-culture measurement scale is designed, which contains 18 items, a department management measurement scale with 12 items and an experience and feeling measurement scale with 19 items are designed (see Appendix 12).

# Chapter 5: Case Analysis - How GZR Solves the Medical Problem of "Offering Quality Medical Services"

## 5.1 Introduction of GZR

Established in 1929, GZR is a public hospital in Maoming County, which is an economically underdeveloped remote area in the western part of Guangdong Province. From the beginning of its construction till now, over nearly 90 years of development, it has adhered to route of offering affordable medical services to the public and has developed from a small hospital to a large one and from a weak hospital to a strong one. Especially since 1990, GZR did not rely on the government's capital investment, but summoned the whole staff to adopt a market-oriented path. The GZR model was once recognized as an exemplary medical reform model across China, the "drug kickback scandal" made it a negative example across the country, and it has finally risen again to become the benchmark for county hospitals. Each of the four hospital presidents has different styles and different strategic and cultural choices. From the construction of hospital buildings, purchase of equipment, offering of services, promotion of marketing, upgrading of hospital levels, and establishment of benchmarks, GZR has witnessed the track of China's medical reform and explored the secret of the county hospitals to "offer quality medical services". It is a "living fossil" for the development of county hospitals, with high research value and practical significance for reference.

**History of GZR:**

1929 Maoming County Public Hospital: There were 12 employees including board of directors, hospital president, western medicine practitioners, Chinese medicine practitioners, staff of obstetrics, and nursing staff.

1936 GZ Public Hospital: It was relocated to the western gate of the county and named as GZ Public Hospital.

1940 Maoming County Hospital: It was restructured to be Maoming County Hospital.

1949 Maoming County People's Government Hospital: The Maoming County Government took over County Public Hospital and Guangnan Hospital and merged the two to become Maoming County People's Government Hospital.

1956 Maoming County People's Hospital: Maoming County and Xinyi County were merged to become GZ County and the original Maoming County People's Government Hospital was called GZ County First People's Hospital.

1958 GZ County First People's Hospital

1961 GZ County People's Hospital

1968 GZ County Health Service Station: It was made up of county health bureau, epidemic prevention station, health association, people's hospital, traditional Chinese medicine hospital and maternal and child health care hospital.

1971 GZ County People's Hospital

1993 till now GZR

## 5.2 Predicament of GZ in health care

In the past, GZR also encountered various predicaments as every county hospital in the underdeveloped areas did. However, through its own efforts, GZR has overcome the bottleneck of lack of money, talents and technology, and has made remarkable achievements. After the "drug kickback scandal" severely damaged the brand of GZR, under the leadership of the new president, GZR went out of the trough, revitalized its brand, and achieved Phoenix Nirvana in about one year. The case of GZR is worth exploring.

Located in a remote and economically underdeveloped area, for a long time, the local finances of GZ have been insufficient, and hospitals have received little financial support. Even in 2013, GZR received only 810,000 yuan of financial subsidy. The local per capita GDP is far lower than the average level of Guangdong Province, which also objectively leads to a low level of medical consumption for GZ local residents. In addition, GZ is about 500 kilometers away from Guangzhou, the provincial capital of Guangdong. Before the expressway was opened, it took 10 hours to travel to Guangzhou. In the 1980s, GZ was unable to solve the problem of frequently-occurring acute and serious illness, such as congenital heart disease. Patients either resign themselves to their fate or seek treatment in large hospitals of Guangzhou. In the face of expensive surgery expenses and high surgery risks, they may finally lose both life and wealth.

The people cannot afford medical services and the hospitals cannot offer quality medical services is the medical predicament faced by GZ in the past.

## 5.3 GZR practice of "affordable and quality medical services"

It is not easy to establish a brand, and it is even more difficult to re-establish a brand. The revitalization of GZR after the heavy blow cannot be realized without the correct strategic positioning of the hospital president, the individual charisma of the leaders, the efforts of the staff, as well as the cultural heritage of Mrs. Xian culture and Gaoliang County culture. The Mrs. Xian culture is the cultural heritage and spiritual characteristics that has been inherited by GZ for more than a thousand years. The "Good Heart Gaoliang" trademark reflects the core requirements of honesty and self-discipline, highlighting the historical culture and local characteristics of GZ.

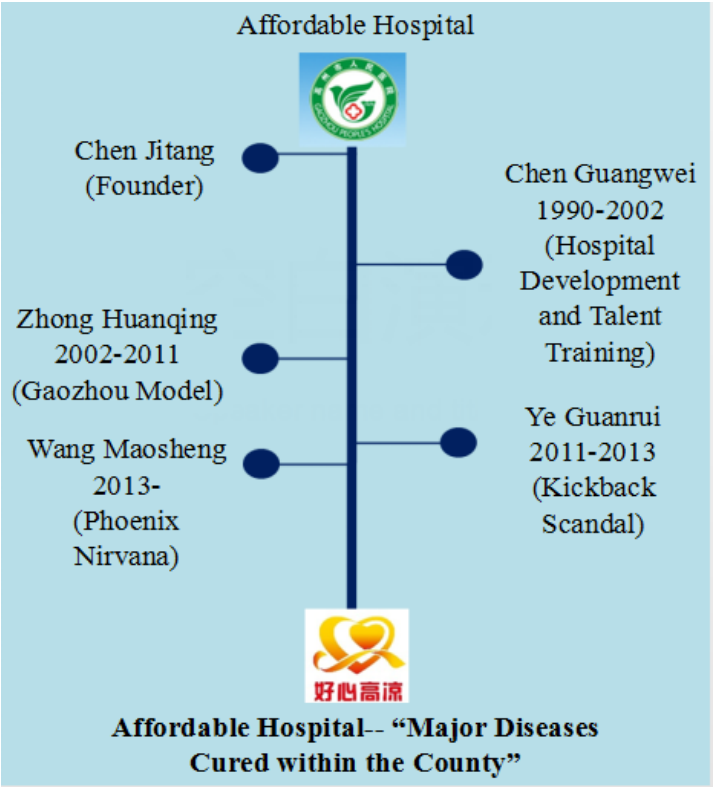
In 1929 when the hospital was founded, the founder of GZR, Chen Jitang, proposed to "build a hospital where the poor people get affordable medical services". After nearly 90 years of development and change, GZR relies on development of specialties, comprehensively upgrades the hospital brand, adheres to offering of affordable medical services, controls cost, and boldly build itself to a hospital that offers affordable medical services. In spite of the "drug kickback scandal" in 2013, GZR standardized the norms, rebuilt its brand, implemented harmonious management, and did charity to repay the society under the leadership of the new hospital president. The development history of this hospital is a GZR practice history of offering "affordable and quality medical services" (see Figure 5-1).

## 5.4 GZR practice of hospital leaders with different styles

### 5.4.1 Chen Guangwei (1990-2002) - hospital development and talent training

When Chen Guangwei was appointed as the hospital president, GZR did not have any advantages over other county hospitals. During the 12 years of term of office, in face of the development predicament of lack of money, talents and technology, Chen Guangwei broke through the conventional thinking and implemented far-sighted strategy and practical tactical execution. By raising funds from the employees to break through the financial difficulties and seeking talents and medical skills in Beijing to break through the talent and technical difficulties, he created the hospital brand with heart surgery as a breakthrough, so that local people afford the medical services and hospitals can offer quality medical services. At the same time, its good medical technology and affordable charging model also benefit the surrounding people outside GZ.

Figure 5-1 Development history of GZR




As quoted in the employee interview, "without Chen Guangwei, GZR will be the same as the county hospitals in neighboring areas"; "Chen Guangwei provides timely help to the development of the hospital".

#### 5.4.1.1 Funds raised from employees to build the hospital building to break the fund shortage predicament

From the beginning, President Chen's goal was not to establish a simple county hospital. Many of his breakthrough measures are still amazing at present after so many years has passed, and the most eye-catching one is the 19-story surgical building built in 1997. At that time, GZR was the same as all county hospitals in economically underdeveloped areas with no money, no talents or technology. The government stated that it would not allocate funds, and the leading group of GZR were also unanimously opposed to this move. However, the far-sighted President Chen, with his own vision and charisma, launched a joint fund-raising project to build the building (19-story surgical building with 320 beds) with the help of the whole medial staff (with no relevant legal restrictions in 1997), which starts a new path for GZR to rely on the whole staff rather than the government for development.

In December 1997, as the construction of the building was completed, the hospital's

service capacity was significantly improved, the patient's medical experience was enhanced, and employees' confidence were increased. In the second year, all the beds were full, and the suspicions and concerns turned into a new impetus for hospital development. Apart from solving the financial difficulties, the medical team went to Beijing to learn medical skills and simultaneously broke through technical difficulties.

#### 5.4.1.2 Experts in Beijing are consulted to establish specialties to resolve the talents shortage

As a county hospital located in a remote and underdeveloped area, GZR broke the conventional thinking, concentrated hospital resources, and took the initiative to go out. Their repeated visits moved experts in Beijing and were allowed to send teams to learn cutting-edge technology, which helped quickly build a real technical team for GZR. The task that seemed almost impossible was complete, creating a precedent for county hospitals.

Going out to study is the first step in the breakthrough of heart surgery at GZ Hospital. For patients suffering from heart disease in mountainous areas, seeking treatment in large hospitals in Guangzhou means high time cost and medical expenses, which makes many patients give up the choice of medical treatment. However, the news that such kind of surgeries can be carried out at a local hospital and the expense is only one-third of that of a large hospital is undoubtedly of great help to the local patients. This move has expanded the hospital's business, changed the road of development relying on government grants, and honed the hospital's technical expertise. In 1986, President Chen led the team to achieve the successful implementation of open-heart surgery under extracorporeal circulation. In 1996, a surgical team of cardiothoracic surgery (a team of doctors, anesthesiologists, and nurses were sent to Beijing Fuwai Hospital to study) was established. At the same time, experts from Beijing Fuwai Hospital were invited to GZR to offer guidance and finally facilitate the formation and improvement of the hospital technical team.

The breakthrough of GZR is based on external forces, and the introduction and exchange of talents has not been interrupted, but the long-term development of the hospital must always be based on the construction of its own capabilities and cultivation of its own talents.

Mr. Che Sizhen, the incumbent vice hospital president, still has a vivid memory of the scene when he was invited by president Chen Guangwei upon his graduation. Many of the backbones with similar age to Mr. Che are not GZ locals, and they gradually became technical backbones in GZR after graduation from medical school, which fully reflects the good

intentions and remarkable results of president Chen in the building of the technical team.

#### 5.4.1.3 Hospital brand is created by breakthroughs in specialties to break the restriction of resource allocation

From the perspective of the market (patient morbidity), GZR uses heart surgery as a starting point, makes technical breakthrough, and solves the big problem of "lack of quality medical services" for the patients without going to faraway big cities. It insists on the principle of offering affordable medical services (the cost of cardiac surgery is about half of that in big hospitals in Guangzhou), which has solved the problem of "expensive medical services". This move won word of mouth and attracts patients, which creates conditions for the establishment of the capital chain. GZR has boldly tried the talent strategy of "going out and inviting in", developed the competitive department and formed the technical team. It has won the reputation of patients with hard technology, low fees and high-quality service, and its influence crossed the county, the province and even China, attracting patients far away to visit it. The hospital has attracted considerable patients, the doctors have achieved success, and the patients have secured satisfaction.

GZR Cardiac Surgery completed 503 cardiac surgeries in 2001, becoming the first in the same class hospitals nationwide. The number of completed surgical procedures ranked second in the province for three consecutive years. In GZR where technology, talents, and funds were greatly restricted, president Chen Guangwei relied on the specialty of heart surgery to create the specialty brand and the hospital brand.

#### 5.4.1.4 Initial achievements of hospital development and talents training-affordable and quality medical services

According to the data, GZR's hospitalization and surgery volume doubled in 12 years.

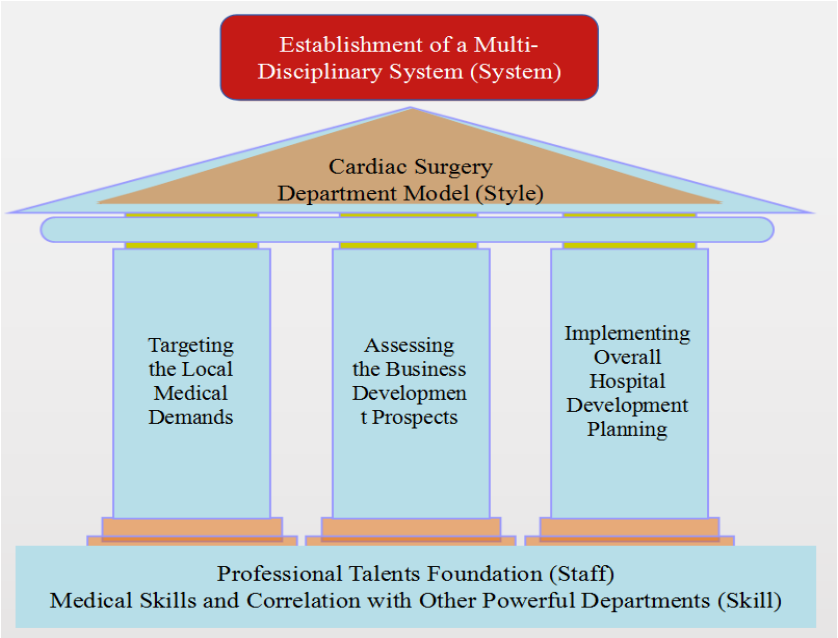
The absolute advantage of the number of discharged patients (about two times higher in the 12-year period from 1990 to 2002) and the large number of patients coming from places other than Gaozhou (the proportion of patients outside Gaozhou in 2002 reached 34.1%, as shown in Figure 5-2) fully proved that GZR is a hospital than can cure serious illness (for instance, the first coronary artery bypass surgery was successful in 1997, the first minimally invasive coronary artery bypass grafting surgery in Guangdong province was successful in 1998, and the first parental kidney transplantation in western Guangdong and the world's oldest donor kidney transplantation surgery were successful in 2001) and offers affordable

medical services to patients. In 1999, the hospital won the national honor of the National Top 100 Hospital.

### 5.4.2 Zhong Huanqing (2002-2011) - GZ model

Through the multi-disciplinary development, president Zhong Huanqing has comprehensively enhanced GZR treatment technology, further improved the ability to “offer quality medical services”. the low-cost procurement has laid the foundation for the establishment of an affordable hospital. The star services and media promotion have promoted the GZ model to the whole country.

Figure 5-2 4S strategy of specialty brand development of GZR




#### 5.4.2.1 Guidance of competitive specialties and comprehensive development of multiple disciplines

In 2010, GZR had 2,025 cases of heart surgeries, ranking the second in Guangdong province for 13 consecutive years and ranking the top ten across China. In addition to the key focus on the development of Cardiac Surgery Department, the strength of other departments of the hospital is also gradually improving (Song & Lin, 2011)

In 2003, GZR established the first head and basin treatment center in the country and successfully treated 105 patients with scoliosis and kyphosis (from the era of Chen Guangwei). The operation volume topped the prefecture-level and county-level hospitals in China for

three consecutive years. For the first time in the country, the implantation of total aortic arch replacement plus stent-like nasal for 25 cm aortic dissection patient greatly succeeded.

In 2004, famous experts and professors from Beijing, Shanghai, Guangdong and other regions formed an appraisal committee. The committee agreed that GZR's "Clinical Study on Hyperbaric Oxygen and Prostaglandin E1 Combined Therapy for Severe Congenital Heart Disease Pulmonary Hypertension" reached the domestic first-class level; Guangdong Medical GZR Hospital affiliated to the hospital was established; GZR carried out the first liver transplant operation in western Guangdong; GZR began to use self-coagulation in addition to uterine tumor technology to achieve the effect of not protecting the uterus, and the minimally invasive technique was successfully carried out in Maoming. In 2007, the scientific research projects of "Clinical Research on Improving the Surgical Efficacy of Old Age and Critically Ill Cardiovascular Diseases" and "Technical Specifications for Interventional Therapy of Common Congenital Heart Diseases and Valvular Diseases, Long-term Efficacy and Clinical Application of New Technologies" were included in the science and technology support projects of the National Eleventh Five-Year Plan.

#### 5.4.2.2 Offering of star services

GZR innovates its own "star services" and enriches various management methods, such as star service evaluation, and link with evaluation results and performance management. In addition, the hospital organizes doctors and nurses to receive five-star service training at White Swan Hotel and China Southern Airlines.

The standard of star service evaluation is whether the quality of medical care is up to standard and whether the patient is satisfied. The indicator of the ability of the staff is the number of stars on the badge. The number of stars received by employees is related to patients, colleagues, hospital assessments, and hospital publicity. After comprehensive evaluation, it affects employees' bonuses, promotions, and evaluations. Conduct dynamic management and comprehensively evaluate the number of stars every six months. In order to mobilize the enthusiasm of employees, the hospital rewards differently according to the number of stars. The patient's satisfaction with nursing services reached 99%, and the effect of star service assessment was significant.

#### 5.4.2.3 Outward expansion and formation of "GZ model"

Because of the "GZ Model" created by president Zhong, he himself and the hospital have

been vigorously promoted by many media. As a result, GZR became famous and was recognized as a benchmark for counterparts across China. The health authorities at all levels have greatly appreciated the GZ model, and hospitals of different levels across China have organized delegations to visit and study on the spot. The State Council and the provincial government have both recognized the success of the GZ model, and many domestic scholars have studied and explored the GZ model and believe that its successful experience is worth learning. Professor Zhu Hengpeng of the Chinese Academy of Social Sciences is also one of them.

In the process of the formation of the “GZ model”, promotion of it by multiple parties has resulted in collective unconsciousness which magnifies the essence that could have been borrowed and the management defects that need to be circumvented. To discard the dross and select the essential is the lesson we need to learn to promote medical reform.

#### 5.4.2.4 “GZ model” - to make perfection still more perfect

The discharged patient’s volume and surgery volume of GZR increased by a greater margin between 2002 and 2011. GZR in the era of Zhong Huanqing once again pushed the concept of affordable hospital to the peak. Its insistence on low-cost purchase of consumables has lowered the cost of surgical treatment.

In 2003, the magnetic resonance examination only charged 680 yuan per case, only half of the charge of other hospitals. For extracorporeal circulation heart valve replacement surgery, the total cost of each case (single valve) was only about 20,000 yuan, and the charge was less than half of the charge of large hospitals. Excimer laser treatment of myopia for one eye costs 1000 yuan, one-fifth of the provincial hospital charges. As these measures are active and effective, the hospital reduces the economic burden of patients by more than 10 million yuan each year.

### 5.4.3 Ye Guanrui (2011-March 2013) - drug kickback scandal

President Ye Guanrui had been in office for a short period of time. Although he tried to standardize the hospital management system, especially hoping to balance the huge income gap between employees in different positions and in different departments through the distribution of bonuses. However, due to limited time and poor execution, the measure was suspended. Due to the “drug kickback scandal”, the hospital brand fell to the bottom. On January 11 and March 29 in 2013, GZR doctors' acceptance of drug rebates and other issues

have been exposed twice by China Central Television's "Topics in Focus". After the investigation confirmed, many leaders were punished: the hospital president and party secretary Ye Guanrui was removed from his duties and was seriously warned and administratively recorded of his demerit in the party. The other four relevant leaders were also subject to the corresponding party discipline and disciplinary action. The nine department heads and doctors were dismissed for the drug rebate or the amount involved, their practice certificate was revoked and the practice activities were suspended (Li, 2005).

From January to May 2013, the hospital's business volume declined significantly compared with the same period in 2012. GZR has suffered the coldest winter in decades.

The kickback scandal resulted in brain drain and brand damage of GZR. But aside from the media exposure, GZR still had a good foundation for the offering of "affordable and quality medical services"

### 5.4.4 Wang Maosheng (April 22, 2013) - phoenix nirvana

After several months of the transition, Mr. Wang Maosheng was entrusted as the hospital president at a critical and difficult moment. In face of strong public opinion and political pressure, he carried out standardized rectification, inherited and carried forward the practice of affordable medical services and the spirit of benevolence. He led the hospital out of the bottom, and GZR was upgraded to level 3A hospital. Under the leadership of Wang, GZR realized revitalization and ushered in a new development peak.

However, it is precisely because GZR has been adhering to the core goal of offering "affordable and quality medical services" that it can achieve revitalization in a very short period of time. The rapid development of more than ten years has accumulated profound technical strength and strong talent team for GZR. Without such foundation, it will be difficult for GZR to return to the peak in a short time after the scandal.

#### 5.4.4.1 Professional president spirit and responsibility

President Wang was entrusted right after the exposure of drug kickback scandal when the public opinion and political pressure were huge, medical staff were out of morale, core talents were lost, heart surgery volume plummeted (29.9%), employees lost all confidence, patients did not trust medical staff, and public evaluation was poor. Most doctors had poor working conditions and were unwilling to treat critically ill patients and do difficult surgeries. Some doctors thought that the hospital had been devastated with no future and planned to leave the

hospital. Some of the medical practitioners also raised doubts that the GZR has a false name, and the previous honors were obtained by cheating. Due to the change of hospital leadership, the hospital brand image fell to the lowest point.

At this juncture, Wang resisted the pressure and led the staff to improve the morale, which fully demonstrates the responsibility of a professional president, and this is the basis for GZR to weather the brand crisis.

On this basis, the hospital brand is restored by reshaping employee confidence and implementing standardized management. Further upgrading and improvement have been achieved in technology, service and cost control, and the development results are shared by the society with the form of charity.

#### 5.4.4.2 Salary reform implemented to motivate employees and make them happy

Salary reform: The hospital's salary reform adopts "three levels and nine points" and realized "two eliminations and three transformations".

"Two eliminations": commission was eliminated in the salary distribution, including hospitalization commission and billing commission with the introduction of reward of income and expenditure balance without drug income; eliminate on institutional level the loopholes causing doctors to receive rebate, and eliminate the direct relationship with drug inspection and drug income.

"Three transformations": the first change is a comprehensive change in compensation; in order to ensure the fairness of distribution, it is transformed into an employment system, there is no difference in equal pay for equal work, and internal and external employment. The second change is the allocation levels, which will match the "five elements" that could be quantified as well as the outstanding capabilities and contributions, such as Clinical font-line, key position changes, the number of critically ill patients discharged, hospital bed days, technical capabilities, job risks, cost control, etc. This will help guide medical staff to improve the service skills and capabilities and reasonably control patients' expense for the overt decent rewards in their income. The third change is that the shift from pay to employee family security not only focuses on a single employee, but also introduces 42 measures to enhance employees' sense of belonging and happiness, including stipends for children from difficult employees and special scholarships for employees' children. In recent years, GZR labor costs accounted for about 32% of total business expenditure. The enthusiasm of employees in special technology improvement services was mobilized, and the treatment of employees was

basically the same as in the Pearl River Delta region.

#### 5.4.4.3 Upgrade to level 3A hospital and standardized management

Oriented by the goal of becoming a level 3A hospital, President Wang Maosheng led the hospital to standardized management of various systems, hoping to manage people by systems and manage affairs by processes. Within one year, 323 documents and 73 rules and regulations have been published. Under the principle of fairness and openness, ordinary employees can attend the leadership meeting, and all the procedures and systems are accessible in the OA system to improve work efficiency.

In particular, in the prevention of medical bribery, GZR has implemented a full-process monitoring. GZR has established a new system: the drug is selected by the provincial third party to select the drug factory and distribution; GZR medical information is kept confidential and real-time warning, fixed-point tracking; GZR drug graded use and the proportion of the amount of fine management. It revises the relevant system for sunshine drug usage. It signs the letter of responsibility for drug use with directors of the departments as well as the letter of commitment of "Clean and Honest Department". It establishes a management system for open procurement of consumable materials. It sets up a job-related crime precaution office to strengthen warning education and democratic appraisal. It establishes a supplier blacklist system. It establishes a system of open and secret investigation. It investigates irrational use of drugs and issues severe punishment.

#### 5.4.4.4 Cost control becomes scientific

President Wang pointed out that the strategy of adhering to offer affordable medical services is the fundamental reason for the sustainable development of GZR. "As long as the costs I have saved are given back to the general public, it is feasible to insist on offering affordable medical services". Under the leadership of President Wang, GZR actively adopts the government's bidding procurement, and purchases drugs and new consumables through third-party platforms. The previously used products with lower prices than the current third-party platforms will still be used.

Adherence to low price and cost control has reduced medical expenses so that the hospital can truly offer affordable medical treatment. In an investigation in GZ in October this year by the health and family planning committee of Guangdong, it was found that the per capita hospitalization expenses of GZR medical insurance patients and Guangzhou medical

insurance patients and Maoming medical insurance patients were 7710.2 yuan, 14602.9 yuan, and 11186.8 yuan respectively; the per capita outpatient expenses of GZR medical insurance patients and Guangzhou medical insurance patients and local hospital medical insurance patients were 166.7 yuan, 235.6 yuan, 212.1 yuan. In terms of growth rate, the average growth rates of GZR outpatient average cost and hospitalization average cost from 2010 to 2013 were 4.0% and 6.9% respectively, while the average growth rates of per capita income of urban and rural residents in GZ were 9.9% and 9.5%. According to these data, the medical charges of GZR are not only far lower than the charges of hospitals in Maoming and Guangzhou, but also conducive to reducing the financial burden on local patients.

In addition, GZR is dedicated to the establishment of a conservation-oriented hospital, eliminating unnecessary consumption and investment in terms of logistics materials procurement, dual-circuit circuit transformation, boiler diesel, air-conditioning cleaning, and reception fees. Throughout the year 2013, a total of 16.95 million yuan was saved.

President Wang's hospital operation management philosophy reflects lean management, which is to create the most value with the smallest resources, including equipment, materials, manpower, capital, space and time, providing customers with timely service and new products is at the core.

#### 5.4.4.5 Establishment of a health alliance

GZR positions itself to be an affordable hospital where people can get serious illness treated within the county, and an orderly hospital. The county and township health alliance must first improve its ability before becoming an alliance. GZ is a mountainous county, and its townships are often far from the urban area. How to solve the predicament of difficult access to high-quality medical resources in mountainous towns and villages so that patients are willing to "get their initial diagnosis at the grassroots level? GZ Hospital gives full play to the county three-level medical security system, and establishes three modes of health alliances, which directly divert high-quality medical resources to the grassroots health institutions. The first model is to build a medical community with the health centers of 27 towns, two community health service centers and three farm hospitals in the mountain town of GZ to promote the implementation of graded diagnosis and treatment. After fully taking over the Changpo Town Center Health Center, GZR Changpo Branch was formally established on December 21, 2017. It was the first time a top three hospital in Guangdong Province set up a branch in the township of the mountainous county. This historical feat is the provincial

medical association. The construction of the community provides a strong argument. The second model is the specialist bond. GZR has established a “chest pain center” specialist alliance and signed contracts with nine township health centers. This measure enhances the ability to treat major illnesses. The third mode is to set up a telemedicine network. GZR introduces a general information system to connect the Tongduo Township Health Center in the Nagqu area of Tibet and the township hospitals and village doctors of GZ. In addition, it also accepts free training from township doctors. When seeking treatment in township hospitals and township doctors, the rural residents can get real-time remote consultation services from GZR experts. Over the past 16 years, GZR has offered free training to rural doctors for 20,300-person times, strengthening prevention and health promotion, and promoting the establishment of new models to enhance the implementation of grading diagnosis and treatment, two-way referral, rapid division and treatment, and the first consultation at the grassroots level. In addition, the hospital addressed the “last mile” of health care with “Internet + medical care” and established health care WeChat groups in 443 villages of 23 towns across the city. Each group has a group administrator served by a communist party member in the hospital. Two doctors provide free health education, counseling and remote consultation services to the villagers. The hospital also announced the WeChat official accounts of 107 departments. The online and offline services are connected seamlessly, and the doctor-patient relationship is intimate with no distance in between. The general public are more convenient to seek medical treatment and are more willing seek initial diagnosis at the grassroots level.

However, in promoting the grading diagnosis and treatment and the construction of medical associations, the most important thing to be solved is: the linkage of three medical treatments to promote the integrated management of medical and health institutions in counties and towns. This means that in terms of investment policy, the ownership of medical institutions within the medical body remains unchanged, and the financial assistance funds are allocated to continue to follow the original channels. At the same time, in the aspect of benefit sharing, GZR explores to distribute between the lead unit and the member units according to a certain proportion, and the business income generated by the mutual business such as two-way referral and the balance of the medical insurance fund are reserved for the medical association. Exploring the implementation of distribution between the lead unit and the member units in a certain proportion (Wang, 2016). In terms of strengthening resource sharing, a talent assistance mechanism is established to promote accessibility of outstanding medical

talents in the grassroots level.

It is believed that an effective way to implement hierarchical diagnosis and treatment and promote construction of health alliance is to promote county-level hospitals with strong comprehensive technical and management capabilities to establish a closely-knit hospital group or health alliance with township hospitals. Under the premise of maintaining the administrative establishment, financial supply mechanism, and public health service functions, the hospital group or the health alliance implements unified management of personnel, business, logistics, and medicine. The upward referral or downward referral within the hospital group or health alliance are regarded as the same medical process. The registration fee in downward referral will be reduced or exempted, and there is no longer a minimum payment line (Wang, 2016)

#### 5.4.4.6 Talent introduction: borrowing brains to establish a platform, talents can be used though not owned by GZR

First, GZR implements the talent cultivation strategy of "one borrowing and one training" and "two-wheel drive". Borrowing is a kind of soft and flexible introduction of talents which means borrowing external forces and talents. For more than ten years, GZR has been hiring experts from Beijing, Shanghai and Guangzhou to visit GZR to "impart knowledge, offer assistance and guidance" to medical staff in GZR. In December 2017, GZR set up a specially-invited expert system, and introduced 11 leading figures in various medical professional fields and top domestic experts from Beijing Anzhen Hospital, Sun Yat-Sen University, and Guangdong Provincial People's Hospital to serve as special experts (Wang, 2016). They came to GZR every month as the "disciplinary leader", carried out clinical ward rounds, difficult case discussions, and outpatient consultations, and occasionally conducted complicated and difficult surgeries. The focus is on regular targeted assistance to help comprehensively improve GZR's ability to treat major diseases. Training refers to send hospital talents to get training outside. In order to promote the growth of local talent exchanges, the hospital invites colleges and universities to carry out in-service postgraduate training classes in hospitals and supports the specialization team of the hospital to form a system to exchange and study at provincial and ministerial medical centers.

The second is to establish a talent incentive system in which "both promotion and demotion exist" (Wang, 2016). The middle-level management of the hospital are subject to a year-end work report system and a year-end assessment system, and those who are considered

to be unqualified will be demoted. There is an assessment leading group that evaluate performance of hospital staff. Department directors and the head nurses who are assessed as incompetent will get a yellow card warning and admonition in the first year and posit transfer or demotion for two consecutive years (Wang, 2016). Deputy department directors and deputy head nurses who are assessed as incompetent will be dismissed. A reserve talent information base is established, and dynamic management is adopted so that those who are capable can be promoted. The reserve talents selected, and the new forces recruited should accept and practice GZR's values of "practicing medicine with medical ethics first and offer service with honesty first". The hospital focuses on selecting and training talents who are politically strong, professional, daring and responsible. The reserve talents are selected once a year, and their qualification will be canceled if they are assessed to be incompetent.

Over the past four years, the hospital has established a provincial scientific research center (Guangdong Province Major Heart Disease Engineering Technology Research Center), three provincial research bases (Guangdong Province Postdoctoral Innovation Practice Base, Guangdong Province Trauma Treatment Research Center GZ Clinical Research Base, Sun Yat-Sen University Stem Cell and Tissue Engineering Center Industry-University-Research Cooperation Base), five provincial specialties and four university key disciplines, and one key laboratory of colleges and universities. The hospital staff published 27 SCI papers as the first author or correspondent author, with the highest impact factor being 8.459, and it undertook 24 national medical education projects (Wang, 2016). In August 2017, the hospital undertook the research project of Induction of BHRF1 on Nasopharyngeal Carcinoma Stem Cells and Its Working Mechanism during EBV Reactivation and was included in the 2017 National Natural Science Foundation of China. This is the first time for the National Natural Science Foundation of China to support research projects conducted by county-level hospitals in mountainous areas in China over the past ten years. Among the 237 kinds of common diseases/difficult diseases and 223 key technical operations issued by the Guangdong Provincial Health and Family Planning Commission, GZR can carry out 97% of them, and the specific figures are 232 and 211 respectively, attracting patients from 23 provinces (autonomous regions). In 2016 and 2017, the number of malignant medical disputes was zero (Wang, 2016). In 2017, the number of discharges was 115,000-person times and the number of operations was 34,000. To be specific, CD type cases accounted for 61.1% of the discharges, Class III and IV operations accounted for 56.1% of the total operations, and patients from outside GZ accounted for 40.6% of the total patients (Wang, 2016). GZR has

become a medical center for residents of neighboring counties. In July 2017, the Guangdong Provincial Health and Family Planning Commission issued the "Guangdong Provincial Medical Organization DRG Capability Index Evaluation". In the ranking of 11 clinical key specialty capabilities of 96 tertiary general hospitals in Guangdong, six specialties of GZR entered the top ten. The GZR's DRG capability index, which is comprehensively reflected in the specialty capability, the proportion of external patients with difficult illness, and the technical difficulty of the cases, is ranked 15$^{th}$ in the whole tertiary general hospitals in Guangdong and 1$^{st}$ among the county-level hospitals in Guangdong (Wang, 2018). In March 2018, the Hong Kong Asclepius Healthcare Elliptic Hospital Management Research Center released the "2017 China County Hospital Competitiveness Ranking", and GZR ranked second across China. The hospitalization rate within GZ has been maintained at a high level of around 95% for the past three years, achieving the goal of "curing serious illnesses within the county" set in the medical reform (Wang, 2016).

#### 5.4.4.7 Give back to society by charity

Ever since 1929 when the hospital was established, the founder of the hospital Chen Jizhen had proposed to "build a hospital where the poor people can afford to get medical services". For decades, the hospital has been adhering to the route of building an affordable hospital for the benefit of the local residents. At present, the total cost of various difficult large operations in GZR is less than half of the costs of the same surgeries in hospitals in Guangzhou. For example, coronary artery bypass grafting costs about 45,000 yuan and severe scoliosis correction costs about 50,000 yuan. President Wang Maosheng is so charismatic that he pushed the spirit of affordability and benevolence to a new peak.

Since June 2013, GZR has set the summer vacation as a heart-disease-saving month and offered free heart disease treatment for a long term. All children aged 2-18 years old who have the four kinds of the most common congenital heart disease and are covered by medical insurance in Maoming can be treated free of charge in the hospital. For children in Maoning with no medical insurance or children from places other than Maoming, they only need to pay 40% of the total cost. For other complicated cardiac operations, each case can enjoy a fee reduction of 10,000 yuan. In 2013 and 2014, a total of 746 children with heart diseases were treated in the activity, and the hospital invested a total of 5.3 million yuan (Wang, 2018).

As GZ is located in the mountainous area of western Guangdong, the proportion of poor patients is large. For patients with economic difficulties, GZR often takes the initiative to reduce or exempt the fees, and once it gave free treatment of poor quadruplets and hospital

staff adopted triplets of a poor family.

President Wang Maosheng takes the initiative to offer free cross-city or cross-county 120 ambulance service to ease the first-aid problem of people in the mountainous area. In 2014, there were 50 times of free 120 ambulance trips every day on average, reducing a total of 5 million yuan of financial burden for patients. The Guangdong International Life Science Foundation donated five ambulances to GZR to support its charity medical care (Wang, 2016).

#### 5.4.4.8 Nirvana of phoenix and rebirth

Affected by the "kickback scandal", various business indicators of GZR all experienced a sharp decline in early 2013. However, with the joint efforts of the whole hospital staff, the outpatient volume, inpatient volume, and surgery volume in 2014 reached a new high (see Figure 5-4). GZR realized rebirth. From the source of patients, the proportion of GZR's foreign patients (outside GZ) has exceeded 49%, and the proportion of foreign patients in cardiac surgery department has exceeded 80%. GZR achieves the goal of not only "offering affordable and quality medical services", but also disease, but also "getting serious illnesses treated without travelling out of the county".

## 5.5 Critical success factors of GZR

After many years of successful development, excluding the influence of time, GZR has reviewed its history and identified the successful experience of how it resolves the obstacles to county-level hospital development and gradually completes the medical reform goal of "getting serious illnesses treated without travelling out of the county".

By adhering to low price, cost control, and affordable medical care, GZR offers affordable medical service to patients. By promoting development with external forces, focusing on specialties, and upgrading technology, GZR can truly offer quality medical services to patients, and this is crucial to its ability to attract patients. In the face of the brand crisis, GZR quickly standardized management and established rules and regulations so that the hospital image was rebuilt. GZR advocates harmony and does everything with a good heart to establish a charity hospital so as to retain the patients and win their word of mouth. All of these are the crucial factors for GZR to secure the current success.

### 5.5.1 Adherence to low price, cost control and affordable medical care

Upon its establishment, GZR had set a goal of "building a hospital where the poor people can afford to seek medical treatment". The former and current hospital presidents all make efforts to maintain and carry on the tradition of building an affordable hospital.

The primary factor for patients to choose GZR is low price, which has attracted a large number of patients. The increasing number of patients helps the hospital obtain larger business volume (especially the amount of cardiac surgery). Larger amount of surgeries means sufficient volume of supplies procurement. Along with fast speed of capital returning, the suppliers are getting enough profits so that they are willing to maintain long-term supply chain cooperation relationship with the hospital. The hospital gives the cost saved back to the patients and wins word of mouth among the patients, thus forming a virtuous circle ecosystem among patients, hospital and suppliers and promoting sustainable development.

Why can GZR solve the problem of difficult access to quality medical services?

It is difficult for county hospitals to rely on their own thin forces to change the status quo. The backwardness of technology, lack of talents, and low capital have determined that county-level hospitals must rely on external forces if they want to break through and develop. The president of GZR dares to borrow external forces, is good at borrowing external forces, and can borrow external forces. To develop orthopedics, GZR seeks assistance from Beijing Jishuitan Hospital; to develop heart surgery, GZR sends the entire surgical team to Beijing Fuwai Hospital to study, and when returning to GZR, the team can directly carry out surgeries. GZR sticks to learn from the top hospitals in China and ensures that what has been learned should be applied to practice. It is not uncommon to send individual doctors out to study in today's county hospitals. However, in the era of Chen Guangwei, as a little-known county hospital in remote areas, nobody ever thinks of or is capable of spending a lot of money to send the surgical team to the best hospitals in the profession for further study It can be seen that President Chen's strategic vision and positioning have laid the foundation for the development of GZR.

Why choose heart surgery (GZR's star department) as a starting point? This seemingly unconventional practice (usually it is impossible for county hospitals to have surgical conditions) is actually the most practical market choice that stems from local medical needs (a large amount of congenital heart disease patients). Therefore, some employees said during the interview that "the president's positioning is high, and the goals are ambitious at the time the

difficult technology of conquering heart surgery has attracted public attention as well as patients. The hospital has gained reputation and trust from patients". In addition, development of the heart surgery department has promoted the development of other surgical departments and comprehensive development of the hospital. When interviewing a patient, he said that "if a hospital can do heart surgeries, its other departments will definitely not be bad."

Why can GZR develop five provincial key specialties?

Based on the existing talent (staff) and technology base (skill), GZR duplicates the successful experience and model (style) of cardiac surgery department supported by targeting the demand (paying attention to local high incidence, pay attention to acute diseases suitable for nearby treatment, such as neurology), assessing prospects (developing department of huge business volume and high business income, such as oncology, such as Medical Oncology Department), and implementing overall planning (the mutual promotion and improvement of the disciplines, such as the Department of Critical Care Medicine), and builds the GZR multidisciplinary system (system, GZR specialty brand development 4S strategy, See Figure 5-6). In the past few years, GZR has built five provincial key specialties and achieved a comprehensive upgrade, realizing the goal of "offering quality medical services" to patients. In the first ten months of 2014, the amount of GZR's referred patients was only 48. In the western part of Guangdong province, going to GZR has become the "best choice" for many patients. The medical reform task of "getting serious illnesses treated without travelling out of the county" has been fully completed in GZ.

### 5.5.2 Charity medical care, harmonious hospital and offering service with good heart

The organizational nature of public hospitals is organized by the government, and it is necessary to provide public welfare and social medical services to the people, public hospitals should not merely seek economic benefits, but pay attention to social benefits and courageously undertake their social responsibility. GZR strives to take social responsibility and offers medical services with good heart to solve the problem of difficult access to "affordable and quality medical services", establish a hospital of benevolence, give back to the society and realize the harmonious progress of the hospital and society.

In addition to cost savings, GZR further upgrades the affordable medical care and builds itself to a benevolent hospital of charity. It offers free cross-city and cross-county 120 ambulance services, free medical service for kids with congenital heart diseases every

summer vacation, and the regular fee reduction or exemption for patients with financial difficulties. The charitable behaviors have greatly reduced medical expenses and increased accessibility to medical services, and also directly increased the business volume of GZR, which is conducive to its development. In this way, the patients, the hospital and the government are all satisfied. The score of patient trust to hospital (4.09 points out of 5 points) is also higher compared with the score two years ago (4.06 points). The score of inpatient trust (4.18 points, the previous score is 4.05 points) and discharged patient trust (4.35 points, the previous score is 4.06 points) to the hospital have all been greatly improved.

It can be seen that GZR has not only regained the trust of patients, but also reshaped the confidence of employees and strengthened the cohesiveness after the “kickback scandal”. It has taken another big step toward the goal of building a “harmonious hospital”.

### 5.5.3 Establish rules and regulations, upgrade to level 3A hospital and rebranding

Culture and values are not just empty words but should be implemented with a strong standardization system and process management as a guarantee. Therefore, GZR puts forward the implementation strategy of “squeezing water and wearing clothes”.

“Squeezing water” is to eliminate substandard behaviors and phenomena and “wearing clothes” is to establish norms and systems and to “manage people by systems and manage affairs by processes”. After the “kickback scandal”, the brand and image of GZR was seriously damaged, and the social trust was severely hit. The hospital leaders implemented drastic rectification of various standards and norms and established rules and regulations, especially the processes and norms in the prevention of medical bribery. GZR strictly guaranteed compliance with the regulations and completely prevent occurrence of violations again.

All important matters concerning the development of the hospital are decided by the hospital team collectively, and three new employee representatives are present, which is conducive to promoting the transparency of hospital administrative affairs. Any decision-making matters that affect the interests of employees are posted in the OA office network and are open to opinions and suggestions.

Openness, transparency, and establishment of rules and regulations are the cornerstone to build harmonious hospital culture.

A number of measures are adopted simultaneously to ensure that the hospital can

complete the rebranding after it went through major mistakes, regain peer recognition and social recognition, patient trust and employee confidence. According to a questionnaire survey of hospital staff carried out in September 2014 by Asclepius, 65% of employees chose "yes" as for the question of "are you willing to stay in the hospital for a long time", which was a significant increase compared with the figure of 52% in 2012.

## 5.6 Evaluation of "double three circles model"

### 5.6.1 Investigation results

#### 5.6.1.1 Distribution and collection of questionnaires

This investigation uses two sets of questionnaires. The "double three circles model" questionnaire is used for the evaluation of the hospital president, and the Likert 7-point coding method is used for department management.

##### 5.6.1.1.1 Distribution and collection of "double three circles model" questionnaire

The questionnaire to evaluate the hospital presidents is distributed in print version. The respondents are employees who have worked in the hospital for more than 16 years. The survey lasted a week from February 26 to March 20, 2018. A total of 600 questionnaires were distributed, of which 474 were collected and 299 were valid. The collection rate of this questionnaire is 79.00%, and the valid rate is 63.08%.

#### 5.6.1.2 Inner three circles model

Strategic positioning: President Chen Guangwei started from the specialty departments and built an influential hospital. President Zhong Huanqing expanded outwards and established the influential "GZ model". President Ye Guanrui promoted internal fairness and ignored the group of doctors with vested interests. President Wang Maosheng reshaped the brand and focused on both internal development and external expansion to build GZR to a benchmark for the county hospitals.

The transformation ability and innovation ability: As can be seen in Table 5-1, President Wang Maosheng has the highest score, followed by President Chen Guangwei.

#### 5.6.1.3 Outer three circles model

As for the score of local government's authorization for hospitals, the intensity of

hospital competition, and local economic conditions, President Wang Maosheng gets the highest score, followed by President Chen Guangwei.

Table 5-1 Score of presidents in inner three circle model

| Dimension | Contents | Chen Guangwei (Transformation) | Zhong Huanqing (Outward Expansion) | Ye Guanrui | Wang Maosheng (Internal Development and External Expansion) |
|---|---|---|---|---|---|
| **Vision and Judgment** | Strategic Positioning | Focus on market and specialty departments to build an influential hospital. | Expand outwards and establish the "GZ Model". | Promote internal fairness and ignore the doctors with vested interests | Reshape the brand, implement internal development and external expansion to build itself as a benchmark for county hospitals |
| | Transformation Ability | 95.31 | 86.30 | 86.29 | 97.21 |
| | Innovation Ability | 95.20 | 85.12 | 84.92 | 97.15 |
| **Management Ability** | Hospital Governance Ability | 95.23 | 85.60 | 84.99 | 96.93 |
| | Motivation Ability | 93.93 | 84.82 | 87.41 | 96.21 |
| | Communication Ability | 94.76 | 82.65 | 87.08 | 95.92 |
| | Crisis Response Ability | 94.12 | 84.79 | 83.98 | 96.89 |
| **Charisma** | Words to Convince People (Influence) | 95.14 | 82.67 | 86.12 | 96.55 |
| | Proposals to Call on People (Appeal) | 94.87 | 83.59 | 86.37 | 96.73 |
| | Behaviors to Guide People (Exemplariness) | 94.8 | 83.21 | 86.78 | 96.69 |
| | Instructions to Enlighten People (Persuasion) | 94.47 | 83.04 | 86.21 | 96.66 |

### 5.6.2 Conclusion

#### 5.6.2.1 Influence of different leadership styles of presidents on strategy and innovation

The four presidents are about 50 years old and before they become presidents, they are all business backbones, and chief physicians of surgical departments and had served as vice presidents for many years. They have certain management experience and good reputation in the industry. It can be seen that the appropriate age for county-level hospital presidents is from 47 to 50 years old, and they should have clinical and management experience and qualifications.

Table 5-2 Score of outer three circles model

| Contents | Chen Guangwei (Transformation) | Zhong Huanqing (Outward Expansion) | Ye Guanrui | Wang Maosheng (Internal Development and External Expansion) |
|---|---|---|---|---|
| Local Government's Authorization for Hospitals | 93.80 | 90.56 | 89.97 | 95.00 |
| Intensity of Hospital Competition | 93.32 | 90.40 | 91.97 | 96.29 |
| Local Economic Conditions | 76.41 | 74.72 | 75.97 | 79.75 |
| Proportion of Non-local Patients to the Whole Patients | 28.55% | 29.22% | 30.93% | 33.35% |

Performance in office: all the four presidents have achieved rapid development in the medical business regardless of their length of service. The first president Dr. Chen Guangwei broke the rules, raised funds to build hospital buildings, implemented market-oriented measures and focused on specialties, which laid the foundation for the good development of the hospital. The fourth president Dr. Wang Maosheng was appointed when the hospital's reputation and business fell to a historical low point. He accepted the challenge, established rules and regulations and rebuilt the brand. As can be seen from Table 5-2, President Wang Maosheng's score is also among the highest. In addition, apart from the third President Ye

Guanrui, the other three presidents have all led the hospital to obtain a good reputation.

Table 5-3 Comparison of leadership styles of hospital presidents in different stages

| Contents | Chen Guangwei (Transformation) | Zhong Huanqing (Outward Expansion) | Ye Guanrui | Wang Maosheng (Internal Development and External Expansion) |
|---|---|---|---|---|
| Office Time (Years) | 1990-2002（12） | 2002-2011（9） | 2011-2013.01（2） | 2013.06 till now（5） |
| Leadership Characteristics | Transformational and Charismatic Leader | Parent and Charismatic Leader | Maintained Leader | Transformational and Charismatic Leader |
| Culture Characteristics | Material Culture Development | Behavioral Culture Development | Institutional Culture Development | Institutional and Spiritual Culture Development |
| Positioning Characteristics | Specialty-centered | Patient-centered | Unclear | Organizational Transformation |
| Strategy Characteristics | Market Niche Strategy - Front-runner Strategy | Front-runner Strategy | Follower Strategy | Challenger Strategy - Front-runner Strategy |

**GZR presidents' management achievements:**

**Chen Guangwei, a transformational and charismatic leader.** From the above case analysis, President Chen focuses on hospital development and talent training and makes innovations and changes in the transition period of GZR, laying the foundation for its future development. Facing the development dilemma of lack of money, lack of people and lack of technology, he breaks through conventional thinking, implements far-sighted strategic deployment and practical tactics, resolves the fund shortage by raising funds from the employees, resolves the talent shortage and technology shortage by seeking help in Beijing, and establishes the hospital brand with cardiac surgery as a starting point.

**Ye Guanrui, a maintained leader.** He hopes that the transformation comes from the

outside to the inside, and he promotes fairness to reduce failure of the reform. With a short time in office, although Ye tried to standardize the hospital management system, especially balancing the huge income gap between employees in different positions in different departments through bonus distribution, he failed due to short time and poor execution.

**Wang Maosheng, a transformational and charismatic leader.** As can be seen in Table 5-2, by winning the reputation with charity and integrity and retaining and attracting relevant talents with a modern management system, he has brought the hospital back to a new peak.

Leadership: Apparently, Chen Guangwei and Wang Maosheng have strong leadership, mainly reflected in strategic positioning, innovation, ability to discover able people and put them at suitable posts, and integrity. Zhong Huanqing is even better at publicity skills.

Conclusion: As can be seen in Table 5-3, both Chen Guangwei and Wang Maosheng have brought GZR to different peaks, so it can be concluded that hospitals need different leadership styles at different times.

# Chapter 6: Analysis of Research Model

## 6.1 Preliminary experiment of the questionnaire

From February 26, 2018 to March 3, 2018, the researcher carried out a preliminary investigation of the questionnaire, which lasted for one week. The pre-investigation was in the form of printed questionnaires. A total of 3,000 questionnaires were distributed, of which 2,456 were collected and 2,299 were valid. Through research on and analysis of the questionnaires, the researcher revised the questionnaire based on the existing problems found.

The descriptive statistical analysis results of each measurement item in this study are shown in Table 6-1.

Table 6-1 Statistical analysis results of measurement items

| Dimensions | Items | Mean | Minimum | Maximum | Standard Deviation |
|---|---|---|---|---|---|
| Department sub-culture | 2.1 The staff of our department are willing to accept challenges, and the innovation and vitality are our working principles. | 6.6 | 1 | 7 | 1.114 |
| | 2.2 Our department requires employees to strictly abide by the rules and regulations and nobody is not allowed to break this rule. | 6.66 | 1 | 7 | 1.092 |
| | 2.3 Our department is like a big family, and the relationship between colleagues is harmonious and intimate. | 6.69 | 1 | 7 | 1.016 |
| | 2.4 Our department is results-oriented, and department staff promote the working principle of winning in competition. | 6.39 | 1 | 7 | 1.401 |
| | 2.5 The cohesiveness of our department comes from innovation and development and emphasis on taking the leadership in everything. | 6.5 | 1 | 7 | 1.205 |
| | 2.6 The cohesiveness of our department comes from the compliance of rules and regulations and emphasis on the smooth operation of the department. | 6.66 | 1 | 7 | 1.025 |
| | 2.7 The cohesiveness of our department comes from mutual trust and harmony. | 6.67 | 1 | 7 | 1.018 |
| | 2.8 The cohesiveness of our department comes from the pursuit of achievement and goal completion. | 6.56 | 1 | 7 | 1.203 |
| | 2.9 Leaders in our department are like “parents” who focus on teaching, nurturing and encouraging employees. | 6.66 | 1 | 7 | 1.071 |
| | 2.10 Leaders in our department are like entrepreneurs who focus on innovation, and they are innovative and take all the responsibility. | 6.61 | 1 | 7 | 1.127 |

| | | | | | |
|---|---|---|---|---|---|
| | 2.11 Leaders in our department are pragmatists who emphasize on department stability and results. | 6.59 | 1 | 7 | 1.145 |
| | 2.12 Leaders in our department belong to the "charismatic type" who have courage and appeal, high work enthusiasm, and great influence. | 6.61 | 1 | 7 | 1.104 |
| | 2.13 Our department emphasizes teamwork, consensus, and encouragement of employees to participate in management. | 6.69 | 1 | 7 | 1.024 |
| | 2.14 Our department attaches great importance to the fact that employees compete with their strength and we encourage high standards and high achievements. | 6.61 | 1 | 7 | 1.125 |
| | 2.15 Our department emphasizes seeking new resources, challenging new goals, trying new methods and seeking new opportunities. | 6.58 | 1 | 7 | 1.162 |
| | 2.16 Our department emphasizes department management and control, long-lasting benefits and stable development. | 6.68 | 1 | 7 | 1.009 |
| | 2.17 Our department emphasizes free development of employees and encourages openness and continuous participation. | 6.6 | 1 | 7 | 1.153 |
| | 2.18 Our department emphasizes constant setting of higher goals and focuses on winning in the competition. | 6.59 | 1 | 7 | 1.137 |
| | 3.1 Our department management focuses on medical technology innovation, specialist ability improvement and discipline development. | 6.67 | 1 | 7 | 1.041 |
| | 3.2 Our department management focuses on increase in the number of patient services and business income. | 6.18 | 1 | 7 | 1.69 |
| | 3.3 Our department management focuses on patient service experience, reduction of complaints, and improvement of patient satisfaction. | 6.78 | 1 | 7 | 0.888 |
| | 3.4 Our department management focuses on employee training, personal growth of employees and the provision of good development opportunities. | 6.64 | 1 | 7 | 1.081 |
| **Department management** | 3.5 Our department constantly improves the existing rules and regulations. | 6.53 | 1 | 7 | 1.272 |
| | 3.6 Our department continues to improve existing work flow. | 6.62 | 1 | 7 | 1.126 |
| | 3.7 Our department trains existing staff to improve the overall professionalism and competence of the department. | 6.71 | 1 | 7 | 0.999 |
| | 3.8 Our department is constantly improving the use of existing medical equipment and technology to generate benefits. | 6.49 | 1 | 7 | 1.329 |
| | 3.9 Our department often reforms and innovates rules and regulations. | 6.31 | 1 | 7 | 1.498 |
| | 3.10 Our department often reforms and innovates work flow. | 6.44 | 1 | 7 | 1.32 |
| | 3.11 Our department recruits new employees to improve the professionalism and competence of the department. | 5.96 | 1 | 7 | 1.858 |
| | 3.12 Our department often introduces and adopts the latest medical equipment and technology. | 6.32 | 1 | 7 | 1.461 |
| **Experience and** | 4.1 I am very satisfied with the work contents and time arrangement given to me by the department. | 6.49 | 1 | 7 | 1.24 |
| | 4.2 I am very satisfied with my professional title. | 5.95 | 1 | 7 | 1.765 |

| | | | | | |
|---|---|---|---|---|---|
| **feeling** | 4.3 I am very satisfied with my salary. | 6.08 | 1 | 7 | 1.665 |
| | 4.4 I am very satisfied with the personal growth and development space given to me by the department. | 6.42 | 1 | 7 | 1.288 |
| | 4.5 I am very satisfied with my relationship with colleagues in the department. | 6.65 | 1 | 7 | 1.02 |
| | 4.6 I like to work here because my life value can be realized. | 6.53 | 1 | 7 | 1.178 |
| | 4.7 I am always very proud to talk to other staff of other departments about our department. | 6.49 | 1 | 7 | 1.266 |
| | 4.8 I am very affectionate about our department. | 6.66 | 1 | 7 | 1.074 |
| | 4.9 The current workload makes me feel a lot of psychological pressure. | 3.27 | 1 | 7 | 2.372 |
| | 4.10 Because of my work, I rarely have time to stay with my family and friends or enjoy a vacation. | 3.64 | 1 | 7 | 2.461 |
| | 4.11 The current doctor-patient relationship makes me feel a lot of psychological pressure. | 3.57 | 1 | 7 | 2.442 |
| | 4.12 In my work, I have to work hard to achieve my goals. | 3.88 | 1 | 7 | 2.468 |
| | 4.13 I often think about changing my job. | 2.25 | 1 | 7 | 2.054 |
| | 4.14 Once I have a better job opportunity, I will leave the department immediately. | 2.15 | 1 | 7 | 2.006 |
| | 4.15 If possible, I will actively look for new job opportunities. | 2.21 | 1 | 7 | 2.041 |
| | 4.16 If the cost of choosing another industry is not high now, I will leave the industry soon. | 2.15 | 1 | 7 | 1.997 |
| | 4.17 I still continue to work here because there are no other better options. | 2.75 | 1 | 7 | 2.391 |
| | 4.18 If I change my job now, my entire life will be greatly affected. | 4.61 | 1 | 7 | 2.527 |
| | 4.19 One of the reasons why I still continue to work here is because the treatment here is better than that in other places. | 4.75 | 1 | 7 | 2.454 |

Table 6-2 Descriptive statistics and reliability analysis results of the leadership style survey scales

| Dimension | Items | Mean | Standard Deviation | Cronbach's α |
|---|---|---|---|---|
| Department Subculture | 2.1 The staff of our department are willing to accept challenges, and the innovation and vitality are our working principles. | 6.60 | 1.114 | 0.852 |
| | 2.2 Our department requires employees to strictly abide by the rules and regulations and nobody is not allowed to break this rule. | 6.66 | 1.092 | |
| | 2.3 Our department is like a big family, and the relationship between colleagues is harmonious and intimate. | 6.69 | 1.016 | |
| | 2.4 Our department is results-oriented, and department staff promote the working principle of winning in competition. | 6.39 | 1.401 | |
| | 2.5 The cohesiveness of our department comes from | 6.50 | 1.205 | |

| | | | | |
|---|---|---|---|---|
| | innovation and development and emphasis on taking the leadership in everything. | | | |
| | 2.6 The cohesiveness of our department comes from the compliance of rules and regulations and emphasis on the smooth operation of the department. | 6.66 | 1.025 | |
| | 2.7 The cohesiveness of our department comes from mutual trust and harmony. | 6.67 | 1.018 | |
| | 2.8 The cohesiveness of our department comes from the pursuit of achievement and goal completion. | 6.56 | 1.203 | |
| | 2.9 Leaders in our department are like "parents" who focus on teaching, nurturing and encouraging employees. | 6.66 | 1.071 | |
| | 2.10 Leaders in our department are like entrepreneurs who focus on innovation, and they are innovative and take all the responsibility. | 6.61 | 1.127 | |
| | 2.11 Leaders in our department are pragmatists who emphasize on department stability and results. | 6.59 | 1.145 | |
| | 2.12 Leaders in our department belong to the "charismatic type" who have courage and appeal, high work enthusiasm, and great influence. | 6.61 | 1.104 | |
| | 2.13 Our department emphasizes teamwork, consensus, and encouragement of employees to participate in management. | 6.69 | 1.024 | |
| | 2.14 Our department attaches great importance to the fact that employees compete with their strength and we encourage high standards and high achievements. | 6.61 | 1.125 | |
| | 2.15 Our department emphasizes seeking new resources, challenging new goals, trying new methods and seeking new opportunities. | 6.58 | 1.162 | |
| | 2.16 Our department emphasizes department management and control, long-lasting benefits and stable development. | 6.68 | 1.009 | |
| | 2.17 Our department emphasizes free development of employees and encourages openness and continuous participation. | 6.60 | 1.153 | |
| | 2.18 Our department emphasizes constant setting of higher goals and focuses on winning in the competition. | 6.59 | 1.137 | |
| Department Management | 3.1 Our department management focuses on medical technology innovation, specialist ability improvement and discipline development. | 6.67 | 1.041 | 0.803 |
| | 3.2 Our department management focuses on increase in the number of patient services and business income. | 6.18 | 1.690 | |
| | 3.3 Our department management focuses on patient service experience, reduction of complaints, and improvement of patient satisfaction. | 6.78 | .888 | |
| | 3.4 Our department management focuses on employee training, personal growth of employees and the provision of good development opportunities. | 6.64 | 1.081 | |
| | 3.5 Our department constantly improves the existing rules and regulations. | 6.53 | 1.272 | |
| | 3.6 Our department continues to improve existing | 6.62 | 1.126 | |

| | | | | |
|---|---|---|---|---|
| | work flow. | | | |
| | 3.7 Our department trains existing staff to improve the overall professionalism and competence of the department. | 6.71 | .999 | |
| | 3.8 Our department is constantly improving the use of existing medical equipment and technology to generate benefits. | 6.49 | 1.329 | |
| | 3.9 Our department often reforms and innovates rules and regulations. | 6.31 | 1.498 | |
| | 3.10 Our department often reforms and innovates work flow. | 6.44 | 1.320 | |
| | 3.11 Our department recruits new employees to improve the professionalism and competence of the department. | 5.96 | 1.858 | |
| | 3.12 Our department often introduces and adopts the latest medical equipment and technology. | 6.32 | 1.461 | |
| Experience and Feeling | 4.1 I am very satisfied with the work contents and time arrangement given to me by the department. | 6.49 | 1.240 | 0.816 |
| | 4.2 I am very satisfied with my professional title. | 5.95 | 1.765 | |
| | 4.3 I am very satisfied with my salary. | 6.08 | 1.665 | |
| | 4.4 I am very satisfied with the personal growth and development space given to me by the department. | 6.42 | 1.288 | |
| | 4.5 I am very satisfied with my relationship with colleagues in the department. | 6.65 | 1.020 | |
| | 4.6 I like to work here because my life value can be realized. | 6.53 | 1.178 | |
| | 4.7 I am always very proud to talk to other staff of other departments about our department. | 6.49 | 1.266 | |
| | 4.8 I am very affectionate about our department. | 6.66 | 1.074 | |
| | 4.9 The current workload makes me feel a lot of psychological pressure. | 3.27 | 2.372 | |
| | 4.10 Because of my work, I rarely have time to stay with my family and friends or enjoy a vacation. | 3.64 | 2.461 | |
| | 4.11 The current doctor-patient relationship makes me feel a lot of psychological pressure. | 3.57 | 2.442 | |
| | 4.12 In my work, I have to work hard to achieve my goals. | 3.88 | 2.468 | |
| | 4.13 I often think about changing my job. | 2.25 | 2.054 | |
| | 4.14 Once I have a better job opportunity, I will leave the department immediately. | 2.15 | 2.006 | |
| | 4.15 If possible, I will actively look for new job opportunities. | 2.21 | 2.041 | |
| | 4.16 If the cost of choosing another industry is not high now, I will leave the industry soon. | 2.15 | 1.997 | |
| | 4.17 I still continue to work here because there are no other better options. | 2.75 | 2.391 | |
| | 4.18 If I change my job now, my entire life will be greatly affected. | 4.61 | 2.527 | |
| | 4.19 One of the reasons why I still continue to work here is because the treatment here is better than that in other places. | 4.75 | 2.454 | |

### 6.1.1 Questionnaire reliability analysis

SPSS24.0 statistical software is used to statistically analyze the questionnaire by calculating the Cronbach's α coefficients of items in the three sub-module measurement scales of department subculture, department management and employee experience and feeling.

As shown in Table 6-2, the Cronbach's α coefficient of the department subculture dimension is 0.852, the Cronbach's α coefficient of the department management dimension is 0.803, and the Cronbach's α coefficient of the employee experience and feeling dimension is 0.816. The Cronbach's α coefficients of the three dimensions are all greater than 0.70, indicating high internal consistency. As a result, the questionnaire has good reliability.

### 6.1.2 Factor analysis of the questionnaire items

Factor analysis is the study of the relationship between several factors that have complex relationships with each other and original variables. The premise of exploratory factor analysis is that there must be a correlation between the variables in order to analyze the covariance matrix between the variables. Therefore, before factor analysis, the Barlett's test of sphericity and Kaiser-Meyer-Olkin measure of sampling adequacy are used to determine whether the correlation between the indicators meets the requirement for factor analysis. For the KMO statistical measure, the greater the KMO value is, the more common factors there are among the items, which means the effects of exploratory factor analysis is better. The KMO value ranges between 0 and 1. Closer to 1 means the correlation between variables is higher and is more suitable for factor analysis. Closer to 0 means the correlation between variables is lower and is less suitable for factor analysis. When KMO>0.9, it is very suitable for factor analysis, when 0.8<KMO<0.9, it is suitable, when 0.7<KMO<0.8, it is acceptable, when 0.6<KMO<0.7, it is not quite suitable, and when KMO<0.5, it is not suitable (Sun, 2015). The Barlett's test of sphericity is used to test whether there is a common factor between the covariance matrices. If the partial correlation coefficients are all zero, then the test results cannot reject the null hypothesis, that is, the project data are not suitable for factor analysis, otherwise the data are suitable for factor analysis.

The test results show that the KMO value is 0.751, indicating a relatively high correlation and it is suitable to carry out factor analysis. The approximate chi-square value of Barlett's test of sphericity is 1568, the degree of freedom is 245, Sig=0.000<0.01, rejecting the original hypothesis (Sun, 2015). As a result, it is suitable for factor analysis.

The principal axis factoring method and the principal component analysis method are the most common methods for extracting common factors in factor analysis. As can be seen in Table 6-3, they can use variable data to obtain the load matrix of the factors. In this research, principal component analysis is used to extract common factors. From the factor load matrix table, there are four factors with eigenvalue greater than 1, and the cumulative variance explanation rate is 62.074%, which indicates that the results are ideal and have good construct validity.

Table 6-3 KMO and Bartlett's test of sphericity

| | | |
|---|---|---|
| Kaiser-Meyer-Olkin Measure of Sampling Adequacy | | 0.751 |
| Bartlett's Test of Sphericity | Approximate Chi-square | 1568.198 |
| | df | 245 |
| | Sig. | .000 |

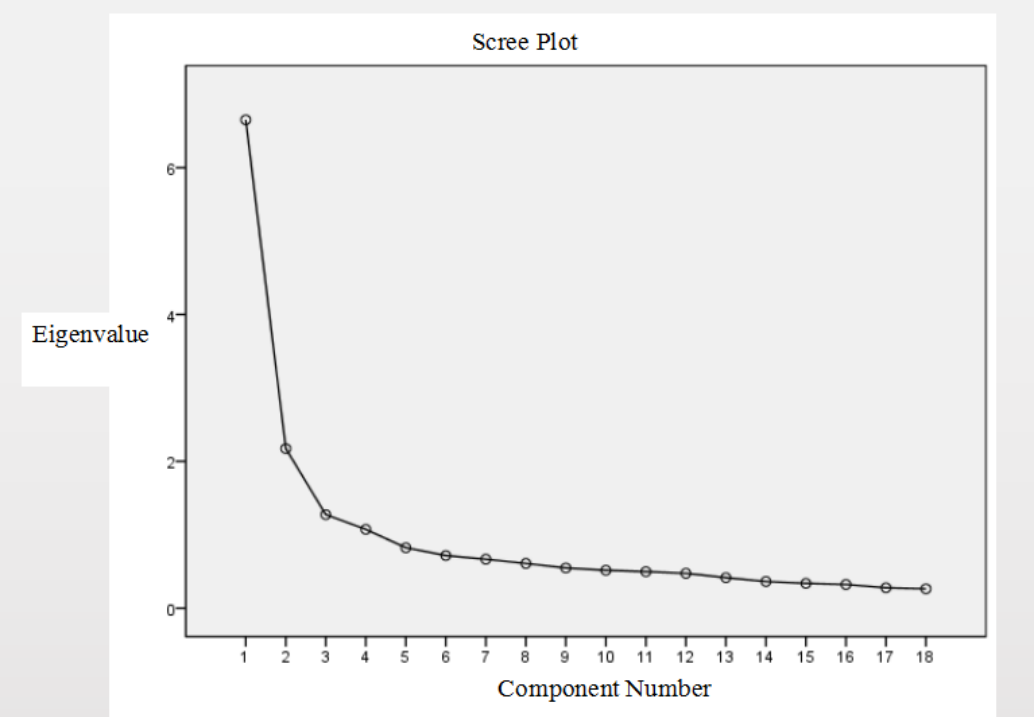
Table 6-4 Total variance explained

| Component | Initial Eigenvalues | | | Extraction Sums of Squared Loadings | | |
|---|---|---|---|---|---|---|
| | Total | % of Variance | Cumulative % | Total | % of Variance | Cumulative % |
| 1 | 6.652 | 36.953 | 36.953 | 6.652 | 36.953 | 36.953 |
| 2 | 2.174 | 12.079 | 49.032 | 2.174 | 12.079 | 49.032 |
| 3 | 1.274 | 7.079 | 56.111 | 1.274 | 7.079 | 56.111 |
| 4 | 1.073 | 5.963 | 62.074 | 1.073 | 5.963 | 62.074 |
| 5 | .823 | 4.573 | 66.647 | | | |
| 6 | .717 | 3.981 | 70.628 | | | |
| 7 | .667 | 3.703 | 74.331 | | | |
| 8 | .609 | 3.382 | 77.713 | | | |
| 9 | .547 | 3.041 | 80.755 | | | |
| 10 | .516 | 2.865 | 83.619 | | | |
| 11 | .497 | 2.762 | 86.381 | | | |
| 12 | .474 | 2.634 | 89.015 | | | |
| 13 | .415 | 2.306 | 91.321 | | | |
| 14 | .363 | 2.018 | 93.339 | | | |
| 15 | .337 | 1.872 | 95.211 | | | |
| 16 | .322 | 1.787 | 96.998 | | | |
| 17 | .277 | 1.541 | 98.539 | | | |
| 18 | .263 | 1.461 | 100.000 | | | |

Extraction Method: Principal Component Analysis

SPSS24.0 produces a scree plot as per Figure 6-1. It is visually presented that the fold line gradually levels off from the fifth point, that is, the fifth factor is the inflection point, indicating that the number of extracted factors is four (Sun, 2015). The variance contribution rate of the first four factors to the variable is large, and the rate of the fifth factor and the latter factors are relatively small (Sun, 2015).

Figure 6-1 Scree plot




According to SPSS 24.0 with principal component analysis method, there are four common factors in the factor load matrix, but the extracted common factors may have relatively weak explanatory power for project variables, and then orthogonal rotation is needed to make the coefficients close to 1 or 0, which improves the accuracy of interpretation of the meaning of the common factor. As can be seen in Table 6-4, the result of orthogonal rotation does not affect the communalities of the original variables and can better indicate the relationship between the factors. In order to make the leadership style features covered by each common factor easier to be observed, the leadership style features belonging to the common factors are grouped together, and finally the rotated component matrix is shown as per Table 6-5. The common factor variances of all the characteristic indicators of the communalities are above 0.5, indicating that the common factor can explain most of the variation of the measured indicators.

Table 6-5 Rotated component matrix

| | Component | | | |
|---|---|---|---|---|
| | 1 | 2 | 3 | 4 |
| Leaders in our department are like entrepreneurs who are courageous to make innovations and take all the responsibility. | 0.552 | 0.464 | 0.046 | -0.02 |
| The staff of our department are willing to accept challenges, and the innovation and vitality are our working principles. | 0.519 | 0.312 | 0.203 | 0.369 |
| The cohesiveness of our department comes from innovation and development and emphasis on taking the leadership in everything. | 0.707 | 0.292 | 0.241 | 0.109 |
| Our department emphasizes seeking new resources, challenging new goals, trying new methods and seeking new opportunities. | 0.748 | 0.18 | 0.295 | 0.062 |
| Our department emphasizes constant setting of higher goals and focuses on winning in the competition. | 0.645 | 0.083 | 0.478 | 0.136 |
| Leaders in our department are pragmatists who emphasize on department stability and results. | 0.112 | -0.623 | 0.395 | 0.195 |
| Our department is results-oriented, and department staff promote the working principle of winning in competition. | 0.053 | 0.807 | 0.108 | 0.146 |
| The cohesiveness of our department comes from the pursuit of achievement and goal completion. | -0.028 | 0.774 | 0.164 | 0.129 |
| Our department emphasizes department management and control, long-lasting benefits and stable development. | 0.019 | 0.706 | 0.01 | 0.49 |
| The cohesiveness of our department comes from the compliance of rules and regulations and emphasis on the smooth operation of the department. | -0.016 | 0.721 | 0.223 | 0.205 |
| Leaders in our department are like “parents” who focus on teaching, nurturing and encouraging employees. | 0.243 | 0.071 | 0.688 | 0.032 |
| Our department is like a big family, and the relationship between colleagues is harmonious and intimate. | 0.18 | 0.251 | 0.679 | 0.328 |
| The cohesiveness of our department comes from mutual trust and harmony. | 0.167 | 0.293 | 0.666 | 0.341 |
| Our department requires employees to strictly abide by the rules and regulations and nobody is not allowed to break this rule. | 0.016 | 0.101 | 0.786 | 0.161 |
| Leaders in our department belong to the “charismatic type” who have courage and appeal, high work enthusiasm, and great influence. | -0.133 | 0.468 | -0.04 | 0.555 |
| Our department emphasizes teamwork, consensus, and encouragement of employees to participate in management. | 0.236 | 0.49 | 0.011 | 0.589 |
| Our department attaches great importance to the fact that employees compete with their strength and we encourage high standards and high achievements. | 0.105 | 0.178 | 0.371 | 0.642 |
| Our department emphasizes free development of employees and encourages openness and continuous participation. | 0.158 | 0.218 | 0.264 | 0.681 |

Extraction Method: Principal Component Analysis
Rotation Method: Varimax with Kaiser Normalization

### 6.1.3 Questionnaire validity analysis

The validity has been partly reflected in the leadership model building process. The principal component analysis method is used to extract four eigenvalues, and the cumulative variance interpretation rate is 80.056%. The communalities of most of the leadership style features in this questionnaire are greater than 0.5, indicating that these four common factors are reasonable and can explain most information of the original variables and this questionnaire has good criterion validity (Sun, 2015).

Table 6-6 Total variance explained

| Component | Extraction Sums of Squared Loadings | | | Rotation Sums of Squared Loadings | |
|---|---|---|---|---|---|
| | Total | % of Variance | Cumulative % | Total | % of Variance |
| 1 | 6.652 | 36.953 | 36.953 | 3.616 | 20.088 |
| 2 | 2.174 | 12.079 | 49.032 | 2.912 | 16.180 |
| 3 | 1.274 | 7.079 | 56.111 | 2.687 | 14.926 |
| 4 | 1.073 | 5.963 | 62.074 | 1.958 | 10.880 |

As can be seen in Table 6-6, analysis and test indicate that the scale has good reliability and validity, meets the statistical and measurement standards, and can be used as a tool to evaluate and assess the quality of innovative talents. Therefore, the final leadership style model is shown as per Appendix 13.

## 6.2 Questionnaire results analysis

### 6.2.1 Survey data of previous years

In 2012, the researcher conducted the first case study and brand promotion survey of GZR. The research included collection and analysis of historical data, questionnaire survey, and employee interview. There were 48 in-depth interviews, 4 round-table meetings involving 24 persons, and 13 patient interviews.

In 2014, the researcher conducted the second case study and brand evaluation survey of GZR. The research included collection and analysis of relevant data, questionnaire survey,

and employee interview. There were 3,429 employee questionnaires, 38 in-depth interviews, 4 round-table meetings involving 24 persons, and 12 patient interviews.

In 2017, the researcher conducted the third case study. Relevant data were collected and analyzed, 26 in-depth interviews were carried out and 5,089 questionnaires were distributed.

#### 6.2.1.1 Questionnaire survey

In the previous three surveys of GZR, a total of 4,350 questionnaires were distributed in 2012, including 400 outpatient surveys, 400 inpatient surveys, and 200 discharged patient surveys. In the public survey, 50 were in Gaozhou, 50 were in downtown area of Maoming, 50 were in Xinyi, 50 were in Huazhou, and 50 were in Dianbai. There were 3,000 questionnaires for employees surveyed and 50 for suppliers.

In the 2014 survey, a total of 3,429 questionnaires were distributed in 2012, including 500 outpatient surveys, 503 inpatient surveys, and 301 discharged patient surveys. In the public survey, 212 were in Gaozhou, 60 were in downtown area of Maoming, 70 were in Xinyi, 52 were in Huazhou, and 62 were in Dianbai. There were 1,615 questionnaires for employees surveyed and 54 for suppliers.

In the 2017 case study, there were 5,089 employee questionnaires (see appendix Ⅲ).

#### 6.2.1.2 In-depth interview

The three one-to-one in-depth interviews with senior leadership and middle management of the hospital carried out in 2012, 2014, and 2017 help provide a deeper understanding of the hospital's specific development history, including the current status of the hospital, the current major problems, and future development.

The senior leadership includes the president, vice president and party secretary of the hospital. The middle management includes directors and deputy directors of the clinical departments, directors and deputy directors of the medical technology departments, directors of the functional departments. The functional departments of the interview include the hospital affairs office, medical affairs department, nursing department, equipment department, pharmacy, information department, publicity department, personnel department, science and education department, and finance department.

In the three surveys, there were 48 in-depth interviews in 2012, including interview with 5 senior leaders, 30 middle management, and 13 patients. In 2014, a total of 38 interviews were held, including 5 senior leaders, 22 middle management and 12 patients. In 2017, a total

of 26 interviews were held, including 4 senior leaders and 22 middle management (see appendix Ⅴ).

#### 6.2.1.3 Round table meeting

For the grassroots employees of the hospital, the main method adopted is round table meeting. Each group is composed of six to eight people coming from different departments, including groups of doctors, nurses, medical technology staff and administrative logistics staff.

The round table meeting was carried out for two times in 2012 and 2014 respectively, with four meetings each time and 1 to 1.5 hours for each meeting (see appendix Ⅵ).

#### 6.2.1.4 Distribution and collection of department management questionnaire in 2018

In the preliminary investigation, printed questionnaires were used, which was inefficient. Therefore, in the formal investigation, the questionnaire survey platform was adopted, and the questionnaire QR code was sent to interviewees. The results of the assessment can be directly reflected on the data platform, which is more convenient and faster, and data received are completer and more effective.

This survey selected all employees of GZR and lasted a month from March 9 to March 20, 2018. The hospital staff filled out the questionnaire by scanning the QR code. In this survey, 3086 valid questionnaires were finally collected, with a valid rate of 70.48%.

### 6.2.2 Descriptive statistical analysis of samples

#### 6.2.2.1 Descriptive statistical analysis of samples and questionnaire items

The basics of the sample entering the empirical analysis are shown in Table 6-15.

In terms of gender, the male account for 29.5% and the female account for 70.5%.

From the total working years in the hospital, 3.5% are less than one year, 21.1% are between 1-5 years, 40.5% are between 5-10 years, 22.1% are between 10-20 years, and 12.8% are over 20 years. Most employees are working in the hospital between 5-10 years.

According to the working years in the department, 13.2% are less than one year, 32.8% are between 1-5 years, 34.1% are between 5-10 years, 14.7% are between 10-20 years, and 5.2% are more than 20 years. The highest two distribution groups are 5-10 years and 10-20 years.

In terms of professional titles, those with senior professional title accounted for 2.2%, those with sub-senior professional title accounted for 7.4%, those with intermediate professional title accounted for 16.0%, those with primary professional title accounted for 50.0%, and those temporarily with no professional title accounted for 24.4%. The percentages of those with primary professional title and no professional title were high, and the percentages of those with senior title and intermediate title were low.

From the academic background point of view, those with the doctoral degree and above accounted for 0.3%, those with the master's degree accounted for 2.8%, those with the undergraduate degree accounted for 41.8%, those with junior college degree accounted for 35.8%, and those with high school degree or below accounted for 19.3%. The percentage of those with undergraduate degree or lower degree is higher, and the percentage of those with the doctoral or master's degree is low.

### 6.2.3 Statistical analysis based on different dimensions

#### 6.2.3.1 Department sub-culture dimension

the leadership styles of GZR's leaders are mainly charismatic and transformational leadership. It is considered that leaders of transformational leadership style account for 44%, leaders of charismatic style account for 43%, leaders of parent style account for 36.6%, and leaders of maintained style account for 35.1%.

Transformational leaders are courageous to make innovations and take responsibility. They often seek new resources, challenge new goals, try new methods and seek new opportunities. They like to constantly set higher goals and focus on winning in the competition. The cohesiveness of the department comes from innovation and development, and emphasis on taking the lead in everything. The staff of the department are willing to accept challenges and are innovative and energetic.

Charismatic leaders have the power and appeal, high enthusiasm for work, and great influence on employees. They emphasize teamwork and consensus and encourage employee involvement in management. They emphasize on employees' competition based on strength and encourage high standards and high achievements. They emphasize the free development of employees and encourage openness and continuous participation.

Parent leaders focus on teaching, nurturing, and encouraging employees. As can be seen in Table 6-7, the department is like a big family, and the relationship between colleagues is

harmonious and intimate. The cohesiveness comes from mutual trust, harmony and intimacy. Employees are required to strictly abide by the rules and regulations with no violations.

Table 6-7 Statistical analysis of sample background information

| | Frequency | Percentage |
|---|---|---|
| Gender | Male | 29.5% |
| | Female | 70.5% |
| Working Years in the Department | Below 1 Year | 13.2% |
| | 1-5 Years | 32.8% |
| | 5-10 Years | 34.1% |
| | 10-20 Years | 14.7% |
| | Over 20 Years | 5.2% |
| Total Working Years | Below 1 Year | 3.5% |
| | 1-5 Years | 21.1% |
| | 5-10 Years | 40.5% |
| | 10-20 Years | 22.1% |
| | Over 20 Years | |
| Department Job Post | Below 1 Year | 12.8% |
| | Department Director | 3.4% |
| | Department Deputy Director | 3.1% |
| | Head Nurse | 3.7% |
| | Group Leaders | 3.3% |
| | Ordinary Employees | 79.2% |
| | Others | 7.4% |
| Professional Title | Senior Professional Title | 2.2% |
| | Sub-Senior Professional Title | 7.4% |
| | Intermediate Professional Title | 16.0% |
| | Primary Professional Title | 50.0% |
| | Ungraded | 24.4% |
| Work Category | Doctors | 21.8% |
| | Nurses | 46.4% |
| | Medical Technicians | 7.4% |
| | Administrative Staff | 3.4% |
| | Logistics Staff | 21.1% |
| Educational Background | Doctoral Degree or Above | 0.3% |
| | Master’s Degree | 2.8% |
| | Bachelor’s Degree | 41.8% |
| | Junior College Degree | 35.8% |
| | High School and Below | 19.3% |

Table 6-8 Statistical analysis of department management dimension

| Types | Items | Mean |
|---|---|---|
| **Transformational** | Leaders in our department focus on transformation and are courageous to make innovations and take all the responsibility. | 6.24 |
| | The staff of our department are willing to accept challenges, and the innovation and vitality are our working principles. | 5.80 |
| | The cohesiveness of our department comes from innovation and development and emphasis on taking the leadership in everything. | 5.94 |
| | Our department emphasizes seeking new resources, challenging new goals, trying new methods and seeking new opportunities. | 6.10 |
| | Our department emphasizes constant setting of higher goals and focuses on winning in the competition. | 6.13 |
| **Maintained** | Leaders in our department belong to the "maintained type" who emphasize on department stability and results. | 6.29 |
| | Our department is results-oriented, and department staff promote the working principle of winning in competition. | 5.84 |
| | The cohesiveness of our department comes from the pursuit of achievement and goal completion. | 6.20 |
| | Our department emphasizes department management and control, long-lasting benefits and stable development. | 6.32 |
| | The cohesiveness of our department comes from the compliance of rules and regulations and emphasis on the smooth operation of the department. | 6.38 |
| **Parent** | Leaders in our department are like "parents" who focus on teaching, nurturing and encouraging employees. | 6.35 |
| | Our department is like a big family, and the relationship between colleagues is harmonious and intimate. | 6.47 |
| | The cohesiveness of our department comes from mutual trust and harmony. | 6.37 |
| | Our department requires employees to strictly abide by the rules and regulations and nobody is not allowed to break this rule. | 6.44 |
| **Charismatic** | Leaders in our department belong to the "charismatic type" who have courage and appeal, high work enthusiasm, and great influence. | 6.26 |
| | Our department emphasizes teamwork, consensus, and encouragement of employees to participate in management. | 6.35 |
| | Our department attaches great importance to the fact that employees compete with their strength and we encourage high standards and high achievements. | 6.19 |
| | Our department emphasizes free development of employees and encourages openness and continuous participation. | 6.18 |

As can be seen in Table 6-8, The maintained leaders pay more attention to stability of the department and completion of the results, emphasizing department management and control, long-term benefits and stable development.

This type of leaders is more results-oriented and advocate the working principle of winning in competition. The cohesiveness comes from the pursuit of achievements and completion of goals as well as the compliance of rules and regulations. They emphasize the smooth operation of the department.

#### 6.2.3.2 Department culture dimension

According to Table 6-9, in the department culture dimension, employees give the highest score to transformational leaders, followed by charismatic leaders, and the lowest score is given to the maintained leaders.

Employees give the highest score to transformational leaders who emphasize seeking new resources, challenging new goals, trying new methods and seeking new opportunities (6.49 points), improving the use of existing medical equipment and technology to generate benefits (6.36 points), focusing on medical technology innovation, specialist ability improvement and discipline development (6.35 points), and reforming and innovating work flow (6.34 points).

Items with the highest scores given by employees to charismatic leaders include our department management focuses on patient service experience, reduction of complaints, and improvement of patient satisfaction (6.46 points), our department trains existing staff to improve the overall professionalism and competence of the department (6.43 points), our department management focuses on employee training, personal growth of employees and the provision of good development opportunities (6.40 points), and our department emphasizes free development of employees and encourages openness and continuous participation (6.39 points).

Items with the highest scores given by employees to parent leaders include our department management focuses on patient service experience, reduction of complaints, and improvement of patient satisfaction (6.46 points), our department trains existing staff to improve the overall professionalism and competence of the department (6.30 points), and our department management focuses on employee training, personal growth of employees and the provision of good development opportunities (6.29 points).

Items with the highest scores given by employees to maintained leaders include our department emphasizes department management and control, long-lasting benefits and stable development (6.24 points), our department emphasizes constant setting of higher goals and

focuses on winning in the competition (6.23 points), and our department trains existing staff to improve the overall professionalism and competence of the department (6.19 points).

Table 6-9 Statistical analysis of department culture dimension and employee satisfaction dimension

| Dimensions | Items | Parent | Maintained | Charismatic | Transformational | P Value |
|---|---|---|---|---|---|---|
| Department culture | 3.1 Our department management focuses on medical technology innovation, specialist ability improvement and discipline development. | 6.14 | 6.02 | 6.19 | 6.35 | 0.0014 |
| | 3.2 Our department management focuses on increase in the number of patient services and business income. | 5.97 | 5.95 | 5.99 | 6.01 | 0.0008 |
| | 3.3 Our department management focuses on patient service experience, reduction of complaints, and improvement of patient satisfaction. | 6.46 | 6.15 | 6.46 | 6.11 | 0.0017 |
| | 3.4 Our department management focuses on employee training, personal growth of employees and the provision of good development opportunities. | 6.29 | 6.02 | 6.4 | 6.25 | 0.0024 |
| | 3.5 Our department constantly improves the existing rules and regulations. | 6.08 | 5.99 | 6.1 | 6.15 | 0.0019 |
| | 3.6 Our department continues to improve existing work flow. | 6.22 | 6.11 | 6.22 | 6.25 | 0.0033 |
| | 3.7 Our department trains existing staff to improve the overall professionalism and competence of the department. | 6.3 | 6.19 | 6.43 | 6.24 | 0.0027 |
| | 3.8 Our department is constantly improving the use of existing medical equipment and technology to generate benefits. | 6.11 | 6.02 | 6.1 | 6.36 | 0.0044 |
| | 3.9 Our department often reforms and innovates rules and regulations. | 5.73 | 5.64 | 5.77 | 5.82 | 0.0047 |
| | 3.10 Our department often reforms and innovates work flow. | 5.84 | 5.73 | 5.86 | 6.34 | 0.0022 |
| | 3.11 Our department recruits new employees to improve the professionalism and competence of the department. | 5.36 | 5.27 | 5.42 | 5.45 | 0.0036 |
| | 3.12 Our department often introduces and adopts the latest medical equipment and technology. | 5.55 | 5.44 | 5.57 | 5.62 | 0.0015 |
| | 2.13 Our department emphasizes teamwork, consensus, and encouragement of employees to participate in management. | 6.25 | 6.15 | 6.33 | 6.25 | 0.0018 |
| | 2.14 Our department attaches great importance to the fact that employees compete with their strength and we encourage high standards and high achievements. | 6.11 | 6 | 6.32 | 6.19 | 0.0046 |

| | | | | | | |
|---|---|---|---|---|---|---|
| | 2.15 Our department emphasizes seeking new resources, challenging new goals, trying new methods and seeking new opportunities. | 6.01 | 5.88 | 6.05 | 6.49 | 0.0034 |
| | 2.16 Our department emphasizes department management and control, long-lasting benefits and stable development. | 6.19 | 6.24 | 6.25 | 6.32 | 0.0021 |
| | 2.17 Our department emphasizes free development of employees and encourages openness and continuous participation. | 6.1 | 5.98 | 6.39 | 6.18 | 0.0013 |
| | 2.18 Our department emphasizes constant setting of higher goals and focuses on winning in the competition. | 6.03 | 6.23 | 6.08 | 6.13 | 0.0025 |
| | 4.1 I am very satisfied with the work contents and time arrangement given to me by the department. | 5.83 | 5.7 | 5.87 | 5.92 | 0 |
| | 4.2 I am very satisfied with my professional title. | 5.61 | 5.57 | 5.63 | 5.68 | 0 |
| | 4.3 I am very satisfied with my salary. | 4.43 | 4.32 | 4.48 | 4.51 | 0.011 |
| | 4.4 I am very satisfied with the personal growth and development space given to me by the department. | 5.62 | 5.48 | 5.67 | 6.71 | 0.004 |
| | 4.5 I am very satisfied with my relationship with colleagues in the department. | 6.46 | 6.36 | 6.42 | 6.26 | 0 |
| | 4.6 I like to work here because my life value can be realized. | 5.77 | 5.66 | 5.81 | 5.85 | 0.012 |
| | 4.7 I am always very proud to talk to other staff of other departments about our department. | 5.79 | 5.65 | 5.81 | 5.85 | 0.017 |
| | 4.8 I am very affectionate about our department. | 6.33 | 6.25 | 6.35 | 6.37 | 0.023 |
| | 4.9 The current workload makes me feel a lot of psychological pressure. | 4.98 | 4.95 | 4.91 | 4.92 | 0.033 |
| Employee satisfaction | 4.10 Because of my work, I rarely have time to stay with my family and friends or enjoy a vacation. | 5.19 | 5.22 | 5.12 | 5.14 | 0.019 |
| | 4.11 The current doctor-patient relationship makes me feel a lot of psychological pressure. | 5.35 | 5.33 | 5.3 | 5.32 | 0.066 |
| | 4.12 In my work, I have to work hard to achieve my goals. | 5.28 | 5.26 | 5.26 | 5.26 | 0.081 |
| | 4.13 I often think about changing my job. | 3.8 | 3.85 | 3.77 | 3.74 | 0.075 |
| | 4.14 Once I have a better job opportunity, I will leave the department immediately. | 3.57 | 3.68 | 3.55 | 3.51 | 0.086 |
| | 4.15 If possible, I will actively look for new job opportunities. | 3.8 | 3.87 | 3.77 | 3.74 | 0.057 |
| | 4.16 If the cost of choosing another industry is not high now, I will leave the industry soon. | 3.73 | 3.81 | 3.68 | 3.65 | 0.065 |
| | 4.17 I still continue to work here because there are no other better options. | 4.26 | 4.34 | 4.23 | 4.2 | 0.074 |
| | 4.18 If I change my job now, my entire life will be greatly affected. | 4.78 | 4.81 | 4.76 | 4.73 | 0.055 |
| | 4.19 One of the reasons why I still continue to work here is because the treatment here is better than that in other places. | 3.72 | 3.74 | 3.79 | 3.75 | 0.06 |

#### 6.2.3.3 Employee satisfaction dimension

The score of the experience and feeling dimension is relatively lower than that of the department management dimension. However, employees' evaluation of transformational leadership is generally higher than their evaluation of other types of leadership style, followed by charismatic leadership. The lowest evaluation is given to the maintained leadership.

In the experience and feeling dimension, the items with the highest score given by employees to transformational leader is that I am very satisfied with the personal growth and development space given to me by the department (6.71 points). This is also in line with the management style of transformational leadership, which emphasizes the development of employees. The item with the second highest score is that I am very satisfied with the work contents and time arrangement given to me by the department (5.92 points).

In terms of the work contents and working hours arranged by the department, the highest employee satisfaction occurs in transformational leadership (5.92 points), followed by charismatic leadership (5.87 points), and the lowest satisfaction occurs in maintained leadership (5.70 points).

In terms of satisfaction with professional titles, the highest employee satisfaction occurs in transformational leadership (5.68 points), followed by charismatic leadership (5.63 points), and the maintained leadership has the lowest satisfaction (5.57 points). This result is in line with the fact that transformational leaders encourage employees to win through competition and charismatic leaders emphasize the free development of employees.

In terms of wages, the overall evaluation and satisfaction is low. The lowest satisfaction occurs in maintained leadership (4.32 points). The highest satisfaction occurs in transformational leadership (4.51 points), followed by charismatic leadership (4.48).

In terms of the personal growth and development space given by the department, the highest satisfaction occurs in transformational leadership (5.71 points), followed by charismatic leadership (5.67 points), and the lowest satisfaction occurs in maintained leadership (5.48 points).

In terms of satisfaction with relationship with department colleagues, the highest satisfaction occurs in parent leadership (6.46 points), which is because in the parent leadership, the department management style is like a big family and colleagues have a harmonious relationship, followed by charismatic leadership (6.42points). Transformational leadership has the lowest score (6.26 points) and this is because transformational leaders encourage

employee competition.

Most employees believe that their value of life can be realized in this hospital. The highest satisfaction occurs in transformational leadership (5.85 points), followed by charismatic leadership (5.81 points). The lowest satisfaction occurs in maintained leadership (5.66 points).

Employees are all affectionate about the department. The highest evaluation is for transformational leadership (6.37 points), followed by charismatic leadership (6.35 points), and the lowest evaluation is for maintained leadership.

Table 6-10 Satisfaction of different types of leadership

| Questionnaire Items | Parent | Maintained | Charismatic | Transformational |
|---|---|---|---|---|
| Work contents and working hours arranged by the department | 5.83 | 5.7 | 5.87 | 5.92 |
| Satisfaction with professional titles | 5.61 | 5.57 | 5.63 | 5.68 |
| Satisfaction with wage | 4.43 | 4.32 | 4.48 | 4.51 |
| Personal growth and development space given by the department | 5.62 | 5.48 | 5.67 | 5.71 |
| Satisfaction with relationship with department colleagues | 6.46 | 6.36 | 6.42 | 6.26 |
| Life value can be realized | 5.77 | 5.66 | 5.81 | 5.85 |
| Affectionate with the department | 6.33 | 6.25 | 6.35 | 6.37 |
| The current workload makes me feel stressful | 4.98 | 4.95 | 4.91 | 4.92 |

The overall mental stress level of employees towards their workload is reasonable. Employees fell the greatest stress under parent leadership (4.98 points), and this is because parent leaders require the employees to strictly abide by the rules and regulations with no violation. As can be seen in Table 6-10, it is followed by maintained leadership (4.95 points). Charismatic leaders and transformational leaders give employees freedom, so employees have relatively lower stress.

### 6.2.4 Questionnaire reliability and validity test

#### 6.2.4.1 Reliability test

Reliability refers to the stability and reliability of the scale measurement results and is

usually indicated by the reliability coefficient. The larger the coefficient, the more reliable the scale. In general, when the Cronbach's α>0.80, the scale has excellent internal consistency. If the Cronbach's α is from 0.60 to 0.80, the reliability is relatively good, and if the Cronbach's α>0.5, the reliability is acceptable (Wang, 2016). The results of this study show that the Cronbach's α of the total scale is 0.917, indicating that the internal consistency of the scale is good (See Table 6-12).

Table 6-11 Component matrix after varimax rotation

| **Eigenvalue of the matrix: Total = 24.7511827 Mean = 0.55002628** | | | | |
|---|---|---|---|---|
| SN | **Eigenvalue** | **Difference** | **Proportion** | **Cumulative** |
| 1 | 12.5651652 | 7.3892098 | 0.5077 | 0.5077 |
| 2 | 5.1759554 | 3.4261809 | 0.2091 | 0.7168 |
| 3 | 1.7497745 | 0.4038434 | 0.0707 | 0.7875 |
| 4 | 1.3459311 | 0.1786695 | 0.0544 | 0.8419 |
| 5 | 1.1672616 | 0.2702606 | 0.0472 | 0.8890 |
| 6 | 0.8970010 | 0.0620954 | 0.0362 | 0.9253 |
| 7 | 0.8349056 | 0.0958864 | 0.0337 | 0.9590 |
| 8 | 0.7390192 | 0.2318494 | 0.0299 | 0.9888 |
| 9 | 0.5071698 | 0.0548277 | 0.0205 | 1.0093 |

### 6.2.4.2 Validity test

The scale reflects the theoretical constructs it measures. Validity can be divided into surface validity, construct validity, criterion validity, convergent validity and discriminant validity. This article evaluated the construct validity of the questionnaire. Construct validity is to test whether the structure of the scale is consistent with the assumed theoretical assumptions, and whether the intrinsic components of the measurement results are consistent with the field that the designer intends to measure in Table 6-11. The higher the validity, the more the scale can reflect the true characteristics of the object (Wang, 2016).

Kaiser-Meyer-Olkin Measure of Sampling Adequacy and Bartlett's Test of Sphericity are used to determine whether the scale is suitable for factor analysis. The KMO is 0.886, the Bartlett's Test of Sphericity chi-square is 1736.86, and is statistically significant ($P < 0.001$), indicating that it is suitable for factor analysis. The principal component analysis method is used to extract the common factor from the scale, and the varimax rotation is used to obtain the component matrix as shown in Table 6-12. A total of nine common factors are extracted to

obtain the best analytical effects. The cumulative contribution rate of the first five common factors is 88.9%. According to the cumulative variance and the scree plot, the first five common factors are selected as latent variables.

Table 6-12 Rotation factor mode

| | Factor1 | Factor2 | Factor3 | Factor4 | Factor5 | Factor6 | Factor7 | Factor8 | Factor9 |
|---|---|---|---|---|---|---|---|---|---|
| **_COL14** | 0.16906 | -0.13414 | 0.33141 | 0.24818 | -0.10673 | 0.17679 | 0.19701 | 0.31446 | 0.04763 |
| **_COL15** | 0.04092 | -0.07067 | 0.10025 | 0.17381 | 0.03191 | 0.01334 | 0.17988 | 0.52458 | -0.0030 |
| **_COL16** | 0.05942 | -0.12187 | 0.33778 | 0.61477 | -0.0849 | -0.0335 | 0.20342 | 0.17852 | -0.2033 |
| **_COL17** | 0.20774 | 0.03199 | 0.09248 | 0.11453 | 0.01937 | 0.1428 | 0.67343 | 0.12917 | -0.0284 |
| **_COL18** | 0.22953 | -0.01515 | 0.3043 | 0.19941 | -0.01968 | 0.10448 | 0.61393 | 0.09287 | 0.01577 |
| **_COL19** | 0.08276 | -0.01943 | 0.15856 | 0.10771 | 0.04179 | 0.16281 | 0.28494 | 0.47057 | -0.1095 |
| **_COL20** | 0.07547 | -0.08649 | 0.33135 | 0.59204 | -0.10917 | -0.0553 | 0.231 | 0.22378 | -0.1592 |
| **_COL21** | 0.24929 | 0.04493 | 0.17424 | 0.07621 | 0.12454 | -0.0247 | 0.562 | 0.15699 | 0.07111 |
| **_COL26** | 0.12162 | -0.17786 | 0.56043 | 0.35993 | -0.05924 | 0.14748 | 0.03545 | 0.16355 | -0.1353 |
| **_COL27** | 0.23599 | -0.09433 | 0.5402 | 0.20913 | 0.10297 | 0.17252 | 0.29606 | 0.05992 | -0.1348 |
| **_COL28** | 0.34113 | -0.09217 | 0.62744 | 0.17623 | 0.01271 | 0.12011 | 0.23379 | 0.03571 | 0.13489 |
| **_COL29** | 0.2177 | -0.06948 | 0.50989 | 0.15815 | 0.09241 | 0.20227 | 0.04852 | 0.41072 | 0.08179 |
| **_COL30** | 0.24909 | -0.0868 | 0.57928 | 0.22892 | 0.04144 | 0.14463 | 0.22008 | 0.10239 | -0.0557 |
| **_COL31** | 0.36368 | -0.05023 | 0.56333 | 0.09138 | 0.06032 | 0.08878 | 0.38003 | 0.14222 | 0.0909 |
| **_COL32** | 0.29879 | -0.17222 | 0.54767 | 0.25333 | -0.06092 | 0.15227 | 0.09065 | 0.25821 | 0.23227 |
| **_COL33** | 0.38331 | 0.12038 | -0.0184 | -0.0688 | 0.2215 | -0.0505 | 0.19558 | 0.13658 | 0.26748 |
| **_COL34** | 0.26312 | -0.08419 | 0.21551 | 0.19668 | 0.03933 | 0.08818 | -0.0220 | 0.48129 | 0.16355 |
| **_COL35** | 0.33954 | -0.17089 | 0.52357 | 0.36069 | -0.06409 | 0.11571 | 0.04619 | 0.18316 | -0.0581 |
| **_COL44** | 0.29862 | -0.20409 | 0.27769 | 0.39881 | -0.17604 | 0.38927 | 0.0225 | 0.09133 | -0.0354 |
| **_COL45** | 0.17408 | -0.00617 | 0.12386 | 0.33183 | -0.01212 | 0.3148 | 0.05578 | 0.05461 | -0.0406 |
| **_COL46** | 0.11395 | -0.25001 | 0.16308 | 0.20948 | -0.12714 | 0.63073 | 0.07056 | 0.09097 | -0.0388 |
| **_COL47** | 0.21353 | -0.19162 | 0.34843 | 0.4141 | -0.02165 | 0.51097 | -0.0198 | 0.05573 | -0.0274 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **_COL48** | 0.13117 | -0.09981 | 0.14451 | 0.6693 | 0.05805 | 0.09644 | 0.14325 | 0.12322 | 0.02328 |
| **_COL49** | 0.18666 | -0.34847 | 0.24669 | 0.5222 | 0.07149 | 0.44562 | 0.05236 | 0.0808 | 0.11417 |
| **_COL50** | 0.22865 | -0.28643 | 0.23286 | 0.52629 | 0.04132 | 0.36152 | 0.02379 | 0.05013 | 0.18789 |
| **_COL51** | 0.13765 | -0.26324 | 0.12599 | 0.63009 | 0.12147 | 0.16219 | 0.03532 | 0.19286 | 0.20362 |
| **_COL36** | 0.66514 | -0.05307 | 0.22691 | 0.15925 | -0.00605 | 0.08481 | 0.07009 | 0.24755 | -0.1640 |
| **_COL37** | 0.60127 | -0.06484 | 0.21362 | 0.27076 | 0.08147 | 0.1941 | -0.0280 | 0.33527 | -0.1255 |
| **_COL38** | 0.44238 | -0.11305 | 0.40907 | 0.29016 | 0.0097 | 0.16772 | -0.0367 | 0.34713 | 0.02442 |
| **_COL39** | 0.61633 | -0.01373 | 0.24873 | -0.0002 | 0.10181 | 0.0198 | 0.14733 | 0.17804 | 0.21748 |
| **_COL52** | 0.08822 | 0.34412 | -0.0366 | -0.0699 | 0.64687 | -0.0549 | 0.07942 | -0.0092 | -0.0459 |
| **_COL53** | 0.09354 | 0.21915 | 0.01065 | 0.06132 | 0.69537 | -0.0736 | -0.0067 | 0.00732 | 0.03887 |
| **_COL54** | 0.03644 | 0.28197 | 0.00168 | 0.03901 | 0.69964 | -0.0357 | 0.01235 | -0.0302 | 0.00848 |
| **_COL55** | 0.10842 | 0.23794 | 0.05426 | -0.0046 | 0.65339 | 0.00919 | 0.05931 | 0.11136 | 0.02769 |
| **_COL56** | 0.03627 | 0.75122 | -0.1063 | -0.1355 | 0.28162 | -0.0293 | 0.02471 | -0.0638 | 0.04159 |
| **_COL57** | 0.01514 | 0.82913 | -0.0764 | -0.1480 | 0.20109 | -0.0201 | 0.01258 | -0.0427 | 0.01284 |
| **_COL58** | -0.0031 | 0.84548 | -0.0948 | -0.1384 | 0.16026 | -0.0746 | 0.00137 | -0.0686 | 0.01971 |
| **_COL59** | 0.01088 | 0.76719 | -0.1491 | -0.0820 | 0.17918 | -0.1064 | -0.0035 | -0.0935 | -0.0216 |
| **_COL60** | -0.0317 | 0.65924 | -0.0966 | -0.1205 | 0.26053 | -0.0267 | -0.0033 | -0.0465 | -0.0153 |
| **_COL61** | -0.0937 | 0.3566 | 0.0401 | -0.02896 | 0.24965 | 0.20951 | -0.01144 | 0.07161 | -0.01181 |
| **_COL62** | 0.03494 | 0.14918 | 0.07969 | -0.0042 | -0.02625 | 0.5294 | 0.11511 | 0.08245 | 0.03054 |
| **_COL40** | 0.78244 | 0.0246 | 0.13017 | 0.09098 | 0.0883 | 0.03384 | 0.17407 | 0.01823 | -0.0891 |
| **_COL41** | 0.69156 | -0.00678 | 0.21347 | 0.18458 | 0.09213 | 0.16132 | 0.12456 | 0.14671 | -0.1453 |
| **_COL42** | 0.58017 | 0.06293 | 0.13357 | 0.08254 | 0.08231 | 0.04767 | 0.24987 | -0.1402 | 0.07826 |
| **_COL43** | 0.57769 | -0.04008 | 0.17986 | 0.13176 | -0.03725 | 0.09631 | 0.13807 | -0.0345 | 0.20778 |

Factor 1 contains eight indicators including variable 36, 37, 38, 39, 40, 41, 42, and 43, and can be considered as the common factor to reflect department culture. Factor 2 contains five indicators including variable56, 57, 58, 59, and 60, reflecting the turnover intention. Factor 3 contains seven indicators including 26, 27, 28, 29, 30, 31, and 32, and can be considered as the indicator to reflect the positioning ability of the department. Factor 4

contains seven indicators of 16, 20, 47, 48, 49, 50, and 51, and can be considered to reflect satisfaction. Factor 5 contains four indicators of 52, 53, 54, and 55, and can be considered to reflect work pressure. The cumulative variance contribution of the first five factors is far higher than that of the last four, and the last four factors have no practical significance, so they are discarded.

It is found that with a relatively high variance, the five common factors are still identified, and the meaning was clear. It can be considered that the questionnaire has strong discriminability.

## 6.3 Description of research model

The structural equation model is used to build a model for the data. The structural equation model has been widely used in recent years as an emerging method of data statistics. It is used in many fields such as economics, management, psychology, medicine, sociology. The structural equation model (SEM) is a multivariate statistical analysis technique. It is a statistical method that uses the hypothesis test in statistics to analyze the internal structure of relevant phenomena. It can comprehensively reflect the internal association among various latent factors or between latent and manifest factors. The dependent variables can be represented by a set of manifest variables (Wang, 2016). By verifying the covariance between the manifest variables, the coefficients of the linear regression model can be estimated to statistically test whether the hypothesized model is appropriate for the research process. If it is confirmed that the hypothesized model assumed is appropriate, it can be said that the relationship between the hypothesized dependent variables is reasonable.

SEM can be divided into three categories: strictly confirmatory (SC), alternative models (AM), and model generating (MG). The MG is where the researcher proposes one or more basic models in advance, then checks whether the models fit the sample data, based on the theories or sample data, analyzes and finds the poorly fitted part of the model, and modifies the model. The purpose of the entire analysis process is to generate an optimal model, which is the most commonly-used model. Therefore, in addition to verifying a model and comparing different models, SEM can also be used to evaluate and modify models.

In this thesis, comprehensive exploratory factor analysis (EFA) and Confirmatory Factory Analysis (CFA) are used to test the data, confirm the relevant conclusions, and construct the best structural equation path to form the final conclusion. The structural model

of factor analysis is shown as follows.

Figure 6-2 Factor structure model

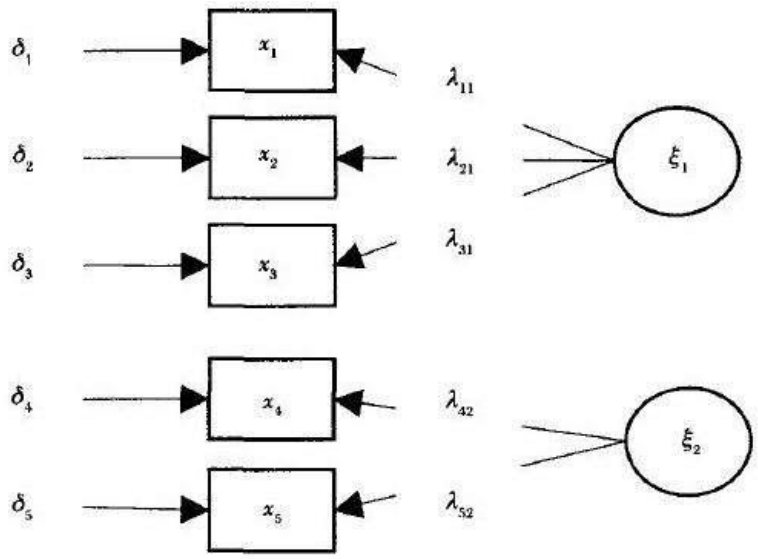



Figure 6-2 shows the simplest and most common factor model. Each observed variable (indicator) has a non-zero load on only one factor (latent variable). x1, x2, and x3 are indicators of the latent variable ξ1, and x4 and x5 are indicators of the latent variable ξ2. After extending the factor model shown in to the factor model in the general sense, the relationship between each observed variable xi and m common factors ξ1,ξ2, ..., ξm can be expressed by the mathematical model (Baidu, 2012), as follows:

**x1 = λ11ξ1 +λ12 ξ2 + … +λ1mξm +δ1**

……

**x k =λk1ξ1 +λk2ξ2 + … +λkm ξm +δ**

To be specific, xi is the observed variable, ξi is the common factor; δi is the special factor of xi, or sometimes called the error term, including the unique factor and the error factor of xi; λij is the load of the common factor; m is the number id common factor ξ1 , ξ 2 , ... , ξm, and k is the number of observed variables x1 , ..., xk, m < k (Baidu, 2012).

In addition, the two analysis have different premises of application. Exploratory factor analysis has no a priori information, while confirmatory factor analysis has (Larsson, Sahlsten,

& Segesta, 2011).

The analysis steps of the two are also different. Exploratory factor analysis mainly has the following seven steps. 1. Collect observed variables. 2. Construct correlation matrix. 3. Determine the number of factors. 4. Extract factors. 5. Factor rotation. 6. Explain factor structure. 7. Calculate factor score and so on (Larsson, Sahlsten, & Segesta, 2011).

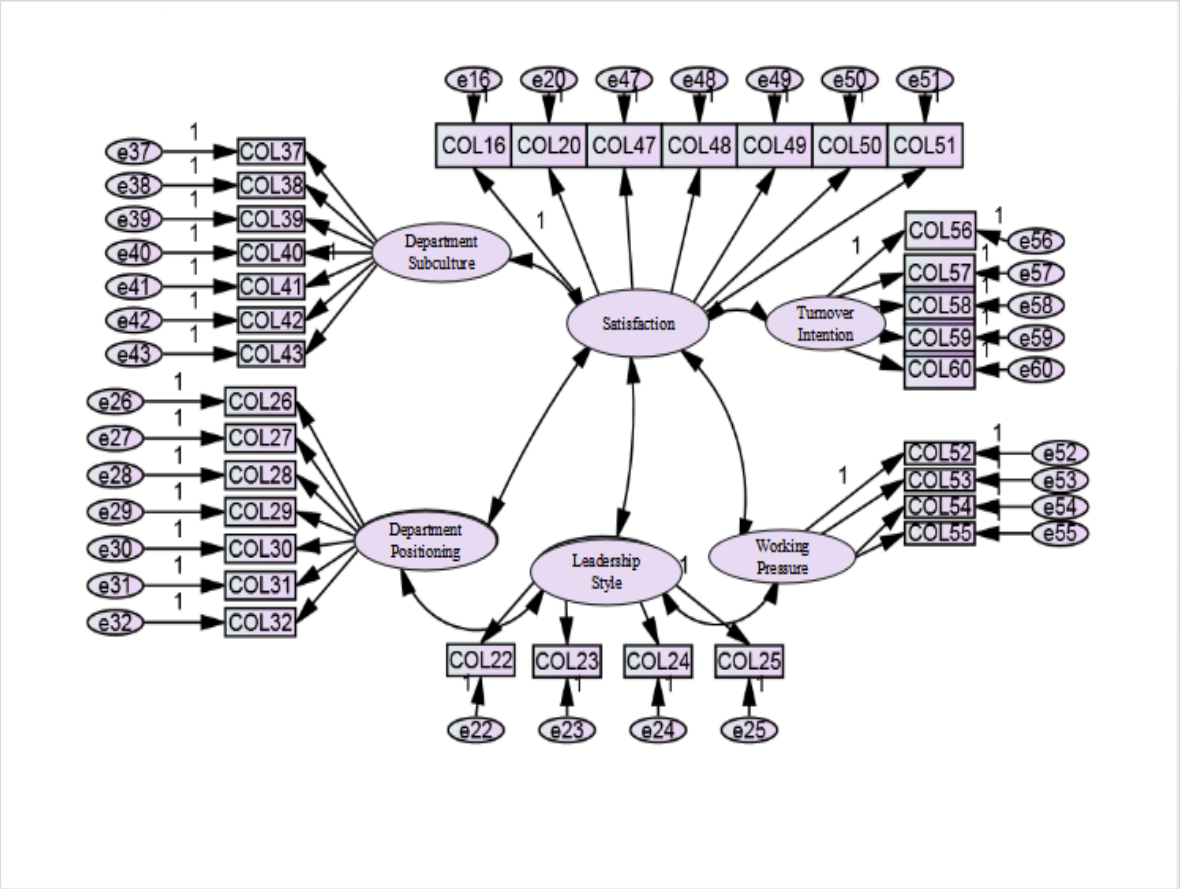
The confirmatory factor analysis mainly has the following six steps. 1. Define factor model. 2. Collect observed value. 3.Obtain correlation coefficient matrix. 4. Fitting model. 5.Evaluatethe model. 6. Modify the model.

The SAS statistical software supports normative database. It organizes the database, deletes the unqualified questionnaires, and deletes and integrates the redundant variables and similar variables. According to the management categories of hospital president/department directors, they are divided into different groups. If a single questionnaire is selected, then the leadership style can directly be determined. If there are two or three types of questionnaires selected, the leadership style is defined as “compound”. Therefore, the final leadership style can be divided into: 1 = “parent style”, 2 = “transformational style”, 3 = “maintained style”, 4 = “charismatic style”, and 5 = “compound style”. According to the satisfaction score, the satisfaction derivative variables are generated, and the satisfaction is classified into three categories: “very satisfied”, “neither satisfied nor dissatisfied” and “dissatisfied”. Working pressure can be divided into three subgroups: “little working pressure”, “certain pressure”, and “strong working pressure”. The innovation ability of the department can be divided into three categories: “little rectification and innovation work”, “rectification and innovation work is acceptable” and “rectification and innovation work is outstanding”. Employee turnover intention include “no turnover intention”, “in consideration of leaving”, and “leave the job immediately if there’s opportunity”.

## 6.4 Building of the research model

This study uses structural equation modeling to confirm the preliminary model, estimation parameters, evaluation model fit, model correction, etc. It tests the feasibility and soundness of the hypothesis model. Based on the above structure, AMOS is used to analyze relationship of the variables, and finally the model of the model of influencing factors of leadership style on department subculture is built. This thesis will use the AMOS software to complete the drawing and correction of the structural equation model in Figure 6-3.

Figure 6-3 Measurement model




### 6.4.1 Evaluate the degree of fitting of the structural equation model

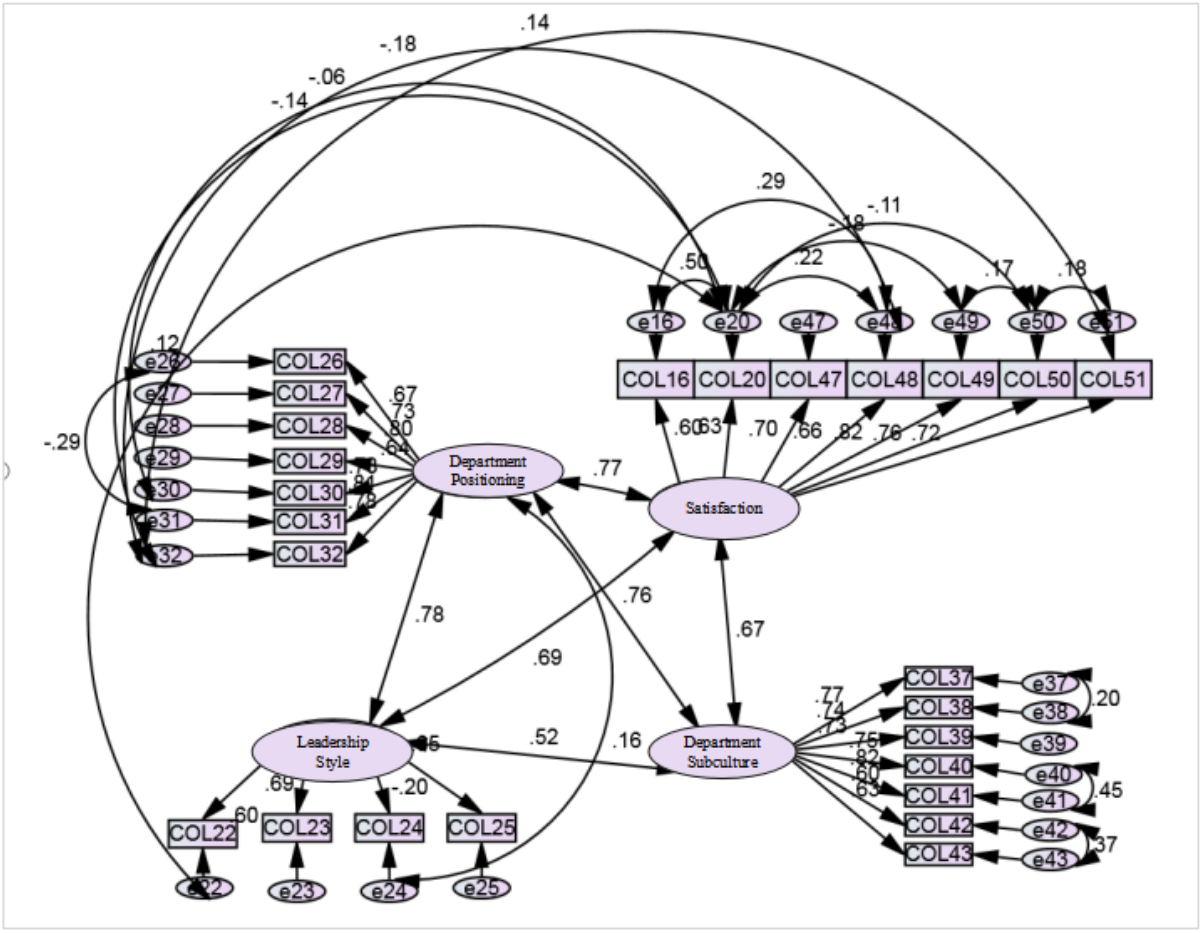
Before analyzing the path of the structural equation model, in order to provide reference standards for the estimated values, the relevant indicators should be explained and analyzed. Whether the overall model fitting degree index meets the fitting criteria can be analyzed by the absolute fit statistics and the value-added fit statistics:

Absolute adaptation statistics

1. CMIN (X 2). Smaller X 2 means that the causal path map of the overall model better fits the actual data. When the X 2 value is 0, it means that the hypothetical model extremely fits the observed data (Liu, 2016).

2. CMIN/df. When using AMOS to analyze the data, if the CMIN/df is less than 1, it indicates that the model is over-fitted, if the CMIN/df is over 3, it indicates that the model is not well-fitted, and if the value is between 1 and 3, it indicates that the model fits well (Liu, 2016).

Figure 6-4 Corrected model




3. Root of the mean square residual (RMR), standardized root means square residual (SRMR), and root mean square error of approximation (RMSEA). The RMR is easily affected by the variables, but from the viewpoint of fitting the residual, smaller RMR value means better fitting degree of the model. In practice, when RMR is less than 0.05, the model is generally considered to be acceptable. The SRMR value is between 0 and 1. Generally speaking, when the value is below 0.05, the model fitting degree is acceptable. When the RMSEA is higher than 0.10, the model fitting degree is poor; when the RMSEA is less than 0.05, the model fits very well; when the RMSEA is between 0.08 and 0.10, the model has a normal fitting degree; when the RMSEA is between 0.05 and 0.08, the model has a reasonable fitting degree (Liu, 2016).

4. Goodness of fit index (GFI) and the adjusted goodness of fit index (AGF). The GFI and AGF values are both between 0 and 1. Generally speaking, when the value is greater than 0.90, it indicates that the model path fits the actual data well (Liu, 2016).

### 6.4.2 Modification of the research model

Based on the results of collection, collation and analysis of previous literature, it is believed in this study that the several dimensions of leadership style, satisfaction, department subculture, and department positioning have certain correlation. The leadership style is the cornerstone of department positioning and department subculture. At the same time, leadership style directly affects employee satisfaction, and department positioning, and department subculture directly restricts the improvement of satisfaction, and also indirectly affects the formation of leadership style. Based on this hypothesis, a theoretical model is constructed to study the intrinsic connections of the several dimensions. The model consists mainly of four measurement models and one structural model. The four measurement models respectively measure the relationship between measurement variables and an exogenous variable (leadership style) and three endogenous variables (satisfaction, department subculture, and department positioning). The structural model measures the relationship between endogenous latent variables and exogenous latent variables. Confirmatory factor analysis of the theoretical model shows that the model can be identified ,The modified structural equation model n Figure 6-4 ..

Table 6-13 Corrected model fit index CMIN, RMR, GFI, RMSEA, baseline comparisons

| **Model** | **NPAR** | **CMIN** | **DF** | **P** | **CMIN/DF** |
|---|---|---|---|---|---|
| Default model | 63 | 1009.010 | 262 | .000 | 3.851 |
| Saturated model | 325 | .000 | 0 | | |
| Independence model | 25 | 7360.506 | 300 | .000 | 24.535 |
| **Model** | **RMR** | **GFI** | **AGFI** | **PGFI** | |
| Default model | .101 | .864 | .825 | .670 | |
| Saturated model | .000 | 1.000 | | | |
| Independence model | .685 | .201 | .134 | .185 | |
| **Model** | **RMSEA** | **LO 90** | **HI 90** | **PCLOSE** | |
| Default model | .074 | .069 | .079 | .000 | |
| Independence model | .220 | .216 | .225 | .000 | |
| **Model** | **NFI Delta1** | **RFI rho1** | **IFI Delta2** | **TLI rho2** | **CFI** |
| Default model | .863 | .843 | .895 | .879 | .894 |
| Saturated model | 1.000 | | 1.000 | | 1.000 |
| Independence model | .000 | .000 | .000 | .000 | .000 |

It can be seen from the corrected model that the indicators under several dimensions have a positive correlation with each dimension, and all indicators are statistically significant. The factor loading of each index is between 0.52 and 0.78, and the reliability coefficient of each index is between 0.63 and 0.82, except for COL24. The overall model fitting degree is good, with CMIN/DF being 3.66, GFI being 0.864, AGFI being 0.825, RMSE being 0.074, and PGFI being 0.670 in Table 6-13. The correlation coefficient between leadership style and satisfaction is 0.69, the correlation coefficient between leadership style and department subculture is 0.52, and the correlation coefficient between leadership style and department positioning is 0.78. The index factor loading is better than that in the original questionnaire, and the model fit index is better than that in the original questionnaire model in Table 6-14.

Leadership style has significant influence on department positioning, department subculture, employee satisfaction, and working attitude.

Table 6-14 Measurement results of corrected model

| | | | **Estimate** | **P** |
|---|---|---|---|---|
| Leadership Style | ↔ | Department Positioning | .78 | .000 |
| Leadership Style | ↔ | Satisfaction | .69 | .000 |
| Leadership Style | ↔ | Department Subculture | .52 | .000 |
| Department Positioning | ↔ | Department Subculture | .76 | .000 |
| Department Positioning | ↔ | Satisfaction | .77 | .000 |
| Department Subculture | ↔ | Satisfaction | .67 | .000 |
| Leadership Style | ↔ | c22 Department leaders are like “parent”. | .60 | .000 |
| Leadership Style | ↔ | c23 Department leaders focus on transformation. | .69 | .000 |
| Leadership Style | ↔ | c23 department leaders are “maintained” type. | .20 | .000 |
| Leadership Style | ↔ | c25 Department leaders are “charismatic” type. | .85 | .000 |
| Department Positioning | ↔ | c26 Department emphasizes on teamwork. | .67 | .000 |
| Department Positioning | ↔ | c27 Department emphasizes that employees should compete based on their actual strength. | .73 | .000 |
| Department Positioning | ↔ | c28 Department emphasizes on seeking new resources and challenging new objectives. | .80 | .000 |
| Department Positioning | ↔ | c29 Department emphasizes on department management and control and long-lasting stable development. | .64 | .000 |
| Department Positioning | ↔ | C30 Department emphasizes on free development of employees. | .78 | .000 |
| Department Positioning | ↔ | C31 The department emphasizes on winning in competition. | .84 | .000 |
| Department | ↔ | C32 The department focuses on technological | .78 | .000 |

| | | | | |
|---|---|---|---|---|
| Positioning | | innovation and capability improvement. | | |
| Department Subculture | ↔ | C37 The department often improves the current work process. | .77 | .000 |
| Department Subculture | ↔ | C38 The department trains the current employees to improve the overall capability. | .74 | .000 |
| Department Subculture | ↔ | C39 The department constantly improve the current medical equipment and technology to generate benefits. | .73 | .000 |
| Department Subculture | ↔ | C40 The department often make changes and innovations to rules and regulations. | .75 | .000 |
| Department Subculture | ↔ | C41 The department often make changes and innovations to work flows. | .82 | .000 |
| Department Subculture | ↔ | C42 The department improve professional quality and capability by recruiting nee employees. | .60 | .000 |
| Department Subculture | ← | C43 The department often introduces and adopts up-to-date medical equipment and technology. | .63 | .000 |
| Satisfaction | ↔ | C16 The department is like a big family with harmonious relationships. | .60 | .000 |
| Satisfaction | ↔ | C20 The cohesiveness of the department comes from mutual trust. | .63 | .000 |
| Satisfaction | ↔ | C47 I am content with the individual growth and development room given by the department. | .70 | .000 |
| Satisfaction | ↔ | C48 I am content with my relationship with colleagues. | .66 | .000 |
| Satisfaction | ↔ | C49 I like to work here because my life value can be realized. | .82 | .000 |
| Satisfaction | ↔ | C50 I am very proud to talk to others about my department. | .76 | .000 |
| Satisfaction | ↔ | C51 I am affectionate with the department. | .72 | .000 |

## 6.5 Explanation of the independent variable for the results of dependent variables

From the results of the above structural model, the following conclusions can be drawn:

(1) Leadership style has a positive impact on the department subculture, department positioning and employee satisfaction, and the impact on department positioning is the greatest. Among the different leadership styles, the influences of parent leadership, transformational leadership and charismatic leadership are relatively great, and the transformational leadership has the greatest impact.

Transformational leadership: They are courageous to make innovations and take all responsibility. They often seek new resources, challenge new goals, try new methods and seek new opportunities. They like to set higher goals and focus on winning in competition. The cohesiveness of the department comes from innovation and development and emphasis on taking the leading role in everything. Staff of the departments are willing to accept challenges

and are innovative and energetic.

Charismatic leadership: They have courage and appeal, high enthusiasm for work, and great influence on employees. They emphasize teamwork and consensus and encourage employee involvement in management. They emphasize that employees should compete based on their strength and encourage high standards and high achievements. They attach importance to the free development of employees and encourage openness and continuous participation.

Parent leadership: They emphasize more on teaching, nurturing and encouraging employees. The department is like a big family and the relationship between colleagues is harmonious. The cohesiveness comes from mutual trust and harmonious relationship. Employees are required to strictly abide by the rules and regulations with no violations.

Maintained leadership: They focus more on the stability of the department and the completion of the results, emphasizing management and control of the department, long-term benefits and stable development. They are results-oriented, and department staff advocate the working principle of winning in competition. The cohesiveness comes from the pursuit of achievements and completion of goals, as well as the compliance with rules and regulations and emphasis on the smooth operation of the department.

(2) The department subculture, department positioning, and employee satisfaction affect each other and also indirectly affect the formation of leadership style. In particular, the interaction between the department subculture and department positioning is especially strong.

(3) As for department positioning, emphasis on teamwork and consensus and encouragement of employee participation has a greater impact. Leaders emphasize on employee competition based on strength and encourage high standards and high achievements. They emphasize on seeking new resources, challenging new goals, trying new methods and seeking new opportunities. They emphasize department management and control, lasting benefits and stable development. They emphasize the free development of employees and encourage openness and continuous participation. They emphasis on setting continuously higher goals and focus on winning through competition. Department management focuses on medical technology innovation, specialty competence improvement and discipline development.

(4) In department subculture, the most influential item is that the department

continuously improves the existing work flow. The department upgrades the overall professional quality and ability of the department by training existing staff. The department continuously improves the use of existing medical equipment and technology to generate benefits. The department often reforms and make innovations to rules and regulations. The department often reforms and make innovations to the work process. The department will recruit new employees to improve the professional quality and ability of the department. The department often introduces and adopts the latest medical equipment and technology.

(5) In employee satisfaction, the most influential item is that our department is like a big family, and the relationship between colleagues is harmonious and intimate. The cohesiveness of our department comes from mutual trust and harmony. I am very satisfied with the personal growth and development space given by the department. I am very satisfied with the relationship with my colleagues in the department. I like to work here because my life value can be realized. I am very proud to talk to people in other departments about our department. I am very affectionate about our department.

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# Chapter 7: Discussion

## 7.1 Major conclusions

### 7.1.1 Qualitative research results

Through a case study of the GZR hospital, the research has carried out years of follow-up investigation and in-depth interview of the four hospital presidents with different leadership styles. Results show that under different leadership styles, GZR present different development states, and leaders lead the hospital to develop in different directions. For example, both Chen Guangwei and Wang Maosheng brought GZR to different peaks; Zhong Huanqing pushed the GZR model to the whole country through star service and media publicity; Ye Guanrui once brought the hospital into a ditch in maintaining and changing the development of the hospital. Thus, the leadership style determines the development and performance of the hospital. On the contrary, at different stages of development, the hospital should choose the leader who can best adapt to the hospital development, which may be beneficial to the healthy development of the hospital. The conclusion is that a hospital needs different leadership styles at different stages of development.

As for hospital development, the research divides it into four stages, the start-up stage, the growth stage, the maturity stage, and the decline stage. This research separately analyzes the leaders of GZR from different periods of development.

#### 7.1.1.1 Transformational leadership and charismatic leadership are suitable for the “start-up stage”

In the start-up stage, the main problem is the survival crisis. The key problem is to choose the right positioning, and the hospital needs a transformational leader who has the courage to break the rules with innovative ideas and individual charisma. The first hospital president in the case is in line with such a leadership style. He has not only a strong sense of mission, but also far-sightedness beyond the average person. He can overcome various difficulties and shoulder the burden of hospital development. Through his personal charisma and influence, he makes the employees recognize the target and vision. He has not only won the support and loyalty of all employees, but also broken the conventional routine so that the

hospital can obtain a good foundation for development.

Both the first and fourth presidents in the case hospital have the qualities of transformational leadership. They all advocate goal-oriented and market-oriented and are innovative. They have the courage to break the traditional rules, develop a unique development path, and pursue higher value. Employees are encouraged with great personal creativity and freedom.

In the early days of the start-up stage, there is no glorious history and generous treatment to attract employees, and only the vision and personal charisma of the hospital leader unite the employees to work together. As a concrete embodiment of the vision, the leaders must be exemplary and give confidence to employees with their ethics, character and ability. Therefore, transformational leadership and charismatic leadership are the most desirable choices in the start-up stage.

#### 7.1.1.2 Parent leadership and charismatic leadership are suitable for the "growth stage"

The organization is now in the growth stage, and the current task is to actively look for opportunities to expand, as most threats to survival have been overcome. In the GZR case, it can be seen that the second president has typical parent leadership style. When reviewing all the materials and documents in his tenure, it is found that the management is strict and extensive. On the one hand, he has the responsibility and accountability like a parent. On the other hand, he has very strict requirements for the employees. For example, doctors and nurses are required to keep their mobile phones on 24 hours in order to serve the patient well. Such service requirements are far more than the work load that ordinary people should have. However, he focuses on offering good services and makes use of various media for publicity. In his tenure, he advocates to establish a star hospital, and makes the "GZ Model" popular throughout the country. Under his leadership, the scale of the hospital has continued to expand, and the number of employees has been increasing. However, because of his dictatorship, simple and crude management, there are many systemic problems.

With the institutionalization and normalization of organizational management as well as the socialization and professionalization of the labor force, leaders must change their mindset to get rid of entrepreneurial mentality and learn to authorization and decentralization. The leaders should establish a professional management team, establish management standards and systems, pay attention to supervision of the management process, use PDCA to achieve sustainable improvement and development, and assume more social responsibilities.

#### 7.1.1.3 Maintained leadership and pragmatic leadership are suitable for the "maturity stage"

In the case, the first two presidents have led the hospital to develop rapidly, but the rules and regulations of the hospital were still not perfect. The third president, as the successor, possessed the characteristics of maintained leadership and was originally an optimal choice. Since he took over, he was committed to developing more standardized systems and processes, and he could have brought GZR to a healthy and steady development track. However, due to some complicated factors, he failed to achieve the original intention of stable hospital development. Instead, he let the hospital fall to the bottom without achieving a long-term and stable development.

#### 7.1.1.4 Transformational leadership and charismatic leadership are suitable for "decline/regeneration stage"

As seen in the case, the fourth dean took over when the hospital was at a low ebb. He is a transformational and charismatic leader. As a transformational leader, he has the following characteristics. First, he establishes rules and regulations and promotes standardized and transparent management. Second, he adopts salary reform to encourage employees, give them sense of happiness and reshape employee confidence. In addition, he builds a platform to introduce talents, does charity and public welfare, and lets the people regain their confidence in the hospital. With personal enthusiasm and passion, he made the vision and commitment of phoenix nirvana and hospital rebirth and exerted influence on employees with himself as a role model.

### 7.1.2 Quantitative research results

#### 7.1.2.1 Leadership style is significantly correlated with positioning, culture and satisfaction

Leadership style has significant influences on department positioning, department subculture, employee satisfaction, and work attitude. The P value is less than 0.05, indicating the regression coefficient of leadership style for department positioning, department subculture, employee satisfaction, and work attitude has reached a significant level. Data analysis shows that leadership style has a positive impact on department subculture, department positioning, and employee satisfaction. As for department positioning,

transformational leadership, parent leadership and charismatic leadership all have a relatively strong influence, with transformational leadership style having the greatest impact. This may be a result of the fact that transformational leaders are courageous to make innovations and take responsibility, seek new resources, challenge new goals, try new approaches and seek new opportunities, like to set higher goals and focus on winning in the competition. The cohesiveness of the department comes from innovation and development and emphasis on taking the leading role in everything. The department employees are willing to accept challenges and have innovation and vitality. The charismatic leadership style is that leaders have the power and appeal and high work enthusiasm, with great influence on the employees. They emphasize teamwork and consensus and encourage employee involvement in management. They emphasize employee competition based on strength and encourage high standards and high achievements. They emphasize the free development of employees and encourage openness and continuous participation. As for the parent leadership style, leaders focus more on teaching, training and encouraging employees. The department is like a big family, and the relationship between colleagues is harmonious and intimate. The cohesiveness comes from mutual trust and harmony. Employees are required to strictly abide by the rules and regulations with no violations. As for maintained leadership style, leaders pay more attention to stability of the department and completion of the results, emphasizing department management and control, lasting benefits and stable development.

#### 7.1.2.2 Department subculture, department positioning and employee satisfaction affects each other and are correlated with each other

There is a huge interaction between department subculture and department positioning. Items with relatively great influence in department positioning include the department emphasize teamwork and consensus and encourage employees to participate in management; the department attaches importance to employee competition based on strength and encourages high standards and high achievements; the department emphasizes seeking new resources, challenging new goals, trying new methods, and seeking new opportunities; the leaders emphasize department management and control, long-lasting benefits and stable development; the leaders emphasize the free development of employees, and encourage openness and continuous participation; the leaders emphasize setting higher goals and focus on winning in competition. As for department management, the leaders focus on medical technology innovation, specialty ability improvement and discipline development. Items with

relatively huge influence in department subculture include the department continuously improves the existing work process; the department trains the existing staff to improve the overall professional quality and ability of the department; the department continuously improves the use of existing medical equipment and technology to generate benefits; the department often reforms and makes innovation to rules and regulations; the department often reforms and makes innovations to work processes; the department recruits new staff to improve professional quality and ability of the department; the department often introduces and adopts the latest medical equipment and technology. Items with relatively huge influence in employee satisfaction include our department is like a big family, and the relationship between colleagues is harmonious and intimate; the cohesiveness of our department comes from mutual trust and harmony; I am very satisfied with the personal growth and development space given to me by the department; I am satisfied with my relationship with department colleagues; I like working here because my life value can be realized; I am very proud to talk to people of other departments about my department; I am very affectionate about our department.

#### 7.1.2.3 Different leadership styles have significantly different impacts on departments

Transformational leadership focuses on innovation and reform; charismatic leadership focuses on cultivating employees and emphasizes the free development of employees; parent leadership focuses on individual employee growth; and maintained leadership emphasizes department management and control and smooth development of department. As can be seen from Table 6-16, 6-17, and 6-18, employees score higher on transformational leadership, followed by charismatic leadership, and the lowest score is given to maintained leadership. Transformational leaders emphasize seeking new resources, challenging new goals, trying new methods and seeking new opportunities; they continuously improve the use of existing medical equipment and technology to generate benefits; they focus on medical technology innovation, specialty capability improvement and discipline development; and our department often reforms and makes innovation to the work process. Charismatic leaders focus on patient service experience, reduction of complaints, and improvement of patient satisfaction; they focus on training existing staff to improve the overall professional quality and ability of the department; they focus on employee development and pay attention to the personal growth of employees; they emphasize the free development of employees and encourage openness and continuous participation. Parent leaders attach importance to patient service experience, reduction of complaints, and improvement of patient satisfaction; the department trains

existing staff to improve the overall professional quality and ability of the department, the department focuses on employee development and pays attention to the personal growth of employees. The maintained leaders emphasize department management and control, long-lasting benefits and stable development; the department emphasizes to continuously set higher goals and focuses on winning in competition; the department trains existing staff to improve the overall professionalism and competence of the department.

#### 7.1.2.4 The satisfaction decreases progressively in the order of transformational leadership, charismatic leadership, parent leadership and maintained leadership

The staff gives the highest score to transformational leadership in terms of the work content and working hours arranged by the department, satisfaction with the professional title, satisfaction with the salary, satisfaction with the personal growth and development space, value of their life, and evaluation of the affection for the department.

As for satisfaction with the relationship with department colleagues, the highest evaluation is given to the parent leadership, which is in line with the department management style of parent leadership. The second highest is charismatic leadership, and lowest evaluation is given to transformational leadership, which is related to the fact that transformational leader encourage employee competition. At present, employees' psychological pressure of workload is at a normal level. Employees feel the biggest pressure under the parent leadership, and this is because the parent leadership requires strict compliance with the rules and regulations with no violation. The maintained leadership has the second highest psychological pressure. The charismatic and transformational leadership give employees certain freedom, so the pressure is relatively small.

#### 7.1.2.5 A "leadership style model" with satisfaction as the dependent variable

According to the impact of leadership style on department development, this research analyzes the correlation and impact between different factors. In the construction of this model, a theoretical hypothesis is first made: there is a certain influence relationship between leadership style, satisfaction, department subculture, and department positioning; leadership style is the cornerstone of department positioning and department subculture, while department positioning, and department subculture directly restrict the improvement of satisfaction, and leadership style will directly affect employee satisfaction. Based on this hypothesis, a theoretical model is constructed to study the intrinsic relationship between

several variables. The model mainly includes four measurement models and a structural model. The measurement models measure the relationship between the measurement variables and an exogenous variable (leadership style) and three endogenous variables (satisfaction, department subculture, and department positioning). The structural model measures the relationship between endogenous latent variables and exogenous latent variables. Confirmatory factor analysis of the theoretical model shows that the model can be identified, and the modified structural equation model is in line with the standardized path of the "leadership style theoretical model".

#### 7.1.2.6 An actual measurement and analysis have been carried out on leadership style and category

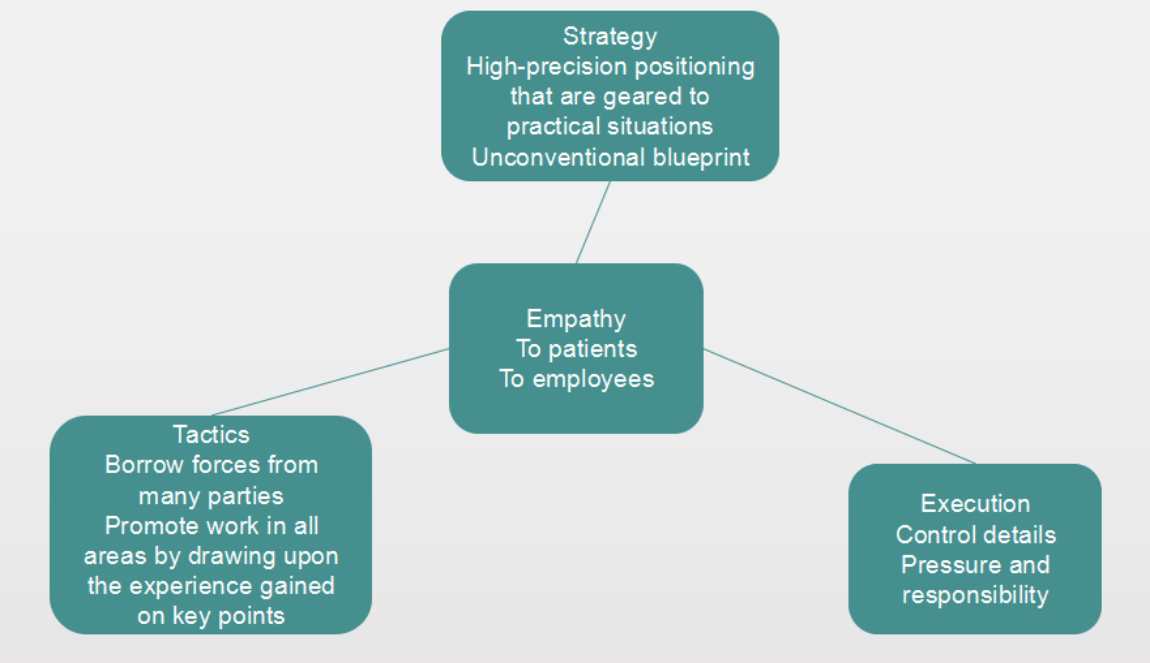
Firstly, based on literature research and theoretical derivation, the theoretical hypothesis of relationship between department subculture, department positioning, leadership style and satisfaction is proposed. Secondly, through the literature collation and theoretical analysis, the corresponding measurement scales are developed, and the reliability and validity of the scales are tested by quantitative empirical research methods such as questionnaire survey, exploratory factor analysis and confirmatory factor analysis. Finally, empirical methods such as questionnaires and structural equations are used to test the hypothetical model. The four factors of this study include leadership style, department positioning, department culture, and satisfaction. The Cronbach's α coefficient of department subculture dimension is 0.852, department management 0.803, and employee experience and feeling 0.816. The Cronbach's α coefficient values of the three dimensions are all greater than 0.70, indicating that the internal consistency is high, and the questionnaire has good reliability. The KMO is 0.896, the Bartlett's test of sphericity chi-square is 1736.86, and is statistically significant ($P < 0.001$), indicating that it is suitable for factor analysis. The principal component analysis is used to extract common factors. There are four factors with eigenvalue greater than one, and the cumulative explanation rate of variance reaches 62.074%, indicating that the results are ideal and have good construct validity. The scale can be used to measure leadership style.

## 7.2 Contribution of the case study to management practice (ESTE leadership model)

By reviewing the development history and successful experience of GZR, it is not difficult to find out that the guidance and leadership of the hospital president is an important

factor for the success of the hospital. To analyze the driving factors that promote hospital reform and development, the researcher has constructed the ESTE leadership model (Figure 7-1) with empathy as the core, and strategy, tactics, and execution as the three closely-related levels. It is a special contribution to management practice by the presidents of GZR.

Figure 7-1 ESTE leadership model




#### 7.2.1.1 Empathy

Empathy is a technique and ability to enter and understand the inner world of others and to communicate this understanding to others. In psychology, it also refers to know others through one's own understanding of himself. Simply speaking, it is a way of thinking by putting oneself in other's shoes (Zhou, 2014).

As a leader, the hospital president must understand his employees as well as his customers. A team that cannot attract and retain outstanding employees is not sustainable, and products that do not understand and satisfy customer needs are not likely to be competitive in the market. Chen Guangyu, the president of GZR in its rapid development stage, takes into consideration the difficulties and needs of local patients to resolve medical problems that patients urgently need to solve, so that the hospital can offer "quality medical services and affordable medical services". On the basis of inheriting the affordable medical care, President Wang Maosheng adopts the ground-breaking measures of offering free 120 ambulance

services and free heart-diseases-saving month to further meet the needs of patients.

The technical backbones play an absolutely important role in institutions like hospitals which strongly rely on technology. Each of the presidents makes every effort to attract and retain talents by emotions and benefits. Currently GZR cherishes every employee who is dedicated to the hospital and puts “retaining employees by emotions” into practice by taking care of the employees’ child birth, old age sickness and funerals so that employees have no worries. On the basis of equity, GZR adopts a more practical distribution method. The treatment is promoted generally, and priority is given to high-risk and high-technology posts as well as key departments. In the Opening Ceremony of the Level 3A Hospital Accreditation, the old employees and retired employees were pushed to the stage of honor. Gratitude to the employees’ dedication is an important way to obtain the employees’ loyalty.

Leaders of GZR bear empathy of thinking for the patients as well as the employees. In this way, they can better grasp the direction of hospital development, and get up when they fall down.

#### 7.2.1.2 Strategy

To bear the empathy of serving the patients and considering the development of employees, the first thing needed is a strategic thinking that is suitable to development.

President Chen Guangwei set high targets when he took office. Although GZR was only an ordinary secondary hospital at that time, lacking money and technology, he still determined that the sophisticated specialty of heart surgery would be the first target of breakthrough. The 19-story surgical building built in 1997 with fund raised from the entire hospital staff and the modernized expert building built subsequently seemed to be a series of striking and unconventional measures, but they are based on the accurate assessment of the market status and future development by the hospital leader. The development of the specialty allows the poor congenital patients to find the hope of life, the huge surgical building is full of patients in only one year, and the modern expert building is still a rare benefit for hospital staff compared with their counterparts.

Although the modernized GZR has become the leader of the county hospitals nationwide, it is still breaking through the conventional thinking and constantly making innovations by creating a nationwide precedent of offering free ambulances across cities and counties and launching a free-of-charge heart-diseases-saving month. These striking and amazing practices are a manifestation of the charity work of GZR, which has won reputation for it. The brand

effect brought by them and the benefits generated by the chain reaction reflect the great wisdom of the leaders who are far-sighted and remain unmoved by the small profits.

Excellent strategic analysis is always at the forefront of the times. Those doubts from the outside world cannot stop the footsteps of the forerunners. GZR is advancing rapidly by this seemingly unreachable high positioning and blueprint.

#### 7.2.1.3 Tactics

A good strategy must be implemented with good tactics, otherwise it will become an unreachable castle in the air. Based on the positioning of "building an affordable hospital that patients can cure the major illness without travelling out of the county", the leaders of GZR makes careful plans from the perspectives of public relations, brand, marketing and human resources management so that the high-precision positioning can be implemented.

Without advanced medical technology, GZR resorted to Fuwai Hospital to train the whole team; without money to build the building, the president called on the staff to raise the funds; with little influence, GZR did well in technology and charity to attract the media. In a word, GZR borrows forces from many parties to achieve the goal. Through development of the cardiac surgery department, GZR successfully promotes work in all areas by drawing upon the experience gained on key points. The development of cardiac surgery department has also promoted the development of relevant surgery department and anesthesia department, which directly promotes the overall strength of the hospital.

In China's county hospitals which are extremely insufficient in all aspects of resources, it is a rare tactical ability of a hospital leader to be courageous to borrow forces and adept in using the forces.

#### 7.2.1.4 Execution

Details determine everything. Without explicit norms and strong execution, the implementation of tactics will be greatly reduced.

In terms of "never letting go any details", the hospital has done a lot of specific things so that management can be put into practice. For example, in order to save money, GZR is almost "stingy" to the extreme as it carefully calculates all operating costs. Even the amount of oil in the ambulance is carefully examined. The preventive measures of "three high-voltage lines" and "three prohibitions" are not only published in the media, but also made into a bronze medal to be put in each ward. For the "red envelopes" given by patients,

the money will be returned while the envelope is kept so that patients can rest assured (Wang & Lin, 2015). In order to reduce the cost of medical treatment for patients, the hospital has established relevant systems to strictly check problems in the inspection, medication, and charging. The hospital is required to sign letters of responsibility with doctors and require that doctors have to state the reasons for the patients' medication, and under the premise of ensuring the quality of medical care, give priority to simple drugs, give priority to cheap drugs, and give priority to domestically produced drugs (Wang & Lin, 2015). In addition, the regulations are linked to department assessment. For example, the proportion of drug income in clinical departments should not exceed 35% of the total income of the department, and the prescription for outpatient prescriptions should not exceed 80 yuan. GZR has a complete set of detailed management rules, systems and mechanisms which are implemented in an unambiguous way. The hospital expert group conducts random inspections in all departments every day. Every week the hospital president will lead a team to go the rounds of the ward. The hospital medical quality review and supervision meeting is held every month. The leaders of public hospitals are faced with complicated political and social pressure. If the hospital does not develop well, they will face financial pressure. If the hospital develops well, they will inevitably face political intervention. If the hospital makes a lot of money, the public opinion will be overwhelming. If the hospital cannot make enough money, there will be no attraction to the employees. And these pressures from all parties may delay the execution of a tactic or even a strategy. A truly responsible president must be able to withstand the pressure, use his resources and capabilities to resolve the crisis, and guarantee his own ideas to be realized.

## 7.3 Theoretical contributions and innovations of quantitative model research

This study solves the theoretical problems of the influence of department leadership style on department management, department subculture and employee satisfaction as well as the relationship among different factors, identifies four different styles of leaders, constructs the theoretical model of leadership style, measures leadership style by scales, and proposes theoretical suggestions for leadership styles in different development periods.

### 7.3.1 Identification of four different leadership style theories

Through literature research and theoretical analysis, this study has identified four different leadership styles, namely, transformational, charismatic, parent and maintained leadership styles. Most of the previous studies used only one or two leadership styles. This research has identified four leadership styles. Through the analysis of the four hospital presidents of GZR in different periods via the three-circles model, the research has found out the influence of the strategies and innovations brought by different styles of hospital presidents in different periods.

### 7.3.2 Proposition of leadership style theoretical model

In order to better study the influence of different leadership styles on the organizational strategic positioning and hospital development, it is necessary to establish a theoretical model of leadership style. The leadership style theory model of this research starts from the four aspects of leadership style, strategic positioning, department culture and employee satisfaction, and makes specific analysis and research on these four aspects. The model is used to conduct an integrated measurement and assessment of the hospital leadership style so as to improve hospital satisfaction.

### 7.3.3 Actual measurement and analysis of leadership style by scales

Firstly, based on literature research and theoretical derivation, the theoretical hypothesis that different leadership styles have different influences on hospital strategic positioning, department culture and employee satisfaction is proposed. Then through literature collation and theoretical analysis, the corresponding measurement scale is developed, and the reliability and validity of the scale are tested by methods of questionnaires, exploratory factor molecules and confirmatory factor analysis. Finally, through the questionnaire survey, the structural equation model is established, and the hypothesis is tested. Among the four leadership styles, the transformational leadership has the greatest impact on the hospital, followed by the charismatic leadership, the parent leadership, and finally the maintained leadership. The maintained leadership pursues stability of department and completion of results and emphasizes smooth operation of department, so it is not conducive to the breakthrough development of the hospital. This result also provides a theoretical and empirical basis for research on the organizational strategic positioning and development.

### 7.3.4 Proposition of the suggestion of adopting different leadership styles in different development stages

Research of management theories, in the final analysis, is designed to effectively guide practice. Based on this idea, this research proposes the suggestion of adopting different leadership styles in different development stages. “Start-up” stage needs transformational leadership and charismatic leadership; “growth” stage needs parent leadership and charismatic leadership; “maturity” stage requires maintained leadership; “decline/regeneration” stage needs transformational leadership and charismatic leadership.

## 7.4 Research limitations and prospects

At present, there are few studies analyzing leadership styles in China, let alone analyzing four leadership styles and the leadership style of the whole hospital. The collected literature has certain limitations, so this research also has certain limitations as follows.

### 7.4.1 Limitations and prospects of survey samples

Due to the limitations of time, energy and cost, the questionnaire and case study focuses only on one hospital, namely GZR. Therefore, the future studies can investigate more hospitals and cover more samples. Hospitals in different regions can be investigated so as to understand the leadership styles of cross-region hospitals. The hospitals being investigated can cover different levels including primary, secondary and tertiary hospitals. Research can also be conducted on public hospitals and private hospitals.

### 7.4.2 Limitations and prospects of measurement tools and methods

The measurement scale used in the survey has somewhat formal written items, so it may result in a deviation in understanding. In the preliminary investigation, the written questionnaire method was adopted, and it was found that the reliability index of some dimensions was low. When the employees filled out the questionnaire, there was a defensive mentality, and they would not express what they really think. Therefore, the electronic questionnaire was used in the formal survey. The results were better than those of the preliminary investigation, but there were also a certain number of invalid variables, which can also be improved in future research.

## 7.5 Implications by comparing GZR case with a successful medical reform example

#### 7.5.1.1 “Sanming model”

It is a medical reform model highly praised by the National Health Commission of China and serves as a reference for hospitals across China. When comparing it with the GZ experience, it is found that there are many similarities. In dealing with the problem of “expensive medical bills and difficult access to quality medical services”, the “GZ case hospital” has a long-lasting experience of working out fundamental resolutions to it, and it is like a living specimen of county hospital development.

Both the GZ case, and the renowned “Sanming Model” encountered major financial obstacles in the early stage of reform. Both of them started to reduce the price of medicines or consumables and cut down costs to solve the problem of expensive medical treatment so as to manifest the public welfare nature of hospitals.

However, the development of the two has completely different dominant parties and development priorities. The Sanming Model is a large-scale city-wide reform that relies on government domination, multi-sectoral cooperation and strong expert leadership. The government takes charge from medical insurance, hospital construction, equipment procurement and annual salary of hospital presidents and doctors, and the reform focuses on lowering the drug price and guaranteeing medical insurance funds. The GZ case is under the background of government decentralization. Through self-reform, it develops technology and builds its specialties. Its goal is to offer affordable and quality medical services, ensure that patients can get their major illnesses treated without traveling out of the county, and become a regional medical center.

In the face of the different development situations of county hospitals, both the two models can serve as a reference for the reform and development of county hospitals (see appendix Ⅵ, Ⅶ, Ⅷ).

#### 7.5.1.2 Referential significance of GZR to hospitals of underdeveloped counties

GZR has been successful in offering quality and affordable medical services to patients and truly realize the medical reform goal of county hospitals, namely, getting major illnesses treated without travelling out of the county. Such successful practice is worth learning by the

county hospitals in similar areas.

If the government promotes to establish 100 “GZR-like” hospitals across the country, the medical reform goal of county hospitals will be able achieved. To choose GZR as a benchmark for learning, the hospitals must meet the following requirements:

It should be far away from the provincial capitals. Underdeveloped counties/county-level cities that have poor transportation and are far away from provincial capitals or central cities have the inherent advantages to learn from the GZ case.

The local population should be large. In the initial stage of development, the medical technology of the county hospitals is not advanced enough to attract patients in the surrounding areas or beyond. The large amount of the local population will provide a natural market for the development of the hospital, and it is the least difficult to win this market. The early development on this basis will be a breakthrough point for the development of hospitals in underdeveloped counties (Wang & Lin, 2015).

There needs to be a reform-oriented hospital president who is willing to take all responsibility. There is a great shortage of senior management talents in Chinese hospitals, and since public hospitals are regulated by the government, it is inevitable to select a capable and responsible transformational president to lead the hospital with his charisma. An outstanding hospital president must not only break through the conventional thinking and know what kind of development ideas are beneficial to the hospital, but also work harder and enterprising, that is, withstand the pressure from all parties and lead employees to implement them steadily according to the correct plan.

On this basis, the hospitals should also initiate innovation by themselves and not rely on asking for others’ help; they should analyze the local market, and nail down the specialties that should be prioritized according to the local diseases with high incidence rate; they should concentrate resources at hand, actively explore new fields, cooperate with big hospitals, borrow external forces to develop specialties, and build your own technical team. Then they should develop some specialties to drive the development of the entire hospital to achieve technical perfection and the goal of treating major illnesses within the counties. In addition, they should adhere to affordable medical care so that they can take into account the interests of both the hospital and the people. In this way, the GZ case can be duplicated (Wang & Lin, 2015).

In 1997, GZR raised funds from its employees, and there was no relevant laws and

regulations forbidding it. Since 2012, county-level hospitals have been prohibited from construction by loans. (According to the Notice of the General Office of the State Council on Printing and Distributing the Pilot Comprehensive Reform of County-level Public Hospitals issued in 2012, the county-level governments should fulfill the responsibility to offer capital to the county-level public hospitals, and county-level hospitals are forbidden to raise a loan for construction. Large-scale equipment that has been bought through loans or fund-raising should in principle be repurchased by the government (Wang & Lin, 2015). When the government is difficult to repurchase, the price should be reduced within a definite time (Wang & Lin, 2015).

However, it can be seen from the success of the GZR case that the model of development through strength of the entire staff has enabled the hospital to raise funds in a short period of time so that it can develop rapidly. In today's context, many county hospitals have no funds, and there are many limitations for the commercial capital to enter the public hospitals such as the contradiction between capital profitability and the public welfare nature of public hospitals. In addition, the capitals are generally reluctant to enter county-level hospitals, especially general hospitals, in the underdeveloped areas. If there are no other feasible routes, is it possible to raise funds through collective fund-raising, and in the same time improve the regulatory system to supervise transparently and legally?

China has 31 provinces, municipalities and autonomous regions. If each province, municipality and autonomous region builds two to three benchmark hospitals with GZ experience as a template, there will be nearly 100 GZR-like hospitals. Take Guangdong as an example. GZ is located in the west of Guangdong province. If there is a benchmark hospital respectively built in east and north Guangdong, and each benchmark hospital can radiate and affect the surrounding three to five county hospitals, then there will be about 300 GZR-like hospitals in China (see Figure 7-2). This is in line with the Notice of the General Office of the State Council on Printing and Distributing the Major Work Arrangements for Deepening the Medical and Health System Reform in 2012 which requires to select about 300 counties to carry out county-level hospital pilot comprehensive reform (Wang & Lin, 2015).

Each province selects about three key county hospitals, each county hospital selects one to two key specialties based on local incidence rate; the county hospitals cooperate with provincial and ministerial hospitals to get technical training and further study to form GZR-like hospitals, each GZR-like hospital can affect three to five neighboring county

hospitals, and finally a GZ experience of county hospital specialty development featuring 1+3+5 is formed (see Appendix 10).

It is difficult to avoid siphonage of large hospitals for county hospitals that are close to the provincial capitals. It is not suitable for them to build high-tech specialties. They need to change the route and carry out the construction of specialty brands. They should target the basic disciplines to treat common diseases and frequently-occurring diseases, so as to complement the surrounding large hospitals. In this way, large hospitals can treat difficult miscellaneous diseases. At the same time, county hospitals can use the price advantage of medical insurance reimbursement to retain their own consumer groups, so that local patients can treat small illnesses and receive rehabilitation in the county (see Appendix 11).

In counties (county-level cities) with strong resource integration capabilities, it is possible to draw on the Sanming model to integrate medical insurance, medicine, and medical care, use government resources to integrate medical insurance funds, carry out overall arrangement of the hospitals within the county, offer affordable medical services to patients by reducing the artificially high drug prices, and offer quality medical services to patients by separating medical treatment and drug sales and increasing the income of doctors and presidents to promote their enthusiasm.

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# Appendix 1: Measurement scale of "double three-circles model"

| Contents | | | Chen Guangwei (Transformation) | Zhong Huanqing (External Expansion) | Ye Guanrui | Wang Maosheng (Internal Development and External Expansion) |
|---|---|---|---|---|---|---|
| Employment Period (Years) | | | 1990-2002-12 | 2002-2011-9 | 2011-2013.01-2 | 2013.06-now-5 |
| Leadership Ability | Vision | Reform Ability | | | | |
| | | Innovation Ability | | | | |
| | Management Ability | Hospital Governance Ability | | | | |
| | | Motivation Ability | | | | |
| | | Communication Ability | | | | |
| | | Crisis Response Ability | | | | |
| | | Ability to Discover Able People and Put Them at Suitable Posts | | | | |
| | Charisma | Words to Convince People (Influence) | | | | |
| | | Proposals to Call on People (Appeal) | | | | |
| | | Behaviors to Guide People (Exemplariness) | | | | |
| | | Instructions to Enlighten People (Persuasion) | | | | |
| External Environment | Local Government's Authorization for Hospitals (e.g. 100 for full authorization and 0 for no authorization) | | | | | |
| | Intensity of Hospital Competition (e.g. 100 for fierce competition and 0 for no competition) | | | | | |
| | Local Economic Conditions (e.g. 100 for perfectly good economic conditions and 0 for ordinary economic conditions) | | | | | |
| | Proportion of Non-local Patients to the Whole Patients (e.g. non-local/local = 70%/30%) | | | | | |

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# Appendix 2: Comparison and contrast of GZR presidents in different stages

| | Contents | Chen Guangwei (Transformation) | Zhong Huanqing (Outward Expansion) | Ye Guanrui | Wang Maosheng (Internal Development and External Expansion) |
|---|---|---|---|---|---|
| Basic Information | Office Time (Years) | 1990-2002 (12) | 2002-2011 (9) | 2011-2013.01 (2) | 2013.06-2017.12 (5) (incumbent) |
| | Gender | Male | Male | Male | Male |
| | Year of Birth | 1945 | 1955 | 1958 | 1962 |
| | Place of Birth | Gaozhou | Gaozhou | Wuchuan | Maoming |
| | Nationality | Han | Han | Han | Han |
| | Educational Background | Junior College | Undergraduate | Undergraduate | Undergraduate |
| | School of Graduation | Guangdong Medical College | Guangdong Medical College | Guangdong Medical College | Guangdong Medical College |
| | Academic Degree | - | - | Bachelor's Degree | Bachelor's Degree |
| | Politics Status | Member of Communist Party of China | Member of Communist Party of China | Member of Communist Party of China | Member of Communist Party of China |
| | Professional Title When Assuming the President Position | Chief Physician | Chief Physician | Chief Physician | Chief Physician |
| | Service Department When Assuming the President Position | Cardiac Surgery | Cardiac Surgery | Hepatobiliary Surgery | Cardiac Surgery |
| | Job Position Before Assuming the President Position | Vice President of the Hospital | Vice President of the Hospital | Vice President of the Hospital, President of Gaozhou Traditional Chinese Medicine Hospital | Vice President of Maoming Municipal Hospital |
| | Age When Assuming the President Position | 45 | 47 | 53 | 51 |
| | Work Description | 1）Work in the hospital until retirement | 1）Work in township hospitals<br>2）Transferred to GZR as | 1）Serve as vice president in the hospital for a long time and | 1） Work in Maoming People's Hospital sunce 1984 |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | 2） On February 14, 2000, the Nanfang Daily published the article of Using Small Amount of Money to Treat Serious Illnesses-Direction of Medical Reform from the Development of GZR | department director<br>3） Later promoted to hospital president<br>4） Experts enjoying the State Council Special Allowance, honorary title of national outstanding hospital presidents, and win the 3rd National Physician Award | transferred to the TCM hospital as the president and then transferred to GZR as president and then deposed.<br>2） When assuming president, he was awarded advanced individual of the national health system, and he is also the deputy to the 12th Guangdong Provincial People's Congress.<br>3） He left office because of drug kickback scandal | 2） Appointed to be president of GZR at a critical moment<br>3） Experts enjoying the State Council Special Allowance, deputy to the 12th Guangdong Provincial People's Congress, national model of medical ethics |
| Hospital Status in Their Tenure | Hospital Beds | Takeover | 366 | 800 | 2,000 | 2,420 |
| | | Departure | 800 | 2,000 | 2,420 | 3,000 |
| | Amount of Employees | Takeover | 427 | 986 | 2,070 | 2,531 |
| | | Departure | 973 | 2,041 | 2,514 | 2,993 |
| | Outpatient Volume | Takeover (10,000 person-times) | 36.8 | 46.8 | 86.1 | 93.7 |
| | | Departure (10,000 person-times) | 46.8 | 86.1 | 105.0 | 135.6 |
| | Surgery Volume | Takeover (10,000 person-times) | 0.40 | 0.84 | 2.27 | 2.33 |
| | | Departure (10,000 person-times) | 0.84 | 2.27 | 2.35 | 3.43 |
| | Discharge Volume | Takeover (10,000 person-times) | 0.99 | 2.70 | 7.80 | 8.30 |
| | | Departure (10,000 person-times) | 2.79 | 7.80 | 8.10 | 11.54 |
| | Medical Revenue | Takeover (10,000 yuan)） | 1,328 | 12,319 | 57,428 | 82,860 |
| | | Departure (10,000 yuan) | 12,319 | 57,428 | 82,860 | 159,482 |
| | | Annual Average Growth (10,000 | 916 | 5,012 | 12,716 | 15,325 |

| | | | | | |
|---|---|---|---|---|---|
| | yuan) | | | | |
| Hospital Reputation | Takeover | The hospital scale is small, and its capability is weak. | The hospital scale and specialty development are good. | The GZ Model is famous across China, and its development has reached a peak. | Drug kickback scandal severely damages its reputation. |
| | Departure | The cardiac surgery department has completed 503 cardiac surgeries, ranking second in Guangdong Province for three consecutive years and ranking first among all county-level hospitals in China | GZ Model is the only model in China that focuses on resolving the problem of expensive medical bills and difficult access to medical services. | Due to the drug kickback scandal, the hospital reputation is severely damaged and fell to the lowest point. | By 2017, the reputation had been reshaped. |
| Biggest Achievement in Management | | Break the routine, raise funds to construct hospital building, implement market-oriented strategy, and focus on specialty development, which lays foundation for the hospital development. | Build the service brand<br>Promote GZ Model to the whole country | Significantly increase the income of nurses and primary-level administrative staff and narrow the gap between their income and the doctors' income. | Establish rules and regulations, reshape brand and won the Chinese hospital competitiveness "five-star hospital". |
| Biggest Problem in Management | | Extensive Management | Focus on market and neglect management. Market is more important than norms. Focus on Experience and neglect science. The salary of doctors is way above that of nurses, and the biggest gap is about eight times. | Drug Kickback Scandal | Insufficient Lean Management |

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# Appendix 3: Number of questionnaires in the previous case studies of GZR

| Questionnaire Category | | Number of Questionnaires in 2012 | Number of Questionnaires in 2014 | Number of Questionnaires in 2017 |
|---|---|---|---|---|
| **Patients** | Outpatient | 400 | 500 | —— |
| | Inpatient | 400 | 503 | —— |
| | Discharged Patients | 200 | 301 | —— |
| **The General Public** | Gaozhou | 100 | 212 | —— |
| | Maoming | 50 | 60 | —— |
| | Xinyi | 50 | 70 | —— |
| | Huazhou | 50 | 52 | —— |
| | Dianbai | 50 | 62 | —— |
| **Employees** | | 3000 | 1615 | 5089 |
| **Suppliers** | | 50 | 54 | —— |
| **Total** | | 4350 | 3429 | 5089 |

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# Appendix 4: One-to-one interviewees

| Interviewees | Interview in 2012 (person times) | Interview in 2014 (person times) | Interview in 2017 (person times) |
|---|---|---|---|
| **Senior Leadership** | 5 | 4 | 4 |
| **Middle Management** | 30 | 22 | 22 |
| **Patients** | 13 | 12 | |
| **Total** | 48 | 38 | 26 |

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# Appendix 5: Round table meeting interviewees

| Interviewees | 2012 | 2014 |
|---|---|---|
| Doctors | 6 person times | 6 person times |
| Nurses | 6 person times | 6 person times |
| Medical Technicians | 6 person times | 6 person times |
| Administrative and Logistics Staff | 6 person times | 6 person times |
| Total | 24 person times | 24 person times |

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# Appendix 6: Contrast between the Sanming model and the GZ case (Overview)

| | GZ Case | Sanming Model |
|---|---|---|
| **Medical Reform Leading Party** | Hospital self-reform (due to lack of money, the government is unable to invest in the hospital, and it delegates the powers to the hospital to reform by itself) | Government top-level reform (excessive prescription and excessive examinations lead to medical insurance bankruptcy) |
| **Reform Approach** | Borrow forces to build the building, establish specialties, and offer quality medical services.<br>Use low-price drugs if it is not necessary to use expensive drugs; use domestic drugs if it is not necessary to use imported drugs. It sticks to the principle of low cost operation and affordable hospital so that people can get access to affordable medical services. | Linkage of medication, medical insurance and medical care<br>Annual salary for hospital presidents and medical technicians (three to five times of the average wage in local society)<br>Strict management in drugs, secondary selection, and secondary bargaining. |
| | 1990s | 2012 |

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# Appendix 7: Contrast between the Sanming model and the GZ case (how to offer affordable medical services)

| | GZ Case | Sanming Model |
|---|---|---|
| **Medical Insurance Management** | Medical insurance in Gaozhou operates well, with no risk of bankruptcy | The three kinds of medical insurances, namely, Urban Residents' Basic Medical Insurance (URBMI), Urban Employees' Basic Medical Insurance (UEBMI), and New Rural Cooperative Medical Insurance (NRCMI), are integrated. From January to October 2013, the UEBMI of Sanming had a balance of 120 million yuan, finally making the ends meet. |
| **Drug/Consumables Bargaining** | It actively cooperates with the government bidding and procurement. If the price of the consumables that have been used before is lower than that of the bidding platform, it will insist on the low-price products. | Medical institutions purchase medicines that are 10% lower than the bid price |
| **Drug Utilization** | The proportion of drugs used in each clinical department, the proportion of antibiotics used, and the proportion of essential drugs used are strictly regulated. The doctors who use drugs irrationally should be investigated. The average proportion of drug expenses to the total expenses is only about 38% in three years. | The drugs must go through secondary selection. On the basis of the results of the provincial-level bidding, nearly 200 kinds of high-price drugs are screened out. The hospital then purchases medicines with a price lower than 10% of the bid price. It also monitors the amount of antibiotics used by doctors. The proportion of drug expenses to the total expenses is 28.21%. |
| **Control of Excessive Examination** | Examinations are charged with the standard of level 2A hospitals. | Control excessive examination. Lower examination price control positive rate and proportion of examination expenses. |
| **Charity Medical Care** | Free ambulance (five million a year), free heart-disease-saving month every year (5.3 million investment for two times), medical expenses reduction or exemption for considerable impoverished patients. | No record |

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# Appendix 8: Contrast between the Sanming model and the GZ case (how to offer quality medical services)

| | GZ Case | Sanming Model |
|---|---|---|
| **Breakthrough Point of Specialty Development** | Specialties with high incidence rate such as cardiovascular diseases and spine surgery are selected as the breakthrough point for hospital technology upgrading. | No significant features |
| **Leadership Style (Transformational Leadership)** | Forward-looking, innovative, positive, courageous, resolute, confident, and pioneering (Chen Guangwei, Zhong Huanqing, and Wang Maosheng) | Innovative, ground-breaking, positive, courageous, resolute, confident and pioneering (Zhan Jifu) |
| **Establishment of Specialties** | Five provincial key specialties: cardiovascular surgery, intensive care, orthopedics, neurology, thoracic surgery | In the Sanming Municipal First People's Hospital, which is the biggest hospital in Sanming, only urinary surgery is the Sanming municipal key specialty. |
| **Talent Motivation** | Performance management: On the basis of more pay for more work, GZR gives priority to high-tech and high-risk positions, and implements three categories and nine-point method, allowing a certain income gap; Humanistic care: GZR offers career planning to employees, provides a good platform for career development, and cares for the child birth, old age, sickness and funerals of the employees, trying to retain talents in both material and spiritual way. | Hospital president and doctor receive annual salary. Employee income is improved, and enthusiasm of the medical staff is mobilized. |
| **Effect** | GZR can offer quality medical services, the rate of patients transferring to other hospitals is only 0.05%. | Unknown |

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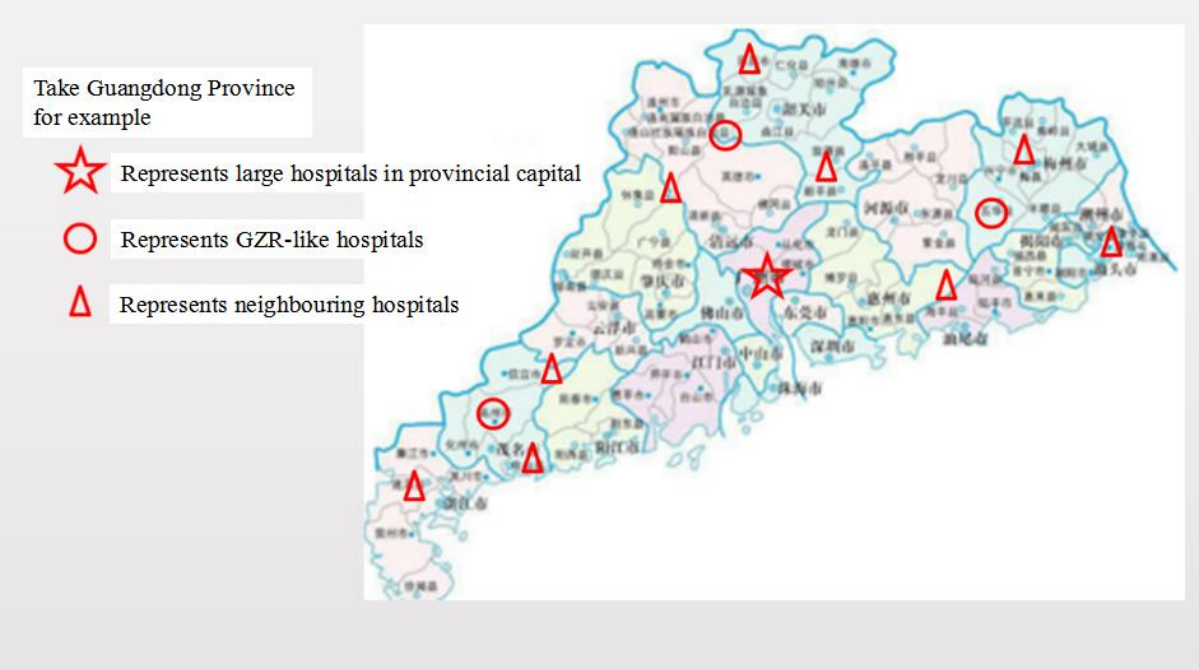
# Appendix 9: Correspondence of questionnaire items and the structural model

| SN | | Questionnaire Items |
|---|---|---|
| **1** | _COL14 | 2#1 The staff of our department are willing to accept challenges, and the innovation and vitality are our working principles. |
| **2** | _COL15 | 2#2 Our department requires employees to strictly abide by the rules and regulations and nobody is not allowed to break this rule. |
| **3** | _COL16 | 2#3 Our department is like a big family, and the relationship between colleagues is harmonious and intimate. |
| **4** | _COL17 | 2#4 Our department is results-oriented, and department staff promote the working principle of winning in competition. |
| **5** | _COL18 | 2#5 The cohesiveness of our department comes from innovation and development and emphasis on taking the leadership in everything. |
| **6** | _COL19 | 2#6 The cohesiveness of our department comes from the compliance of rules and regulations and emphasis on the smooth operation of the department. |
| **7** | _COL20 | 2#7 The cohesiveness of our department comes from mutual trust and harmony. |
| **8** | _COL21 | 2#8 The cohesiveness of our department comes from the pursuit of achievement and goal completion. |
| **9** | _COL22 | 2#9 Leaders in our department are like “parents” who focus on teaching, nurturing and encouraging employees. |
| **10** | _COL23 | 2#10 Leaders in our department focus on transformation, and they are innovative and take all the responsibility. |
| **11** | _COL24 | 2#11 Leaders in our department belong to the “maintained type” who emphasize on department stability and results. |
| **12** | _COL25 | 2#12 Leaders in our department belong to the “charismatic type” who have courage and appeal, high work enthusiasm, and great influence. |
| **13** | _COL26 | 2#13 Our department emphasizes teamwork, consensus, and encouragement of employees to participate in management. |
| **14** | _COL27 | 2#14 Our department attaches great importance to the fact that employees compete with their strength and we encourage high standards and high achievements. |
| **15** | _COL28 | 2#15 Our department emphasizes seeking new resources, challenging new goals, trying new methods and seeking new opportunities. |
| **16** | _COL29 | 2#16 Our department emphasizes department management and control, long-lasting benefits and stable development. |
| **17** | _COL30 | 2#17 Our department emphasizes free development of employees and encourages openness and continuous participation. |
| **18** | _COL31 | 2#18 Our department emphasizes constant setting of higher goals and focuses on winning in the competition. |
| **19** | _COL32 | 3#1 Our department management focuses on medical technology innovation, specialist ability improvement and discipline development. |
| **20** | _COL33 | 3#2 Our department management focuses on increase in the number of patient services and business income. |
| **21** | _COL34 | 3#3 Our department management focuses on patient service experience, reduction of complaints, and improvement of patient satisfaction. |
| **22** | _COL35 | 3#4 Our department management focuses on patient service experience, reduction of complaints, and improvement of patient satisfaction. |
| **23** | _COL36 | 3#5 Our department constantly improves the existing rules and regulations. |
| **24** | _COL37 | 3#6 Our department continues to improve existing work flow. |
| **25** | _COL38 | 3#7 Our department trains existing staff to improve the overall professionalism and competence of the department. |
| **26** | _COL39 | 3#8 Our department is constantly improving the use of existing medical equipment and |

| | | |
|---|---|---|
| | | technology to generate benefits. |
| **27** | _COL40 | 3#9 Our department often reforms and innovates rules and regulations. |
| **28** | _COL41 | 3#10 Our department often reforms and innovates work flow. |
| **29** | _COL42 | 3#11 Our department recruits new employees to improve the professionalism and competence of the department. |
| **30** | _COL43 | 3#12 Our department often introduces and adopts the latest medical equipment and technology. |
| **31** | _COL44 | 4#1 I am very satisfied with the work contents and time arrangement given to me by the department. |
| **32** | _COL45 | 4#2 I am very satisfied with my professional title. |
| **33** | _COL46 | 4#3 I am very satisfied with my salary. |
| **34** | _COL47 | 4#4 I am very satisfied with the personal growth and development space given to me by the department. |
| **35** | _COL48 | 4#5 I am very satisfied with my relationship with colleagues in the department. |
| **36** | _COL49 | 4#6 I like to work here because my life value can be realized. |
| **37** | _COL50 | 4#7 I am always very proud to talk to other staff of other departments about our department. |
| **38** | _COL51 | 4#8 I am very affectionate about our department. |
| **39** | _COL52 | 4#9 The current workload makes me feel a lot of psychological pressure. |
| **40** | _COL53 | 4#10 Because of my work, I rarely have time to stay with my family and friends or enjoy a vacation. |
| **41** | _COL54 | 4#11 The current doctor-patient relationship makes me feel a lot of psychological pressure. |
| **42** | _COL55 | 4#12 In my work, I have to work hard to achieve my goals. |
| **43** | _COL56 | 4#13 I often think about changing my job. |
| **44** | _COL57 | 4#14 Once I have a better job opportunity, I will leave the department immediately. |
| **45** | _COL58 | 4#15 If possible, I will actively look for new job opportunities. |
| **46** | _COL59 | 4#16 If the cost of choosing another industry is not high now, I will leave the industry soon. |
| **47** | _COL60 | 4#17 I still continue to work here because there are no other better options. |
| **48** | _COL61 | 4#18 If I change my job now, my entire life will be greatly affected. |
| **49** | _COL62 | 4#19 One of the reasons why I still continue to work here is because the treatment here is better than that in other places. |

# Appendix 10: National landscape of GZR-like hospitals



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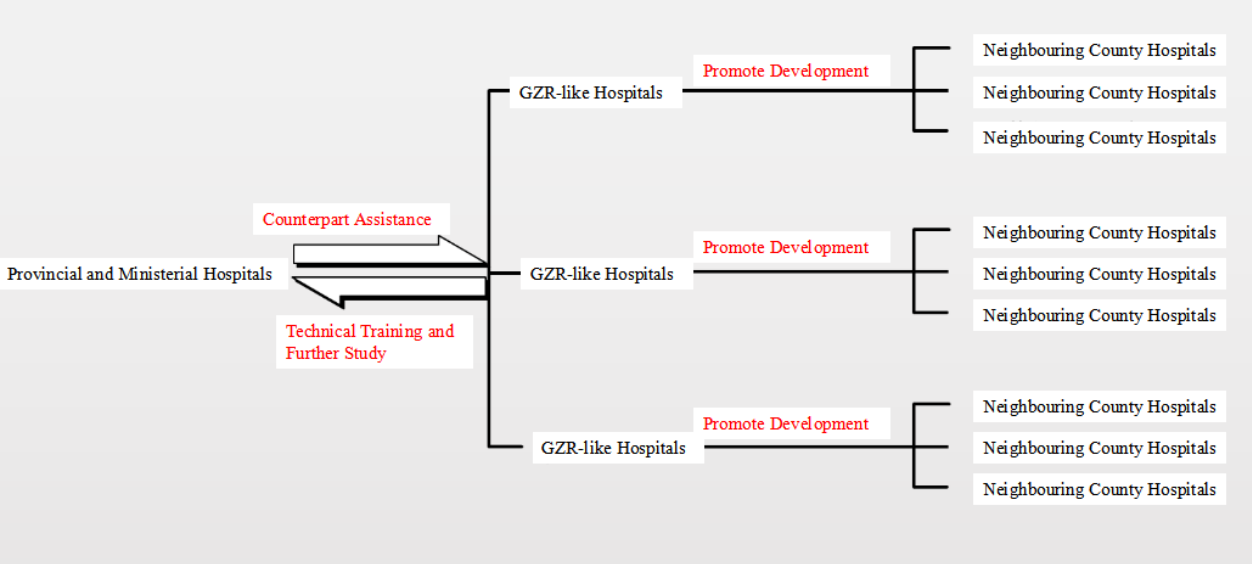
# Appendix 11: County hospital specialty development GZ experience



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# Appendix 12: Measurement scale

| SN | Dimension | Items |
|---|---|---|
| a. | Department sub-culture | The staff of our department are willing to accept challenges, and the innovation and vitality are our working principles. |
| b. | | Our department requires employees to strictly abide by the rules and regulations and nobody is not allowed to break this rule. |
| c. | | Our department is like a big family, and the relationship between colleagues is harmonious and intimate. |
| d. | | Our department is results-oriented, and department staff promote the working principle of winning in competition. |
| e. | | The cohesiveness of our department comes from innovation and development and emphasis on taking the leadership in everything. |
| f. | | The cohesiveness of our department comes from the compliance of rules and regulations and emphasis on the smooth operation of the department. |
| g. | | The cohesiveness of our department comes from mutual trust and harmony. |
| h. | | The cohesiveness of our department comes from the pursuit of achievement and goal completion. |
| i. | | Leaders in our department are like “parents” who focus on teaching, nurturing and encouraging employees. |
| j. | | Leaders in our department focus on transformation, and they are innovative and take all the responsibility. |
| k. | | Leaders in our department belong to the “maintained type” who emphasize on department stability and results. |
| l. | | Leaders in our department belong to the “charismatic type” who have courage and appeal, high work enthusiasm, and great influence. |
| m. | | Our department emphasizes teamwork, consensus, and encouragement of employees to participate in management. |
| n. | | Our department attaches great importance to the fact that employees compete with their strength and we encourage high standards and high achievements. |
| o. | | Our department emphasizes seeking new resources, challenging new goals, trying new methods and seeking new opportunities. |
| p. | | Our department emphasizes department management and control, long-lasting benefits and stable development. |
| q. | | Our department emphasizes free development of employees and encourages openness and continuous participation. |
| r. | | Our department emphasizes constant setting of higher goals and focuses on winning in the competition. |
| s. | Department management | Our department management focuses on medical technology innovation, specialist ability improvement and discipline development. |
| t. | | Our department management focuses on increase in the number of patient services and business income. |
| u. | | Our department management focuses on patient service experience, reduction of complaints, and improvement of patient satisfaction. |
| v. | | Our department management focuses on employee training, personal growth of employees and the provision of good development opportunities. |

| | | |
|---|---|---|
| w. | | Our department constantly improves the existing rules and regulations. |
| x. | | Our department continues to improve existing work flow. |
| y. | | Our department trains existing staff to improve the overall professionalism and competence of the department. |
| z. | | Our department is constantly improving the use of existing medical equipment and technology to generate benefits. |
| aa. | | Our department often reforms and innovates rules and regulations. |
| bb. | | Our department often reforms and innovates work flow. |
| cc. | | Our department recruits new employees to improve the professionalism and competence of the department. |
| dd. | | Our department often introduces and adopts the latest medical equipment and technology. |
| a. | Employee satisfaction | I am very satisfied with the work contents and time arrangement given to me by the department. |
| b. | | I am very satisfied with my professional title. |
| c. | | I am very satisfied with my salary. |
| d. | | I am very satisfied with the personal growth and development space given to me by the department. |
| e. | | I am very satisfied with my relationship with colleagues in the department. |
| f. | | I like to work here because my life value can be realized. |
| g. | | I am always very proud to talk to other staff of other departments about our department. |
| h. | | I am very affectionate about our department. |
| i. | | The current workload makes me feel a lot of psychological pressure. |
| j. | | Because of my work, I rarely have time to stay with my family and friends or enjoy a vacation. |
| k. | | The current doctor-patient relationship makes me feel a lot of psychological pressure. |
| l. | | In my work, I have to work hard to achieve my goals. |
| m. | | I often think about changing my job. |
| n. | | Once I have a better job opportunity, I will leave the department immediately. |
| o. | | If possible, I will actively look for new job opportunities. |
| p. | | If the cost of choosing another industry is not high now, I will leave the industry soon. |
| q. | | I still continue to work here because there are no other better options. |
| r. | | If I change my job now, my entire life will be greatly affected. |
| s. | | One of the reasons why I still continue to work here is because the treatment here is better than that in other places. |

# Appendix 13: Revised leadership style measurement scale

| Dimension | Items |
|---|---|
| Transformational Leadership | Leaders in our department are like entrepreneurs who are courageous to make innovations and take all the responsibility. |
| | The staff of our department are willing to accept challenges, and the innovation and vitality are our working principles. |
| | The cohesiveness of our department comes from innovation and development and emphasis on taking the leadership in everything. |
| | Our department emphasizes seeking new resources, challenging new goals, trying new methods and seeking new opportunities. |
| | Our department emphasizes constant setting of higher goals and focuses on winning in the competition. |
| Maintained Leadership | Leaders in our department belong to the "maintained type" who emphasize on department stability and results. |
| | Our department is results-oriented, and department staff promote the working principle of winning in competition. |
| | The cohesiveness of our department comes from the pursuit of achievement and goal completion. |
| | Our department emphasizes department management and control, long-lasting benefits and stable development. |
| | The cohesiveness of our department comes from the compliance of rules and regulations and emphasis on the smooth operation of the department. |
| Parent Leadership | Leaders in our department are like "parents" who focus on teaching, nurturing and encouraging employees. |
| | Our department is like a big family, and the relationship between colleagues is harmonious and intimate. |
| | The cohesiveness of our department comes from mutual trust and harmony. |
| Charismatic Leadership | Our department requires employees to strictly abide by the rules and regulations and nobody is not allowed to break this rule. |
| | Leaders in our department belong to the "charismatic type" who have courage and appeal, high work enthusiasm, and great influence. |
| | Our department emphasizes teamwork, consensus, and encouragement of employees to participate in management. |
| | Our department attaches great importance to the fact that employees compete with their strength and we encourage high standards and high achievements. |
| | Our department emphasizes free development of employees and encourages openness and continuous participation. |
| Department Management | Our department management focuses on medical technology innovation, specialist ability improvement and discipline development. |
| | Our department management focuses on increase in the number of patient services and business income. |
| | Our department management focuses on patient service experience, reduction of complaints, and improvement of patient satisfaction. |
| | Our department management focuses on employee training, personal growth of employees and the provision of good development opportunities. |
| | Our department constantly improves the existing rules and regulations. |
| | Our department continues to improve existing work flow. |
| | Our department trains existing staff to improve the overall professionalism and competence of the department. |

| | |
|---|---|
| Experience and Feeling | Our department is constantly improving the use of existing medical equipment and technology to generate benefits. |
| | Our department often reforms and innovates rules and regulations. |
| | Our department often reforms and innovates work flow. |
| | Our department recruits new employees to improve the professionalism and competence of the department. |
| | Our department often introduces and adopts the latest medical equipment and technology. |
| | I am very satisfied with the work contents and time arrangement given to me by the department. |
| | I am very satisfied with my professional title. |
| | I am very satisfied with my salary. |
| | I am very satisfied with the personal growth and development space given to me by the department. |
| | I am very satisfied with my relationship with colleagues in the department. |
| | I like to work here because my life value can be realized. |
| | I am always very proud to talk to other staff of other departments about our department. |
| | I am very affectionate about our department. |
| | The current workload makes me feel a lot of psychological pressure. |
| | Because of my work, I rarely have time to stay with my family and friends or enjoy a vacation. |
| | The current doctor-patient relationship makes me feel a lot of psychological pressure. |
| | In my work, I have to work hard to achieve my goals. |
| | I often think about changing my job. |
| | Once I have a better job opportunity, I will leave the department immediately. |
| | If possible, I will actively look for new job opportunities. |
| | If the cost of choosing another industry is not high now, I will leave the industry soon. |
| | I still continue to work here because there are no other better options. |
| | If I change my job now, my entire life will be greatly affected. |
| | One of the reasons why I still continue to work here is because the treatment here is better than that in other places. |