INSTITUTO
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The Relationship between Organizational Culture, Organizational Learning Capability, and Organizational Performance in Obstetrics and Gynecology Departments of Guangdong Province

TU Yanling

Doctor of Management

Supervisors:
PhD Sílvia Costa Agostinho da Silva, Full Professor,
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January, 2025

BUSINESS
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Marketing, Operations and General Management Department

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Abstract

In the rapidly evolving healthcare industry, the demand for high-quality medical services continues to rise. Obstetrics and Gynecology (OB/GYN) plays a critical role in meeting societal needs by improving organizational performance. While organizational culture and organizational learning capability (OLC) significantly impact performance, empirical studies in regions like Guangdong Province, China, remain limited. This study employs a mixed-method approach to explore the relationship between organizational culture, OLC, and OB/GYN performance. A pilot study in three hospitals distributed 94 questionnaires to assess feasibility. The main study used stratified sampling to collect 495 valid questionnaires from 90 hospitals in Guangdong. Quantitative data were gathered through anonymous questionnaires with customized scales for organizational culture, OLC, and performance. Qualitative data from in-depth interviews with medical professionals were analyzed using content analysis. Data analysis utilized SPSS, R, and Mplus software. Results revealed a significant positive correlation between organizational culture and performance, with OLC partially mediating this relationship. The findings highlight the importance of fostering a positive organizational culture and enhancing OLC to improve OB/GYN performance and address public health challenges.

Keywords: organizational culture; performance; obstetrics and gynecology; organizational learning capability

JEL: M10; I10; L20

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Resumo

No setor da saúde em rápida evolução, a procura por serviços médicos de alta qualidade continua a aumentar. A Obstetrícia e Ginecologia (OB/GYN) desempenha um papel crucial no atendimento das necessidades sociais, melhorando o desempenho organizacional. Embora a cultura organizacional e a capacidade de aprendizagem organizacional (OLC) tenham um impacto significativo no desempenho, estudos empíricos em regiões como a Província de Guangdong, China, são relativamente escassos. Este estudo adota um método de investigação mista para explorar a relação entre cultura organizacional, OLC e desempenho em OB/GYN. Um estudo piloto foi realizado em três hospitais, distribuindo 94 questionários para avaliar a viabilidade. No estudo principal, foi utilizada uma amostragem estratificada para recolher 495 questionários válidos de 90 hospitais em Guangdong. Dados quantitativos foram obtidos através de questionários anónimos com escalas personalizadas para cultura organizacional, OLC e desempenho. Dados qualitativos foram recolhidos em entrevistas aprofundadas com profissionais de saúde e analisados através de análise de conteúdo. A análise de dados utilizou os softwares SPSS, R e Mplus. Os resultados revelaram uma correlação positiva significativa entre cultura organizacional e desempenho, com a OLC a mediar parcialmente essa relação. As conclusões destacam a importância de promover uma cultura organizacional positiva e reforçar a OLC para melhorar o desempenho em OB/GYN e enfrentar desafios de saúde pública.

Palavras-chave: cultura organizacional; desempenho; obstetrícia e ginecologia; capacidade de aprendizagem organizacional
JEL: M10; I10; L20

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摘 要

在快速发展的医疗行业中，对高质量医疗服务的需求持续增长。妇产科（OB/GYN）通过提升组织绩效在满足社会需求方面发挥着关键作用。尽管组织文化和组织学习能力（OLC）对绩效有显著影响，但在中国广东省等地区的实证研究相对较少。本研究采用混合研究方法，探讨组织文化、OLC 与妇产科绩效之间的关系。预研究在三家医院中发放了 94 份问卷以评估可行性。主研究采用分层抽样，从广东省 90 家医院收集了 495 份有效问卷。定量数据通过包含组织文化、OLC 和绩效定制量表的匿名问卷收集，定性数据则通过对医疗专业人员的深度访谈获取，并通过内容分析进行补充。数据分析使用 SPSS、R 和 Mplus 软件。研究发现，组织文化与绩效之间存在显著正相关关系，OLC 在其中起部分中介作用。这表明，在医疗机构中培养积极的组织文化并提升学习能力对于改善妇产科绩效和应对公共卫生挑战至关重要。

关键词：组织文化；绩效；妇产科；组织学习能力

JEL: M10; I10; L20

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Contents

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List of Tables

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List of Figures

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List of Abbreviations

OB/GYN ..... obstetrics and gynecology
PC_OC..... Participative Characteristic of Organizational Culture
CC_OC ..... Congruent Characteristic of Organizational Culture
AC_OC .....Adaptive Characteristic of Organizational Culture
MC_OC..... Mission-oriented Characteristic of Organizational Culture
OC..... Organizational Culture
OLC .....Organizational Learning capability
OP..... Organizational Performance
CVF ..... Competing Values Framework
OCAI ..... Organizational Culture Assessment Instrument
CVF ..... Competing Values Framework
TMCT model..... Characteristics Model of Organizational Culture
OCP ..... Chatman's Fit Descriptive Scale
OCQ.....Mishara's Organizational Culture Questionnaire
OCAI .....OLC Measurement Scale Culture Evaluation Measurement Inventory
VOCS..... Values of Organizational Culture Scale
OCMS .....Organizational Culture Measurement Scale
OCMC.....Organizational Culture Measurement Center of China
SECI model.....Socialization Externalization Combination Internalization
SEM.....Structural Equation Modeling
EFA.....Exploratory factor analysis
KMO.....Kaiser-Meyer-Kinfolk
CFA ..... Validation Factor Analysis
CMA .....Causal Mediation Analysis
CIT..... Critical Incident Method
TRQI ..... True, Relevant, Quick, Informative

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Chapter 1: Introduction

1.1 Background and significance of the study

1.1.1 Background of the study

1.1.1.1 Practical background

As China's healthcare landscape evolves, obstetrics and gynecology (OB/GYN) has emerged as a critical element in this development. The country's remarkable achievements in maternal and newborn health are evidenced by significant reductions in neonatal and maternal mortality rates since 2000. Specifically, the neonatal mortality rate fell from 3.1 in 2000 to 1.9 per 1,000 live births in 2019, while the maternal mortality rate halved from 53.6 to 27.3 per 100,000 live births over the same period (National Bureau of Statistics, 2020).

From a medical perspective, the high rate of inpatient deliveries, which reached 99.5 per cent in 2019, underscores that almost all births in China take place in medical facilities, greatly improving safety. However, an increase in cesarean section rates to 36.7 percent in 2019 reflects concerns about the risks of over-medicalization. Meanwhile, the rise in the adoption of pain-free births facilitated by anesthesia to 27.4 percent by 2019 marks a significant evolution in maternal care (National Bureau of Statistics, 2020).

In concepts of management, healthcare reform has ushered in the marketization of maternity hospitals. The 2019 list from Fudan University's Institute of Hospital Management, which includes private hospitals, signals an increased role for market forces in maternity care. However, market efficiency faces challenges, including the uneven distribution of medical resources and the tendency for these resources to be concentrated in metropolitan areas, which can lead to overstretched services in certain areas. Other problems arise in the allocation of resources for maternal care, with operational pressures sometimes leading institutions to divert funds from health services to maintain hospital operations - highlighting the need for greater regulatory oversight (Chen, 2018).

At the societal level, external factors such as declining birth rates and the impact of pandemics are placing additional pressures on health services. With changing demographics and the rise of the women's movement, there is a growing demand for personalized, humanized hospital services that go beyond purely clinical needs.

In line with national healthcare strategies, China has introduced a new approach to evaluating hospital performance, emphasizing comprehensive assessments. The 2019 'national examination' has attracted considerable attention, as public hospitals are critical to healthcare reform. Professor Luo Li of Fudan University notes that balancing the goals of public hospitals with societal demands and government policies in a competitive market is challenging, with performance assessment being a key tool to guide hospital practices.

Focusing on quality of care, efficiency, sustainability and patient satisfaction, national audits aim to move from a quantitative to a qualitative development model, emphasizing overall satisfaction alongside quality and efficiency. In response to observed and anticipated challenges, some hospitals have discontinued unprofitable obstetric services, while others have innovated by integrating more humane birthing practices, such as hypnosis and gentle delivery, to expand their range of service.

As Guangdong is a province with a large mobile population and employees from all different regions, hospitals are constantly finding a new balance in OB/GYN to adapt to national policies and social needs (Chen, 2018).

1.1.1.2 Theoretical background

The OB/GYN of Chinese hospitals are confronted with numerous challenges, including the integration of novel technologies, a decline in birth rates, financial constraints, and more stringent regulations governing healthcare. The efficiency and quality of service within these departments are critical deconceptinants of a hospital's overall success. Amidst rapidly evolving healthcare dynamics and heightened competitive pressures, excellence in maternity and childbirth services is increasingly sought after. Nonetheless, the downward trend in birth rates poses significant difficulties for these departments in sustaining their leading positions.

The idea of "soft power" (Huq, 2019) or the influence of culture, is something the world started talking about in 1990. China sees culture as an important part of moving forward and wants to be known for its rich culture. Drucker (1985) said the individual knowledgeable in management is highlighting the importance of improving cognitive roles and drawing comparisons to advancements in manufacturing tasks. The author of this thesis also emphasizes the need for operational efficiency in Obstetrics and Gynecology (OB/GYN) departments due to the increasing demand for healthcare services and a declining birth rate.

One key inquiry revolves around the strategies that can help OB/GYN departments maintain their high performance despite the declining birth rate. While plans and strategies have traditionally been the main focus, the culture within a hospital, including shared ideas and

values, can have a significant impact on its success. Research has shown that hospitals with a strong culture tend to fare better financially (Krijgsheld et al., 2022).

Therefore, it is crucial for OB/GYN departments to pay attention to their organizational culture and foster an environment that promotes excellence. By aligning their culture with the ever-changing healthcare landscape, departments can adapt effectively, improve operational efficiency, and maintain high performance levels (Zhou et al., 2011).

The essence of the hospital culture has surpassed mere conceptualization and has emerged as a cornerstone in the efficient management of healthcare facilities (Restivo et al., 2022). A resilient and optimistic culture within hospitals is acknowledged as pivotal in tackling substantial challenges, such as mounting medical expenditures and medical treatment conflicts. Despite recognizing the importance of a robust organizational culture, there exists a palpable need for enrichment in this aspect within Chinese hospitals (Zhou et al., 2011). It is of utmost importance that these institutions expand their scope beyond superficial branding and visual identities, profoundly integrate cultural advancement into their strategic endeavors for progress and in addressing wider societal health concerns (Xue et al., 2013).

1.1.2 Significance of the study

This research offers significant theoretical contributions by highlighting the critical link between sustainable development in obstetrics and gynecology (OB/GYN) and comprehensive performance.

The sustainable development of obstetrics and gynecology (OB/GYN) is closely tied to comprehensive performance. The new healthcare reform requires OB/GYN departments to prioritize both public welfare and economic efficiency to maintain their normal operations. While academia has separately examined hospital culture and performance, there is a lack of empirical studies that integrate the two in the healthcare field. Most performance-related studies have been confined to economic performance levels, neglecting social benefits. Therefore, this study's exploration of hospital culture and its role in enhancing the comprehensive performance of OB/GYN departments provides crucial theoretical value and fills an important gap in the existing literature.

Additionally, this study will make valuable contributions by building on theoretical analyses and empirical research to examine the specific pathways through which hospital culture influences comprehensive performance. It will analyze the extent to which intricate cultural characteristics exert influence. The study also provides recommendations and strategies for fostering a hospital culture that is conducive to the improvement of OB/GYN department

performance. The findings can serve as a theoretical foundation for cultural construction and comprehensive performance reform in diverse cultural contexts within hospitals worldwide. Furthermore, they can offer practical reference points for the reform process, thereby accelerating the construction of cultural systems and the implementation of reforms in healthcare institutions.

The focus and difficulties of this study are as follows:

(1) Defining the connotation of the organizational culture of OB/GYN and the comprehensive performance of OB/GYN and scientifically grasping the relevant concepts and connotations are the basis of this study, which is of great significance to the subsequent theoretical and empirical studies.

(2) Establishing the measurement dimensions of OB/GYN organizational culture and the indicators of overall performance in OB/GYN is the focus and difficulty of this study. Since the organizational culture of OB/GYN is difficult to observe and not much research has been done in the field of health management, it is necessary to establish scientific dimensions and indicators through a large number of literature reviews and sample interviews.

(3) This study focuses on how the organizational culture of obstetrics and gynecology (OB/GYN) influences overall performance. It will use the organizational learning capability of healthcare workers as a mediating variable to determine which cultural characteristics have the greatest impact on overall performance and in what specific ways.

In summary, this study holds significant importance. Firstly, it can provide theoretical guidance for OB/GYN departments, aiding them in better understanding the mechanisms through which organizational culture impacts organizational performance, thereby optimizing organizational culture and enhancing organizational performance. Secondly, the study can offer valuable insights for the healthcare service sector and contribute to the enhancement of medical service quality. Lastly, by exploring the mediating role of organizational learning capability, it can provide theoretical support for improving organizational learning capability, thus promoting the sustainable development of organizations.

1.2 Research challenges in addressing disparities in obstetric service quality in Guangdong Province

The quality differences in medical services in Guangdong Province mainly stem from uneven resource allocation, gaps in human resources and technical capabilities, and inadequate management mechanisms. Medical resources in Guangdong Province show a distinct “center-

periphery" distribution, with tertiary hospitals in the Pearl River Delta region accounting for 58.3% of the province's total hospital beds. Meanwhile, primary healthcare institutions in the eastern, western, and northern parts of Guangdong suffer from outdated equipment and funding shortages. In addition, less than 40% of obstetricians in township health centers hold a bachelor's degree or above, and only 25% have received standardized training, compared to 90% in large city hospitals. In terms of management, only 30% of township health centers have established a complete risk assessment process for pregnant women, while the proportion is 85% in large city hospitals (Fang et al., 2009)).

These disparities have led to significant differences in medical service performance. The average patient satisfaction score for obstetric services in the Pearl River Delta region is 89.2, while that in northern Guangdong is only 72.5, mainly due to long waiting times and insufficient doctor-patient communication (Lee et al., 2020). The medical error rate in obstetrics in township health centers is four times that of large city hospitals, especially in the management of neonatal asphyxia and postpartum hemorrhage (Gao et al., 2017). Resource utilization efficiency also varies, with large hospitals experiencing decreased bed turnover rates due to patient overcrowding, while primary healthcare institutions have an idle rate of over 40% (Guangdong Provincial Health Commission, 2023).

1.3 Purpose of the study and questions

The purpose of this study was to investigate the effect of organizational culture on organizational performance in OB/GYN and to explain the mechanism of this effect through organizational learning capability as a mediating variable. Specifically, the objectives of this study include:

(1) To gain an in-depth understanding of the characteristics and manifestations of organizational culture in the Department of OB/GYN and the mechanisms by which organizational culture influences organizational performance; (2) To explore the mediating role of organizational learning capability between organizational culture and organizational performance, and to analyze the extent to which organizational learning capability affect organizational performance; (3) To substantiate the relationship between organizational culture, organizational learning capability, and the performance of OB/GYN departments, as well as to elucidate the mediating role of organizational learning capability in the interplay between organizational culture and OB/GYN department performance, this study aims to offer a significant theoretical contribution and practical guidance for OB/GYN departments seeking

performance enhancement.

On this basis, this study asks the following questions:

Question 1: How does organizational culture affect performance outcomes in the Department of Obstetrics and Gynecology?

Question 2: How does organizational learning capability affect the relationship between organizational culture and performance?

Question 3: What is the mediation between organizational culture, organizational learning, and performance outcomes in obstetrics and gynecology?

Question 4: In what ways can performance in the OB/GYN department be improved through the dynamics of organizational culture and learning capability?

By exploring these questions, this study aims to provide useful references and suggestions for management practices in OB/GYN departments.

1.4 Research significance

The field of organizational research encompasses several underexplored areas, particularly with respect to the mediating relationships among organizational culture, leadership style, learning capacity, and external environmental factors. This gap in the literature appears to be particularly pronounced in the context of healthcare organizations in China, especially within the domain of obstetrics and gynecology, where empirical studies seem to remain notably scarce. Our proposed research aims to tentatively address these gaps by conducting empirical analyses focused on obstetrics and gynecology in China, with the goal of contributing to a more nuanced understanding of this field.

Within the realm of obstetrics and gynecology, the limited availability of empirical research is a point of concern. Studies examining the potential impact of organizational culture on the operational efficiency and productivity of healthcare organizations appear to be relatively sparse. Similarly, there seems to be a lack of empirical investigations into how organizational culture might influence the quality of healthcare delivery. Furthermore, the integration of treatment protocols, analytical practices, behavioral interventions, and value-based initiatives to enhance efficiency and productivity remains an area where empirical data appears to be insufficient. Compounding these challenges are pressing healthcare issues such as declining fertility rates and epidemic outbreaks, which highlight the need for adaptive organizational cultures—an area that, to our knowledge, has not yet been thoroughly explored. Additionally, it may be important to examine how effective healthcare organizational cultures are sustained

during and after crises.

In light of these observations, our research seeks to empirically analyze organizational culture within the field of obstetrics and gynecology in China. By adopting a focused approach, we hope to shed light on the cultural nuances of specific healthcare organizations in China and their potential influence on learning capabilities and performance outcomes. This study is intended to modestly contribute to the existing literature by offering an empirical perspective on the dynamic interplay between institutional change, cultural influences, and healthcare organizational performance. While the current literature provides a valuable foundation, we acknowledge that there remains significant room for further exploration and refinement in this area. Our work aims to cautiously advance this discourse by addressing these underexplored dimensions with careful consideration and methodological rigor.

1.5 Concepts

In this section, the definition of key concepts explains the inclusion of:

COVID-19 (novel coronavirus): an infectious respiratory disease that spreads globally (Rupani et al., 2020). Rupani highlights the widespread impact of the COVID-19 pandemic on global social and economic activities. Finding solutions to the complex issues posed by the pandemic requires interdisciplinary analysis from multiple perspectives (Solano Gámez, 2020).

Obstetrics and gynecology department: Obstetrics and Gynecology (OB/GYN) is the field of medicine that focuses on the female reproductive system and the medical care of women during pregnancy, childbirth, and the postpartum period. Specifically, gynecology encompasses health issues of the female reproductive system, while obstetrics focuses on medical care during pregnancy, labor and delivery, and postpartum issues (Gabbe et al., 2017). In China's healthcare system, obstetrics and gynecology benefit from state funding which supports specialized staff and initiatives like the Maternal and Child Safety and Health Project. This backing ensures basic healthcare provisioning and the betconceptent of maternal health. Market mechanisms, such as adjusted service fees and insurance, complement these funds, fostering a dynamic, sustainable approach to meeting evolving healthcare demands (Qiao et al., 2021).

Healthcare professionals: Individuals who possess work permits and have fulfilled the requirements of necessary education, licenses, and degrees (McGregor, 2017). Frontline healthcare professionals directly care for patients with COVID-19 (Solano Gámez, 2020).

Ethics: the nature of moral norms related to ethics and commitment in organizations. Kačerauskas (2018) rationalizes that ethics should not be detached from business knowledge

for any specific reasons.

Community: The community is a moral responsibility that the workforce should fulfill by positively contributing to society (Amiot et al., 2018).

1.6 Structure of the thesis

An effective and efficient work environment and organizational culture are attainable through improvements in organizational learning capability and cultural foundations (Shahriari & Allameh, 2020).

Kacerauskiene et al. (2020) found that adaptability to new and challenging situations is achieved through strong problem-solving skills and constructive engagement with employees. Cultivating cultural characteristics such as involvement in problem-solving activities is a behavioral and decisive factor for successful medical environments. Liao and Zhang (2020) applied the logic of cultural behavioral performance to identify the environmental innovation's impact on organizational performance. Chapter 2 provides a comprehensive review of the literature relevant to this study, including analyses of variables and methodological approaches that contribute to critical thinking and understanding of theoretical aspects and their relevance to this study. Chapter 3 outlines the theoretical model and hypotheses. It describes the thesis model, and the specifics of the scales. Chapter 4 details the research design, the research instruments, and how the data were handled. It discusses the population, sample and data collection, as well as the data analysis for this study. Chapter 5 and 6 Findings and analyses, focuses on the results of the quantitative analyses. Chapter 7 presents the validation of the measures utilized in this study, including a summary of the qualitative research findings. Chapter 8 is dedicated to a discussion of future research directions and the limitations of the current study. As shown in the Figure 1.1 below:

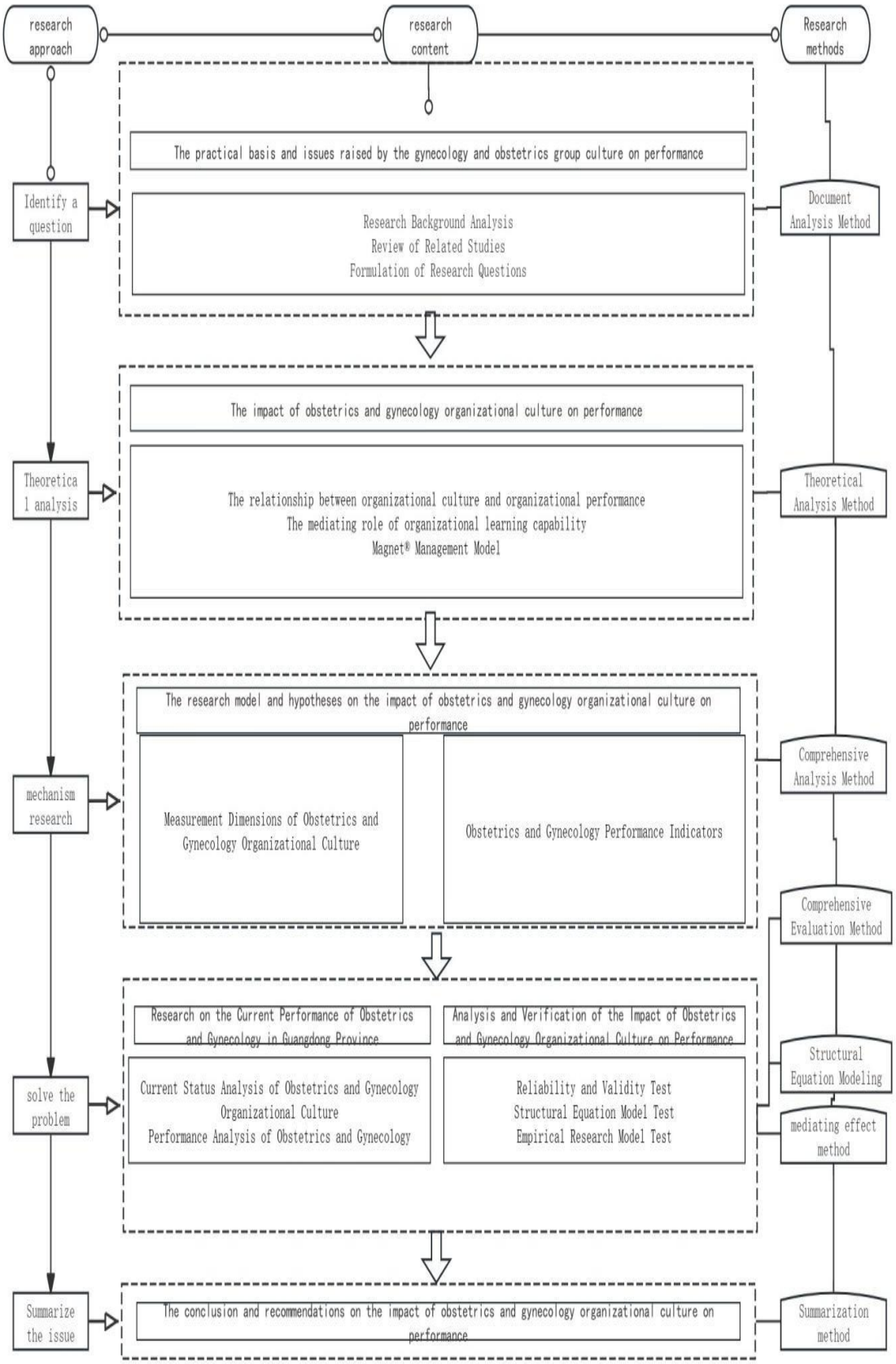

Figure 1.1 Research roadmap

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Chapter 2: Literature Review

2.1 Concept and evaluation of organizational culture

2.1.1 Concept of organizational culture

Firstly, Ouchi (1981) proposed that culture includes traditions and behavioral styles that are essential for organizational control methods and performance. Deal and Kennedy (1982) profiled organizational culture as a unifying force shaped by heroes, rituals, and customs. Following this, Robbins (1986) argued that understanding and managing organizational culture is crucial for gaining a competitive edge.

In the 1990s, the research into organizational culture became more nuanced. Hatch (1993) identified four main elements of organizational culture-assumptions, values, artifacts, and symbols-and the processes that interlink them. These processes create a balance between change and stability within a culture. In the same vein, Robbins (1993) viewed organizational culture as employees' perception of their organization and its outward expressions.

Kotter and Heskett (1992) posited that while strong cultures facilitate communication and decision-making, weak ones may contribute to bureaucracy and impede creativity. Denison (1996), Robbins (1986), and Schein (1992) argue that organizational culture cannot be separated from the core identity of its members and that sharing the organization's values is crucial.

Entering the 21st century, Rousseau (2000) acknowledged the need for shared values in organizational development. Azhar (2003) empirical research established a strong positive relationship between a well-developed organizational culture and organizational effectiveness, highlighting its significance for performance enhancement. Plessis (2006) further classifies organizational culture into three levels: man-made ornaments, outwardly visible values, and underlying assumptions that permeate the organizational development process. Behruzi et al. (2013) proposes a conceptual framework for examining childbirth patterns as an organizational cultural phenomenon in specialized hospitals, using Allaire and Firsirotu (1984) organizational culture theory as a guide. The framework aims to understand how organizational culture components influence the humanization of birth practices and women's choices in highly specialized hospitals. It can be utilized to identify barriers and facilitating factors in birth

practices. The study views childbirth as a cultural expression influenced by social and cultural forces, emphasizing the importance of understanding organizational culture in guiding childbirth practices.

In the context of Chinese scholarship, Luo and Niu (2005) believe that organizational culture is a guideline and basis for the thoughts and actions of organizational members, contributing to an organization's unique competitive advantage and sustainable development. Lu (2007) defined organizational culture as the culture formed by organizations engaged in economic activities. Chen (2009) describes organizational culture as a unified system of values and behavioral patterns formed by an organization at a particular stage of its development. Chen and Li (2014) believe that organizational culture is a set of values shared by the entire organization, a response to change, and a consensus reached by all organizational members that guides their actions.

Together, this literature emphasizes the dynamic nature of organizational culture and its significance in shaping values, behaviors, and shared beliefs, which are fundamentally important for an organization's performance and competitive edge. This thesis defines organizational culture as the highest goals, value standards, basic beliefs, and behavioral norms that employees jointly adhere to by instilling clear organizational strategies, value systems, and management philosophies (Schein, 2019). At the same time, organizational policies also influence the formation of organizational culture by strengthening employee behavior (Cao & Xing, 2020).

2.1.2 Culture and Healthcare Management

Organizational culture is a critical aspect of the work environment and is supported by current research to meet the recognition requirements of employees (Anderson et al., 2018). Cultural research has become increasingly essential for directly influencing organizational performance in medical institutions. A wealth of academic evidence supports the necessity of conducting research in this field. During a pandemic, cultural relationships, identities, and experiences all undergo changes (Chen & Chen, 2018). Donnelly et al. (2019) argue that the management issues related to culturally diverse employees may outweigh the benefits of accepting such employees. However, the current literature emphasizes that leaders must recognize the long-concept benefits of adopting practices that support culturally diverse healthcare workers. Given the significant pressure on the global healthcare environment, relying on racial and cultural diversity is of utmost importance (Donnelly et al., 2019; Specchia et al., 2021). Academics recognize the importance of culture in affirming employee identity and performance, especially

in healthcare organizations, hence the choice of scales in this study to facilitate the understanding, assessment and shaping of organizational culture by healthcare professionals. Appropriate tools provide important support for healthcare organizations to adapt and operate more effectively in a diverse and stressful global healthcare environment.

2.1.3 Classification of organizational culture

Researchers and scholars provide classifications that serve as references to deepen insights into organizational culture, thereby aiding in the identification of and adaptation to different cultural environments, contributing to the overall success of organizations.

2.1.3.1 Hofsetde's hierarchical model of organizational culture

Hofstede (1990) model is primarily focused on national and regional cultural differences and identifies several dimensions on which cultures can be compared, such as power distance, individualism vs. collectivism, masculinity vs. femininity, uncertainty avoidance, long-concept orientation vs. short-concept normative orientation, and indulgence vs. restraint. Although his approach is not about organizational culture layers, it does inform our understanding of how culture shapes organizational behavior at a national level. The layers model can be directly related to Hofstede's dimensions as each layer may reflect different aspects of these dimensions.

2.1.3.2 Schein's hierarchical model of organizational culture

Schein's (1992) research on organizational culture, shown in Figure 2.1, established a framework consisting of three levels: basic assumptions, values, and concepts, and artifacts. The foundational level of basic assumptions influences the development of values and concepts, which in turn shape the visible artifacts of an organization. This framework emphasizes the significance of the underlying beliefs and behaviors that guide an organization's actions and decisions. It also underscores the need to assess and modify these elements to ensure they align with the organization's goals and values. The study of organizational culture provides valuable insights into enhancing organizational effectiveness and achieving long-concept success. Additionally, this measurement approach can be used for variable analysis and comparative studies of organizational cultures across different organizations.

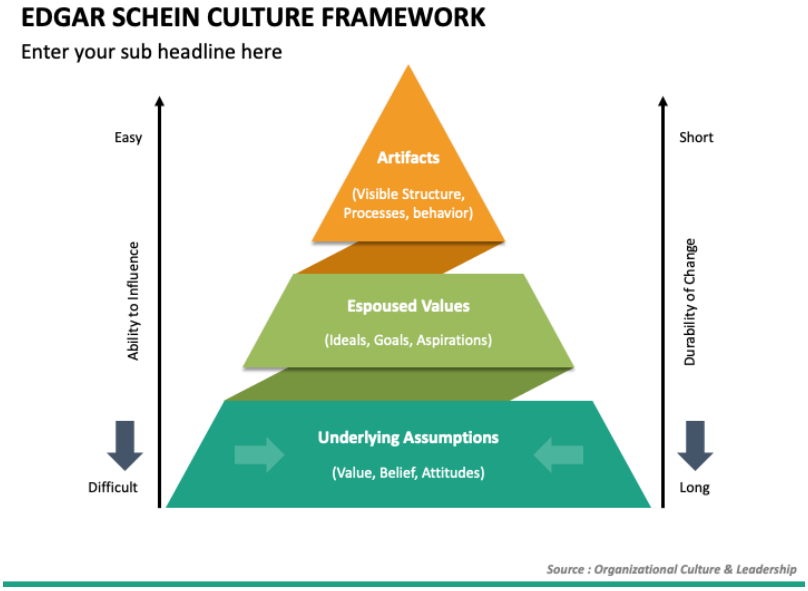

Figure 2.1 Schein 's Hierarchical Model of Organizational Culture

Source: Schein (1992)

2.1.3.3 Duan et al.'s (2008) model

According to Duan et al. (2008), the structure of organizational culture can be classified into four layers: the material culture of the surface layer." Secondly, the behavioral culture of the mantle layer (or shallow layer)". Thirdly, the middle layer's institutional culture layer. Fourth, the spiritual culture of the core layer.

All these different proposals share a common understanding that organizational culture is multi-layered or multi-dimensional. There is an acknowledgment that culture includes both visible elements (like behavior and practices) and invisible elements (like beliefs, values, and thought processes). Each framework reveals culture as a complex system that affects different parts of organizational life and can be analyzed at different depths, from the most superficial to the most profound. They all recognize that the deeper levels of culture are the hardest to change, and they drive the behaviors and norms within an organization.

2.1.3.4 Other models of organizational culture

As organizational structures and environmental factors vary among different organizations, there is no definitive method for categorizing the dimensions of organizational culture. As a result, researchers have categorized organizational culture into numerous components in order to comprehensively comprehend its significance within an organization.

Therefore, O'Reilly et al. (1991) analyzed organizational culture from seven perspectives, including team orientation, innovation orientation, respect for people, aggressiveness, attention to detail, stability, and result orientation. On the other hand, Tsui et al. (2006) classified

organizational culture into innovation orientation and result orientation based on its external adaptability. Tsui et al. (2015) classified organizational culture into three oriented dimensions based on the organization's attention to current interests, namely financial structure, market structure, and innovative learning.

After that, Ansoff (1979) classified organizational culture into five types based on the organization's developmental orientation and strategies: Organizational culture can be classified into five types-Stable, Reactive, Participatory, Exploratory, and Creative-each reflecting the entity's strategic stance on risk, change, and innovation, and proving effective when aligned with strategic objectives and environmental context.

Then, Deal and Kennedy (1982) classified organizational cultures into four types based on the degree of risk and speed of feedback: "tough-guy" culture, "work hard, play hard" culture, "bet your company" culture, and process-oriented culture.

Moreover, Wallach (1983) developed an organizational culture scale widely used in research, particularly in China. This scale measures organizational culture based on three dimensions: The Wallach Organizational Culture Scale evaluates organizational culture through dimensions like Group Support, assessing teamwork and cooperation; Innovation, gauging support for new ideas and risk-taking; and Achievement Orientation, focusing on goal-setting and performance, offering insights into how culture influences employee attitudes and performance.

Another perspective, Quinn and Cameron (1983) proposed four types of organizational cultures based on the Competing Values Framework (CVF). The Competing Values Framework identifies four organizational cultures based on flexibility versus stability and internal versus external orientations. Ke also studied organizational culture based on innovative, supportive, and bureaucratic constructs. Zhao et al. (2018) and Liu et al. (2021) divided organizational culture from the internal and external cultural layers, specifically into internal integrative organizational culture and external adaptive organizational culture. In summary, these scholars have different research perspectives, but all recognize the importance of organizational culture in shaping an organization's values, processes, and relationships with stakeholders. Understanding and managing organizational culture is crucial for achieving organizational goals and success.

2.1.4 Measurement studies of organizational culture

From the perspective of existing research on organizational culture measurement, various approaches have been presented, reflecting the diverse cultural and technological backgrounds

of scholars as well as their different areas of focus. Several major scales are described below:

2.1.4.1 Relevant studies by foreign scholars

(1) Quinn and Cameron organizational culture evaluation scale

According to Cameron and Quinn (1983) , organizational culture is the fundamental business philosophy of an organization that encompasses its shared values and is manifested through its leaders' leadership concepts and organizational practices. Quinn and Cameron developed the Organizational Culture Assessment Instrument (OCAI) based on the CVF. The CVF identified two sets of paired dimensions through extensive research: internal focus versus external focus and flexibility versus stability. These paired dimensions categorize organizational culture into four quadrants, as Figure 2.2 depicts.

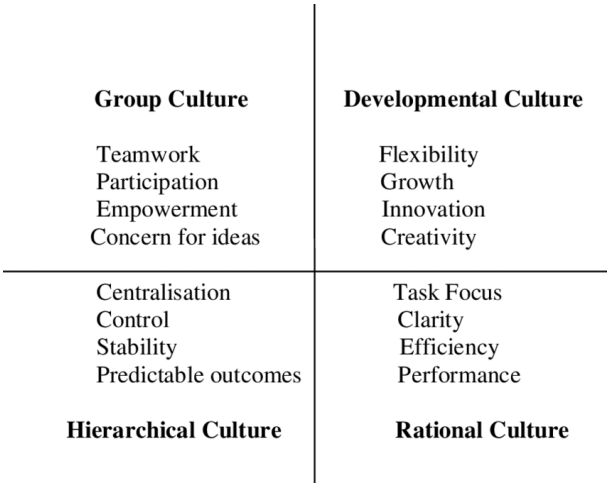

Figure 2.2 Organizational Culture Quadrants based on the Competing Values Framework

Source: Cameron and Quinn (1983)

After extensive literature reviews and empirical research, Quinn and Cameron developed the Organizational Culture Assessment Inventory (OCAI) as a 24-item measurement tool. Each item represents one of the four types of organizational culture, with four items under each type. The OCAI scale demonstrates good internal consistency, focus, and distinguishability. It is a user-friendly and easily understandable model for measuring organizational culture, making it highly valuable for organizations seeking to bring about cultural change.

(2) Denison and Mishara's organizational culture quality scale

Denison and Mishra (1995) argued that organizational culture is a combination of values, beliefs, and patterns of thinking and behavior employees embrace. They developed a measurement model to assess these cultural characteristics effectively. The design of this scale was grounded in the Competing Values Framework and informed by systematic research on multiple organizations. The resulting theoretical model, known as the Characteristics Model of Organizational Culture (TMCT model), effectively describes an organization's cultural

characteristics. This measurement model is based on the dimensions of internal integration, external adaptation, and change and stability dichotomies. It categorizes organizational culture into four dimensions: participative characteristic of organizational culture, congruent characteristic of organizational culture, adaptive characteristic of organizational culture, mission-oriented characteristic of organizational culture. All of which significantly impact organizational effectiveness. Each characteristic in the model consists of three refined dimensions, with each sub-dimension further divided into five measurement items. The complete scale comprises a total of 60 measurement items, as depicted in Figure 2.3

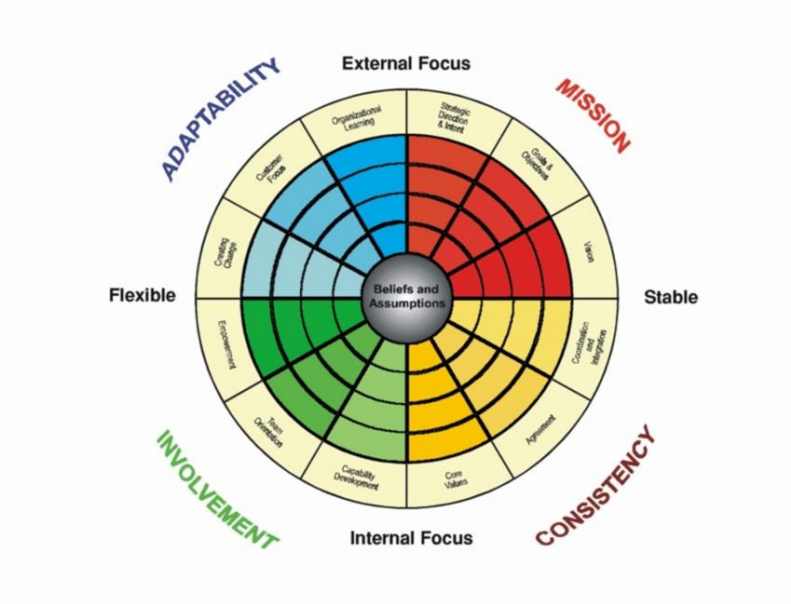

Figure 2.3 Denison Model of Organizational Culture Characteristics

Source: Denison (2006)

(3) Hofstede measurement scales

According to Hofstede (1990), the values component of organizational culture consists of three dimensions: work-centeredness, the need for authority, and the need for security. Building upon this, Hofstede identified five cultural constructs to measure the cultural characteristics of organizations. These constructs include power distance, which refers to the perceived power or influence between superiors and subordinates within the organization; uncertainty avoidance, which measures the tolerance for future risk; individualism, which assesses the extent to which individuals prioritize themselves and their loved ones; masculinity, which evaluates the level of competitiveness and assertiveness among employees within an organization; and long-concept orientation, which measures the degree of organizational resilience.

(4) Other measurement scale

Several representative scales have emerged in the field of organizational culture measurement, including Chatman's Fit Descriptive Scale (OCP) (Chatman, 1989), Denison and

Mishara's Organizational Culture Questionnaire (OCQ) (Denison & Mishra, 1995), Hofstede et al.'s Organizational Culture Measurement Scale (OCMS) (Hofstede et al., 1990), and Quinn and Cameron's Organizational Culture Evaluation Measurement Scale (OCEMS) (Quinn & Cameron, 1983). Other notable scales include Hofstede et al.'s Culture Evaluation Measurement Inventory (OCAI) (Hofstede et al., 1990) and Quinn and Cameron's OCAI (Quinn & Cameron, 1983).

2.1.4.2 Relevant studies by Chinese scholars

(1) Organizational culture values scale by Jung Botan

Based on Professor Schein's research on organizational culture measurement, Professor Zheng (1993) from National Taiwan University developed the Values of Organizational Culture Scale (VOCS). The VOCS scale comprises nine dimensions, including the pursuit of excellence, scientific truth-seeking, sharing of joys and sorrows, customer orientation, performance, spirit of cooperation, good-neighborliness, sense of social responsibility, and integrity and honesty. This scale is considered the first localized measure of organizational culture in China and has been influential in domestic research in this field. While the VOCS developed by Professor Zheng boxun is a significant contribution to the field of organizational culture measurement, it has limitations regarding its geographic applicability, alignment with specific organizational cultures, and validation through factor analysis.

(2) Zhang Xu's five-dimensional measurement scale

Based on Schein et al.'s theory of the five essential attributes of organizational culture, Zhang Xu developed a five-dimensional measurement scale of organizational culture by combining the opinions of experts and scholars in the field with the actual situation of organizations in China (Scott et al., 2003). Zhang Xu's five-dimensional measurement scale of organizational culture captures different aspects of organizational culture, including environmental adaptation, sustainable development, internal harmony, staff efficiency, and rule-of-thumb orientation.

(3) Other measurement scale

In the Chinese context, influential scales include Zheng et al.'s (Zheng et al., 2010) “VOCS”, D. Zhang and Wang’s (Zhang & Wang, 2008) Organizational Culture Measurement Scale (OCMS), and OCMS developed by the Organizational Culture Measurement Center of China (OCMC). The aim of this study was to deconceptine a feasible scale and its applicability in Chinese obstetrics and gynecology after a comprehensive examination of the scale.

(4) Summary of some measurement methods

Organizational culture plays a critical role in shaping an organization's behavior, values, and norms. To assess and measure organizational culture, researchers have developed various quantitative and qualitative research methods. In this paragraph, there are some commonly used quantitative research methods for assessing and measuring organizational culture.

In summary, various organizational culture assessment tools, such as the OCP, OCI, Denison Organizational Culture Survey, CVF, COF, OCAS, and GLOBE Project Cultural Dimensions, provide valuable insights into assessing and measuring organizational culture. Researchers and practitioners can use these methods to gain a deeper understanding of cultural dynamics within an organization and make informed decisions to enhance organizational effectiveness and performance. Additionally, Büschgens et al. (2013) studied organizational culture using three constructs: innovative, supportive, and bureaucratic.

According to Powell et al. (2021), organizational culture can be divided into three orientation dimensions based on the organization's attention to current interests. These dimensions include financial structure, market structure, and innovation learning.

Organizational culture research in China has grown in recent years, but it needs to catch up to foreign countries in depth and breadth. Chinese scholars are exploring organizational culture theory, focusing on its significance and relationship with other cultures, but more theoretical and standardized studies are necessary. Traditional Chinese culture should be incorporated into localized measurement scales, and the role of customers in shaping organizational culture has been overlooked. The Competing Values Framework has been adapted to include market orientation, but there is a need to develop a culture promoting customer engagement, allowing for shared control and value creation.

Previous studies have rarely considered the role of customers in organizational culture (Lukas et al., 2013). Although the CVF has been adapted to include market orientation (Deshpandé et al., 2018) , which is a crucial aspect of organizational competitive strategy (Narver & Slater, 2018) and performance (Deshpandé et al., 2018); Humboldt (2000), it primarily views customers as sources of information (Deshpandé & Farley, 2004), emphasizing the acquisition, dissemination, and response to market intelligence (Jaworski & Kohli, 1993). This perspective contrasts with the service-oriented logic perspective, which highlights the collaboration between customers and organizations to integrate resources and create value (Vargo & Lusch, 2007).

2.2 Concept and evaluation of organizational learning capability

2.2.1 Context of organizational learning capability

The concept of OLC is deeply rooted in academic research and is considered a key factor for gaining competitive advantage in the dynamic world of business. Cangelosi and Dill (1965) initially discussed the importance of identifying and correcting errors within organizations, laying the groundwork for understanding how adaptation and learning occur within these systems.

As academic interest in this field increased, Fiol and Lyles (1985) advanced the discussion by emphasizing the role of past experiences in shaping future organizational performance. They argued that learning is more than error correction; it is also about leveraging historical experiences to refine strategies and actions.

Garvin (1993) further enhanced the concept by integrating the notion of a learning organization into the OLC framework, underscoring the significance of a supportive learning culture, structural elements, and facilitating environmental factors. His comprehensive perspective established a foundation for various mechanisms that sustain learning processes within organizations.

Focusing on the dynamic capabilities required for managing change and fostering innovation, Senge (1990) strengthened the aspects of OLC related to adaptability and innovation.

Crossan et al. (1999) delved into the cyclical and interdependent nature of the relationship between OLC, organizational culture, and technology, demonstrating how these elements shape the organizational learning process and are shaped by it in return.

Watkins and Marsick (2006) highlighted the role of the organization's learning culture in promoting knowledge sharing and acquisition, illustrating how it contributes to improving operational proficiency and overall organizational functionality.

In 2018, Basten and Haamann (2018) categorized the different approaches to OLC, arguing that incorporating people, processes, and technology plays a crucial role in the evolution of an organization by emphasizing the integration of human capital, structured methodologies, and technological advancements. Basten and Haamann, identifies 18 different approaches to organizational learning capability by conducting a literature review and categorizes these approaches into three domains: people (seven approaches), process (nine approaches), and technology (two approaches).

In the context of research in China, Wang and Ahmed (2003) defined organizational learning capability as a continuous innovation process in which organizations acquire new information and technology to form a competitive advantage. This perspective underlined the necessity for organizations to continuously integrate new knowledge and technology to maintain competitiveness. Xie and Wang (2012), alongside, explored the impact of OLC on the development of dynamic capabilities, indicating how these can accelerate an organization's growth. Yu endorsed this view, suggesting that exploratory learning methods enhance an organization's ability to be both reactive and proactive in its learning endeavors (Yu, 2017).

A complex yet frequently stressed aspect of OLC addresses the organization's capability to foster internal learning and effectively utilize external resources, such as strategic alliances and external knowledge. This integration assists in elevating their learning capability and adaptiveness to external changes.

In summary, this thesis draws on the definition of individual learning capability by scholars and provides the following interpretation of organizational learning capability (Argyris & Schön, 1978): Organizational learning capability refers to a unique comprehensive ability formed by an organization on the basis of integrating the individual learning capability of employees, which is specifically reflected in the organization's ability to acquire knowledge, disseminate knowledge, share knowledge, transform knowledge, adapt to and utilize external resources, and other aspects of learning capability (Nonaka & Takeuchi, 1995).

2.2.2 Representative process models of organizational learning capability.

Creating and updating knowledge easily within the organization is crucial to keeping up with the pace of innovation. A knowledge-oriented culture requires individuals to share knowledge throughout the organization. By promoting a learning-conducive environment through its cultural framework, an organization can cultivate innovative capabilities. The specific approach to achieving this will depend on each organization's composition and management style, as each has its own unique set of variables to consider. Establishing a learning culture involves implementing different processes and procedures that meet specific criteria. Management can play a role in transforming their organization into a learning institution by establishing cultural norms. However, simply establishing these norms is not enough; organizations must continuously emphasize the importance of learning and adapting to changing times. Another reason to foster a learning culture is that it should be pervasive throughout the entire organization, seeking input from both management and non-management employees (Tidd et al., 2002). Regarding the process models of organizational learning capability, scholars have

different perspectives and definitions. Most scholars define organizational learning capability from a process perspective, but the specific process models vary. In this subsection, we will review some representative process models of organizational learning capability.

(1) The simple linear model of Argyris and Schön (1978)

According to Argyris and Schön (1978), the process of organizational learning capability consists of four stages: discovery, invention, implementation, and generalization, as figure 2.4. These stages correspond to the following meanings: identifying the discrepancy between actual results and the desired situation, searching for solutions to problems, implementing the developed solutions, and spreading the successful experience to all organization departments to establish norms, practices, and policies.

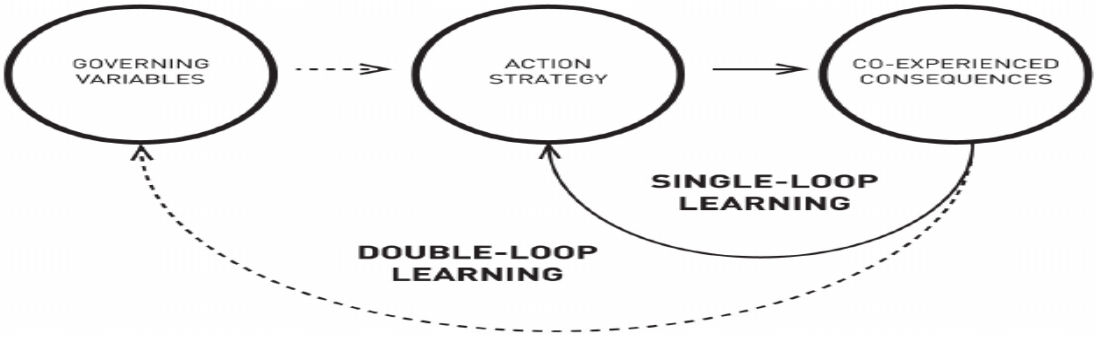

Figure 2.4 Double Loop Learning Model

Source: Argyris and Schön (1978)

This model, which describes the organizational learning capability process, was one of the earliest models and introduced the concept of transformational learning, advancing the study of organizational learning capability. Subsequent researchers have referred to and built upon this model. However, the model lacks a feedback loop, does not form a closed learning cycle, and does not reflect the spiral nature of organizational learning capability (Sareen, 2013).

(2) Huber's (1991) Four-Stage Model

According to Huber (1991), organizational learning capability involves a four-stage process: acquiring knowledge from outside and within the organization; distributing this information internally to foster new insights and enhance current knowledge, with the extent of its spread affecting the learning outcome; incorporating this information to build on the organization's knowledge base, deepening learning; and maintaining this knowledge over time in the organizational memory. The first stage involves the acquisition of knowledge from both internal and external sources. Organizations continuously gather information through various channels, such as market research, competitor analysis, and feedback mechanisms. This stage emphasizes the importance of actively seeking and assimilating new knowledge to stay informed and responsive to changing environments.

The second stage focuses on the distribution of acquired information internally within the organization. Effective distribution mechanisms, such as communication channels, knowledge sharing platforms, and training programs, enable the dissemination of insights and experiences to relevant stakeholders. The extent and efficiency of information dissemination significantly influence the learning outcomes, as widespread access enhances the potential for collective understanding and innovation.

Incorporation, the third stage, involves integrating acquired knowledge into the organization's existing knowledge base. This process deepens learning by connecting new insights with established frameworks, practices, and mental models. Through reflection, synthesis, and experimentation, organizations refine their understanding and capabilities, fostering continuous improvement and adaptation.

The final stage, maintenance, pertains to the preservation and storage of interpreted information within the organizational memory. Knowledge retention mechanisms, such as documentation, databases, and organizational culture, ensure that valuable insights are accessible over time. By institutionalizing learning and memory processes, organizations sustain their capability to leverage past experiences and insights, facilitating ongoing learning and resilience.

Huber's model conceptualizes organizational learning capability as a dynamic flow of knowledge and information, emphasizing the interconnectedness of acquisition, distribution, incorporation, and maintenance processes. This framework underscores the importance of creating an organizational culture that values learning, fosters collaboration, and invests in knowledge management systems. By understanding and leveraging these stages, organizations can enhance their ability to adapt, innovate, and thrive in complex and uncertain environments. Further research and practical applications of this model can deepen our understanding of effective strategies for nurturing organizational learning and driving sustainable performance.

(3) Dixon's (1994) Four-Stage Cyclical Process Model

Dixon (1994) proposed model divides organizational learning capability into four stages: creation, integration, interpretation, and action. The model combines individual and organizational learning capability and highlights the relationship between learning capability and performance improvement. However, it does not consider team and inter-organizational learning capability, suggesting room for further enhancement.

The first stage, creation, encapsulates the process of generating new knowledge and insights. It involves the exploration of novel ideas, experimentation, and the acquisition of fresh perspectives. At this stage, individuals and teams within the organization actively engage in

activities aimed at innovation and creativity, fostering an environment conducive to the birth of groundbreaking concepts.

Following creation, the integration stage comes into play, wherein the newly acquired knowledge is assimilated into the existing organizational framework. This phase involves synthesizing disparate pieces of information, aligning them with organizational goals, and incorporating them into existing practices and processes. Integration facilitates the seamless incorporation of new insights into the organizational fabric, ensuring that they become an integral part of the collective knowledge base.

The interpretation stage revolves around the analysis and sense-making of the integrated knowledge. Here, individuals and teams delve deeper into the implications of the synthesized information, discerning patterns, identifying trends, and extracting actionable insights. Interpretation serves as a critical juncture where raw data transforms into actionable intelligence, empowering the organization to make informed decisions and strategic choices.

Finally, the action stage embodies the culmination of the learning process, where insights gleaned from interpretation are translated into tangible actions and initiatives. This phase involves the implementation of strategies, the execution of plans, and the adaptation of organizational practices based on newfound knowledge. Action catalyzes performance improvement by bridging the gap between theoretical understanding and practical application, driving organizational effectiveness and agility.

While Dixon's model provides a robust framework for understanding organizational learning capability and its implications for performance improvement, it is not without its limitations. One notable aspect is its exclusive focus on individual and organizational learning, overlooking the crucial role played by team and inter-organizational learning capacities. By expanding the scope of inquiry to encompass these dimensions, future enhancements to the model could offer a more comprehensive understanding of the dynamics of learning within and beyond organizational boundaries.

(4) SECI Model of Nonaka and Rakuchi (1995)

Nonaka and Takeuchi (1995) model provides valuable insights into how organizations can foster knowledge creation and innovation. However, further research is needed to explore this model's practical implications and potential limitations in different organizational contexts, as figure 2.5.

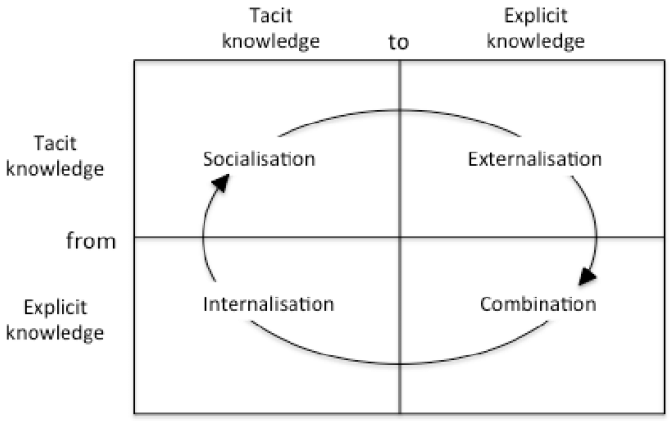

Figure 2.5 Spiral Model of Knowledge Creation

Source: Nonaka and Rakuchi (1995)

(5) Crossan et al.'s (1999) 4I model

Crossan et al. (1999) propose a 4I model of organizational learning capability, which includes four learning styles: intuition, interpretation, integration, and institutionalization. Learning styles reflect various levels of depth and interaction in the learning process. Individually, intuition and interpretation play pivotal roles. Intuition, the first learning style, embodies the spontaneous and instinctive aspect of learning. It involves the rapid assessment and synthesis of information based on gut feelings, hunches, and implicit knowledge. Intuition enables individuals and organizations to make quick decisions in ambiguous or uncertain situations, drawing upon tacit knowledge and past experiences without explicit reasoning.

Interpretation, the second learning style, focuses on sensemaking and the construction of meaning from information and experiences. It entails the analysis, reflection, and sensemaking processes through which individuals interpret and understand complex phenomena. Interpretation involves critical thinking, questioning assumptions, and exploring alternative perspectives to derive insights and derive coherent narratives from diverse data sources.

Integration, the third learning style, emphasizes the synthesis and consolidation of diverse perspectives, knowledge, and experiences. It involves the integration of new insights and ideas into existing mental models, frameworks, or organizational systems. Integration facilitates the creation of a shared understanding and collective knowledge base within the organization, enabling collaborative problem-solving and innovation.

Institutionalization, the fourth learning style, pertains to the formalization and embedding of learning into organizational routines, structures, and cultures. It involves the codification of knowledge, the establishment of learning processes, and the alignment of organizational systems and incentives to support continuous learning and improvement. Institutionalization ensures that learning becomes institutionalized and enduring, shaping organizational behaviors,

norms, and practices over time.

Collectively, these four learning styles represent a holistic framework for understanding the dynamics of organizational learning capability. They underscore the importance of leveraging diverse cognitive processes, collaborative interactions, and institutional mechanisms to facilitate learning and adaptation within organizations. By recognizing and cultivating these learning styles, organizations can enhance their ability to navigate complexity, foster innovation, and sustain competitive advantage in dynamic environments. Further exploration and empirical research are needed to elucidate the practical implications and effectiveness of the 4I model across different organizational contexts and industries, thereby informing strategies for enhancing organizational learning and performance.

(6) Chen and Ma (2010) Improved Model of Argyris and Schon (1978)

Organizational learning capability is a spiral process of knowledge accumulation (Do & Mai, 2021).The simple linear model proposed by Argyris and Schön (1978) fails to capture the entire process of knowledge accumulation, as it needs a feedback mechanism.

Argyris and Schön's model, though foundational, presents a linear framework that suggests a one-way flow of knowledge acquisition and application. However, this model fails to capture the complexity of organizational learning, as it does not account for the need for feedback mechanisms to assess and adjust learning strategies based on outcomes.

In response to this limitation, Chen and Ma (2010) improved upon Argyris and Schön's model by incorporating a feedback function, thus creating a closed-loop system for organizational learning. This enhancement provides a clear mechanism for accumulating organizational knowledge. This modification transforms the linear model into a closed-loop system, where feedback loops enable continuous monitoring, evaluation, and adjustment of learning processes. This closed-loop system creates a more comprehensive framework for understanding organizational learning capability, as it incorporates mechanisms for self-correction and improvement over time.

By integrating a feedback function, Chen and Ma's model acknowledges that organizational learning is not a linear progression but rather a cyclical process characterized by continuous reflection, adaptation, and improvement. This closed-loop system enables organizations to accumulate knowledge more effectively by learning from past experiences and applying insights to future actions.

Overall, Chen and Ma's enhancement to Argyris and Schön's model provides a more nuanced understanding of organizational learning capability by highlighting the importance of feedback mechanisms in driving continuous improvement. This model emphasizes the dynamic

nature of learning within organizations and underscores the importance of creating a learning culture that values feedback, reflection, and adaptation.

(7) The Mediating Role of Learning Capability by Jerez-Gómez (2017)

The model proposed by Jerez-Gómez (2017), argues that firms are more likely to significantly improve their overall performance by simultaneously investing in strong human resources and developing organizational learning capabilities. The study highlights organizational learning capabilities as a key mediator in the relationship between firm performance and organizational culture and urges scholars to acknowledge the central role of organizational learning capabilities in future research. In addition, Jerez-Gómez's study provides actionable insights for firms, highlighting the need to create supportive mechanisms and conditions that promote organizational learning, as shown in Figure 2.6. The model for this study references that theoretical model.

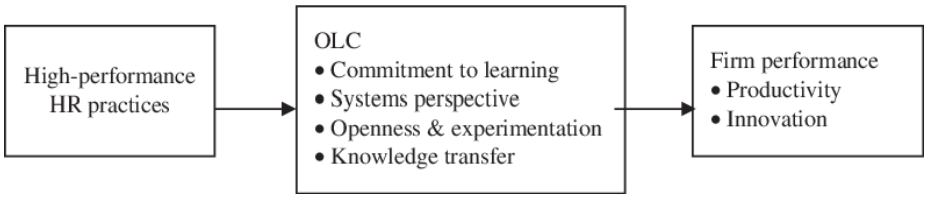

Figure 2.6 Model linking high-performance human resource (hr) practices to firm performance

Source: Pilar Jerez-Gómez (2017)

(8) Other Scholars' Research on Organizational learning capability Process

Starting with the early Cyert and March's (1963) model, organizations are seen to go through a four-stage process beginning with the acquisition of information and progressing through to the dissemination of knowledge. This framework lays the groundwork for subsequent models by emphasizing the importance of information flow within an organization.

Hedberg (1981) focuses on the organization's ability to perceive and select relevant stimuli from the environment, decipher their implications, and respond with appropriate strategies, depicting an ongoing interaction with external factors that shape organizational learning.

Nelson and Winter (1982) further expand upon this by defining organizational practices to include forms, rules, routines, and the application of knowledge, indicating that how an organization implements what it knows is critical to its learning capability.

Building upon this foundational understanding, Kolb (1984) introduces a four-stage learning cycle comprising concrete experiences, reflective observation, abstract conceptualization, and active experimentation, suggesting that learning is a continuous process that evolves through various stages.

Fiol and Lyles (1985) contribute by distinguishing between higher and lower levels of

learning, which are essential to understand the depth of an organization's learning processes.

The expansion of these ideas comes from Senge (1990) who introduces and delineates the difference between adaptive learning (problem-solving within existing structures) and generative learning (challenging and transforming organizational norms).

Based on Crossan's (1999) model, Yu et al. (2007) integrated inter-organizational learning to further enhance organizational learning. Additional comprehensive frameworks explored in this review include activity theory, dynamic capability theory, and the competency trap framework, among others.

Empirical research, exemplified by Cannon (2011), MacPhail (2011), and Ferreira (2018), examines group-level factors such as leadership roles, management support, and strategic goal alignment to unpack how these elements influence the learning dynamics within organizations.

In recognizing group dynamics, Nicolini et al. (1995) and Rahim (2001) reflect on error correction and problem comprehension as two different needs organizational learning addresses through single-loop and generative learning.

The conversation around individual and group-level influences is further enriched by authors like Hirst et al. (2004), Lee and Meyerdoyle (2017), and Kauppila (2018), who probe into how leaders' abilities and the diversity of employees' knowledge affect the learning capability of an organization.

To grasp and measure the nuances of organizational learning, Nonaka and Takeuchi present the SECI model, a transformative framework for explicit and tacit knowledge, while Watkins and Marsick (2006) introduce the DLOQ, assessing seven dimensions of learning within organizations.

Baker et al. (2007) suggest metrics including commitment to learning, shared vision, and open-mindedness as indicators of learning capability, focusing on the qualitative aspects of learning.

In conclusion, this literature review illuminates individual and group-level dynamics crucial to the organizational learning capability. The review unifies the thinking of scholars like Senge, Argyris and Schön, and Dodgson, who identify adaptive and generative learning as pivotal in comprehending and tackling challenges faced by organizations. The understanding of measurement models, such as SECI and DLOQ, further enriches insights into learning processes and informs how an organization's learning capability can lead to innovation, capability development, and performance enhancements.

2.2.3 Enhancing Organizational Learning capability

Organizational learning capability is a key focus in academia and refers to the dynamic process of identifying and solving problems, implementing solutions, and continuously adjusting and improving organizational performance. This multifaceted concept includes knowledge acquisition, transfer, integration, and creation, and is influenced by factors such as organizational culture, strategy, and structure. Methods of measurement comprise model-based approaches, self-reporting, observation, and result indicators. Enhancing organizational learning capability is crucial for sustained innovation and adapting to change, offering potential for interventions and training to boost practical outcomes. Jerez-Gómez et al. (2005) developed a scale applicable across cultures for objectively evaluating organizational learning capability, acknowledging the mediating role of organizational culture and therefore making it a valuable tool for a variety of organizational contexts.

2.3 Concept and evaluation of organizational performance

2.3.1 Context of organizational performance

Organizational performance is a complex and multifaceted concept that reflects the current state and trajectory of an organization, as well as its competitive advantage (Wiggins & Ruefli, 2002). It has garnered significant attention from both theoretical and practitioner communities and is a focal point of research in organizational theory (Zammuto, 1984). Understanding organizational performance is crucial for explaining why some organizations succeed while others fail; it measures an organization's competitive edge (Gang, 2006).

Organizational performance is a multifaceted concept, evaluated differently by various stakeholders. Employees value job satisfaction and competitive salaries, which drive their performance and engagement. Customers prioritize product or service quality, which directly influences their loyalty. Creditors assess credit reliability, while the community evaluates an organization's social contributions. Suppliers appreciate fair transactions and effective communication, and the government requires legal compliance. By considering these diverse criteria, organizations can holistically evaluate their performance and identify areas for improvement. Steer argued that organizational performance evaluation should include indicators such as productivity, profitability, adaptability, growth, development, communication, access to resources, integration, elimination of stress, control of the environment, efficiency, job satisfaction, turnover, and survivability (Steer, 1975).

Campbell suggested that organizational performance should include dimensions such as productivity, overall performance, employee satisfaction, return on investment, and turnover. Quinn and Cameron (1983) conducted an exploratory study based on the criteria proposed by Campbell and identified 17 criteria that can reflect organizational performance more comprehensively. These criteria include efficiency, productivity, information management and communication, quality, profit, agility, growth, use of the environment, evaluation of external entities, stability, control, morale, value of human resources, flexibility/adaptability, conflict/cohesion, planning/goal setting, and emphasis on training and development (Campbell, 1977).

Argyris and Schön emphasized the importance of organizational learning capability as a dimension of organizational performance (Argyris & Schön, 1978). Nkomo categorized organizational performance indicators into traditional financial and human resource performance indicators (Nkomo, 1987).

Ensley et al. (2002) suggested measuring team performance based on cohesion and decision-making efficiency. Norhayati et al. (2004) highlighted the importance of factors such as culture, information, and communication technology in assessing team performance, particularly in global virtual teams.

Another group of performance measurement emphasized, Miller (1993) suggested that organizational performance should be assessed based on various factors, such as return on investment, cash flow from operations, market share, stability of market share, and employee productivity. Steers expanded this perspective, proposing that organizational performance should be evaluated in concepts of adaptability/resilience, productivity, satisfaction, profitability, mastery of resources, pressure elimination, environment control, development, efficiency, growth, retention rate, integration, external communication, and survival (Steer, 1975).

Demirag offered a dual approach to assessing organizational performance, considering sales criteria like market share, profitability, cost control, and overall performance, and technological development indicators such as product design, employee productivity, sales reputation, customer service, and the level of parent company involvement (Demirag, 1997).

The Balanced Scorecard, developed by Kaplan and Norton, provides a comprehensive framework for evaluating organizational performance. This framework translates an organization's strategic objectives into a coherent set of performance evaluation indicators, combining financial and non-financial measures, short-concept and long-concept goals, and both lagging and leading indicators (Dorf & Raitanen, 1997).

Henri emphasized the importance of carefully designing and integrating performance measurement systems into various practical activities within an organization (Henri, 2006). He stressed the need for regular reviews of these systems, asserting that measuring organizational performance is essential to developing strategic plans, assessing goal achievement, and managing rewards. Henri identified four dimensions of organizational performance: financial, customer, internal business processes, and learning and innovation.

Richard measured organizational performance using two dimensions: financial indicators (revenue growth rate, profitability, return on assets) and non-financial indicators (quality of products or services, degree of innovation, employee morale, productivity, and turnover rate) (Richard et al., 2009). According to Silva and Borsato (2017), indicators for measuring organizational performance should include several indicators such as sales revenue, net profit, employee retention, new employee recruitment, and employee morale. Tian and Tian conducted an empirical analysis, with their findings suggesting that environmental transformational leadership significantly enhances performance (Tian & Tian, 2020). Niu and Geng (2020) explored the connection between organizational spirit and sustainability performance, which their analysis showed to have a significant positive impact.

Kostis (2021) examined the influence of a "harmonious symbiosis" cultural perspective on the relationship between innovation and financial performance s. The study found this relationship to be stronger when considering the organizational-environmental harmony. Chu and Liu investigated the impact of policies and culture on innovation performance, demonstrating that government innovation subsidies positively influence it, especially when moderated by the organization's system and structure (Chu & Liu, 2021).

Taufik et al. (2021) and Kumar et al. (2021) adopted the concept of the balanced scorecard and expanded it to measure organizational performance across five dimensions. This comprehensive approach allows for a holistic view of organizational performance, considering various perspectives and operational areas. Mai suggests that the evaluation of financial performance needs to be more balanced, focusing not only on an organization's past operating results, which can lead to an effect of organizational short-sightedness (Mai & Hamid, 2021).

Another different proposal was presented by Hamann and Schiemann (2021) categorized organizational performance into two main areas: financial performance (including sales profitability, return on assets, and return on investment) and market performance (encompassing market share, product success rate, sales growth rate, and customer satisfaction). They argued that company performance comprises three factors: sales rate, profit growth rate, and market competitiveness, while team performance consists of four dimensions: decision

quality, decision efficiency, goal acceptance, and interpersonal rapport.

Frameworks for Healthcare performance measurement have been established in countries such as the United States and the United Kingdom, frameworks for evaluating performance have been established. The Joint Commission on Accreditation of Healthcare Organizations (JCAHO) introduced the ORYX initiative, which includes both core and non-core measures. The core measures are based on the outcomes of five specific conditions seen as critical areas. These cover clinical performance, patient satisfaction, health outcomes, and administrative and financial performance indicators.

In the UK, hospitals receive star ratings based on three main aspects: financial performance, service performance, and board capability, with service performance encompassing clinical operational standards and targets, quality and safety, and patient experience. In Europe, the European PATH project has identified six dimensions: efficiency, effectiveness, employee orientation, and responsiveness as the four vertical dimensions, with safety and patient-centeredness serving as the two horizontal dimensions. The project has also developed a set of standards for hospital assessment.

Drawing on Carroll's theoretical ideas, this study suggests that the overall performance of OB/GYN departments includes three dimensions: public good, economy, and management (Carroll, 1991). The public welfare dimension of OB/GYN highlights the unique public welfare nature of this department, which differs from typical organizations. It is concerned with the welfare of patients and the community at large.

The economic dimension of OB/GYN goes beyond simple hospital financial metrics to address broader societal issues such as neonatal and maternal mortality rates. This aspect evaluates efficiency in resource allocation by examining the volume of services provided. Additionally, it considers the department's external economic efficiency, defined by its contribution to broader societal resource utilization efficiency through its management practices, thus creating positive externalities.

The goal is to improve stakeholder satisfaction by implementing and enforcing uniform operational procedures and performance metrics. This approach involves aligning the department's operations with public health goals, encouraging prudent resource use, and enhancing the societal effectiveness of resource utilization. Regarding the concept of public goods, it is essential to differentiate between public welfare and welfare related to OB/GYN.

In China, the perception of healthcare has changed over time. In 1990, Li Tieying introduced the concept of "social welfare services with public welfare" in healthcare, which has gradually become the prevailing perspective (China State Council, 1992). In 1997, the Chinese

government issued a declaration on healthcare reform and development, indicating that healthcare is a social welfare service carried out by the government. Since then, healthcare has been predominantly viewed as a social welfare service (China State Council, 1997).

Although public welfare and welfare services share common attributes in concepts of service delivery, goals, and target populations, they are fundamentally distinct in the context of OB/GYN. Public welfare is specifically focused on improving the well-being of patients and the community, while welfare services apply more broadly to various non-profit social efforts.

This discussion concurs with the distinction between these concepts and supports a shift towards a welfare-oriented approach in China's healthcare system. It posits that OB/GYN, while crucial to public health, should be considered a public service infused with welfare principles rather than being narrowly categorized as a welfare service.

The reasoning behind this perspective is manifold. Foremost, OB/GYN should embrace a human-centric and compassionate approach, with the responsibility lying with the state to fulfill needs in this area. Furthermore, practitioners should be committed to medical ethics, demonstrating altruism and advocating for fair social justice.

Moreover, the provision of medical services by OB/GYN departments in China does not strictly adhere to government protocols nor is it solely an institutional role. Instead, these facilities are similar to public utilities, possessing the necessary capability to serve citizens and distinct from government agencies primarily tasked with safeguarding rights and essential welfare.

Considering China's socio-economic context, healthcare is part of the welfare sphere, yet only segments like public healthcare directly fall under this definition. Institutions closely associated with public healthcare, such as the CDC, are fundamentally welfare-centric. In contrast, OB/GYN departments, while focusing on delivering healthcare services, must also concentrate on sustainability and self-sufficiency before fully engaging in welfare activities.

In essence, OB/GYN practice in China can be described as aligned with public welfare, with a predisposition towards a welfare orientation. Consequently, the pivotal question arises-how should this sector embody its public welfare commitment? This crucial inquiry necessitates further intellectual discourse and examination.

This thesis study concurs with Zhang's (2008) thesis that the public welfare of OB/GYN can be divided into levels of connotation. The study comprehensively analyzes the public interest, resource utilization, and efficiency challenges in the fields of OB/GYN, as well as the impact of organizational culture on their performance.

The definition of organizational performance in this thesis is that organizational performance refers to the performance of an organizational, which is a series of work done by an organization during a certain period of production and operation to achieve its own goals and the degree of achievement of organizational goals(Mingyue, 2008).

2.3.2 Assessing organizational performance

Despite the recognition of its importance, there is no consensus on how to measure organizational performance(Amer et al., 2022; Mingyue, 2008). This measurement challenge has been a persistent issue for scholars in the field (Tawse & Tabesh, 2023), leading to a call for more clarity in organizational performance research (Kraft, 1991). Different research perspectives yield different constituent elements of organizational performance (Tsui et al., 2006).

Seashore proposed measuring organizational performance through ten dimensions, including turnover, production costs, the productivity of new members, the youthfulness of members, business mix, manpower growth, emphasis on management, maintenance costs, productivity, and market penetration (Seashore & Yuchtman, 1967). Friedlander and Pickle identified seven stakeholder indicators closely related to organizational performance, exemplified in owners as the financial yield being a key performance standard. This reflects the profitability and return on investment of the organization (Friedlander & Pickle, 1968).

Financial indicators previously measured organizational performance predominantly. However, in today's uncertain market, relying solely on financial performance indicators is no longer sufficient to represent the overall performance of an organization. In their book titled "Performance Management in the Public Sector," Vandenabeele and Bouckaert emphasize the necessity of balancing organizational performance with public welfare. They advocate for the continuous monitoring and evaluation of service effectiveness to achieve common goals for both the public and government entities (Bharadwaj et al., 2018).

Kaplan and Norton addressed this limitation by developing the Balanced Scorecard, a holistic measurement tool for learning organizations (Kaplan & Norton, 1992). It considers various performance dimensions, including financial indicators, customer perspective, innovation and learning, and internal operations. Due to its comprehensive nature, the Balanced Scorecard has gained widespread usage in measuring organizational performance.

Evaluating organizational performance is an important tool in modern management, with its methods continuously evolving (Martz, 2013). The definition of organizational performance varies among different types of organizations and evaluators. Nonetheless, most scholars concur

that it is not a singular concept but a construct that is challenging to define directly and should be deconceptined based on relevant theories (Campbell, 1977). Ford and Schellenberg (Ford & Schellenberg, 1982) categorized three approaches to defining performance:

1. Objective Approach: Proposed by Etzioni, this approach assumes that organizations pursue well-defined objectives and judge performance based on achievement levels (Etzioni, 1964).

2. Systemic Resource Approach: Proposed by Yuchtman and Seashore (1967), it considers the organization's performance concerning its operating environment and resource acquisition abilities.

3. Component Approach: Proposed by Steers (1975), this approach evaluates performance by examining the behavior of organizational members.

From a managerial perspective, organizational performance is the result and goal an organization strives for, reflecting its efforts across various levels. Performance indicators and evaluations are critical in guiding and assessing operations. Organizational performance can be categorized into three levels: HR performance, operational performance, and financial performance. They are interconnected and mutually supportive (Johnson, 2011).

The ultimate goal of organizations is to enhance performance and create value for shareholders. Frazier highlights the importance of comparing performance with other benchmarks to evaluate management success. Factors affecting performance include leadership, culture, environmental awareness, and innovation capability.

In addition, some scholars have examined innovation, adaptability, and technology development. Assessment criteria have also included financial models, reputation, and the achievement of company goals. The findings suggest that there is a diverse range of measurements used to evaluate organizational performance in the literature. Performance plays a crucial role in the success of organizations, and numerous studies have explored its various dimensions across different sectors. In conclusion, organizational performance is a multifaceted and vital aspect of management, with various factors influencing its assessment and improvement. This literature review summarizes key findings from studies on performance management in both public and private management, the public sector, and healthcare.

Boyne (2002) compares public and private management, highlighting differences in objectives, functions, constraints, and performance assessments. He emphasizes the need for tailored performance management approaches to address the unique challenges faced by each sector.

Radnor and McGuire (2004) assess the reality and effectiveness of performance

management in the public sector. They identify challenges and provide recommendations for improving performance management practices in this context.

In the public sector, Văn Dooren (Dooren et al., 2010) provides a comprehensive examination of performance management in the public sector. Their book offers frameworks, tools, and strategies for enhancing performance in public organizations.

Bevan and Hood (2003) score the importance of measuring performance indicators in the healthcare sector. They highlight the impact of performance measurement on driving improvements and increasing effectiveness within healthcare organization.

Mannion and Davies (2018) focus on reporting healthcare performance, exploring past experiences and future prospects. They underscore the significance and impact of healthcare performance reporting in driving performance improvements and fostering learning.

Kruk et al. (2018) call for revolutionary changes to achieve high-quality health systems within the framework of the Sustainable Development Goals (SDGs). They emphasize the need to improve infrastructure, upgrade the quality and coverage of services, strengthen human resources, and reform governance and financing mechanisms in the healthcare sector.

These studies contribute to our understanding of performance management across different sectors. They identify the challenges, opportunities, and strategies for improving organizational performance. By implementing the insights gained from these studies, organizations can enhance their performance management practices and ultimately achieve their goals.

2.3.3 Multidimensional Performance in Obstetrics and Gynecology

In the healthcare industry, particularly in the field of obstetrics and gynecology, performance assessments are critical. They must encompass a variety of dimensions to enhance service quality, efficiency, and hospital development (Kruk et al., 2018). These assessments, especially when serving women and children as a population, should reflect not only financial indicators but also the public welfare goals inherent in healthcare delivery (Wang et al., 2018). In a cross-cultural context, healthcare providers can better meet public expectations, contribute to the greater social good, and maintain a balance between efficiency, quality, and the public service mission (Fransen et al., 2017). In China, financial indicators of departmental performance are not publicly available data; therefore, the feasibility of the scale should also be considered (Betto et al., 2022).

2.4 Impact of organizational culture on organizational performance

2.4.1 Relationship between organizational culture and performance

Organizational culture encompasses the values, beliefs, norms, and behavior patterns that exist within an organization, strongly influencing how employees interact and how the organization functions. Recently, the influence of organizational culture on performance has garnered immense interest in both academic and business communities.

Understanding organizational culture varies, reflecting the diversity of perspectives held by researchers in this field. The consensus among many studies is the positive influence of organizational culture on organizational performance. Denison and Mishra (1995) examined the impact of four dimensions of organizational culture-participative, congruent, adaptive, and mission-oriented-on organizational performance. Their research identified positive correlations between these dimensions and various performance indicators.

The connection between organizational culture and organizational performance is well-documented. Drawing from Schein's framework, the impact of organizational culture on performance can be considered multi-dimensional. It shapes employees' thought processes and behaviors, ultimately influencing organizational operations and outcomes. Moreover, it affects work habits, productivity, and profitability.

Kotter and Heskett (1992) explored the link between culture and performance, discovering that a robust and adaptive culture substantially enhances an organization's long-concept financial success. This was supported by Denison (1990) , who identified positive correlations between cultural attributes and financial metrics such as profit growth, return on assets, and market share expansion. Similarly, more recent research by Sørensen (2016) and Gordon and DiTomaso (2007) provided additional confirmation of the significant relationship between culture intensity and firm performance.

Beyond direct effects, studies have examined how organizational culture influences underlying causal mechanisms. Denison and Mishra (1995) suggested that the impact of culture on performance is conditional upon the organization's intrinsic characteristics and its external environment. Via a survey of top managers in 764 organizations, they discovered significant positive correlations between the four cultural dimensions and certain performance metrics, such as market share, sales growth rate, and after-tax net profit. Different cultural traits were found to predict various performance indicators. Zheng et al. (2010) further demonstrated that organizational learning capability serves as a mediator between culture, structure, strategy, and

effectiveness.

Gordon and DiTomaso (2007) study found that specific elements of organizational culture positively impact both the individual and innovation, thereby enhancing organizational performance. They observed, however, that different organizational cultures affect such performance in various ways depending on the situation. It is therefore crucial to identify and nurture an appropriate organizational culture that matches a company's unique environment.

Organizational culture can also serve as a competitive advantage. Barney (1986) pioneering study proposed that organizational culture could be a sustainable competitive advantage if it is valuable, rare, inimitable, and non-substitutable.

Gordon and DiTomaso (2007) elaborates on how organizational culture influences the work environment, habits, performance, productivity, and profit. This suggests that culture shapes not only employee behavior but also the organization's overall operation and its financial outcomes.

While there is a substantial body of research supporting the impact of organizational culture on performance, challenges persist. First, varying definitions and measures of organizational culture complicate research comparison and synthesis. Second, the culture-performance relationship can be influenced by numerous factors, such as organizational structure, leadership styles, and market environments. In "Organizational Culture and Organizational Performance: A Review of Literature" (Sørensen, 2016), the consistent thinking within an organizational culture and a shared business philosophy are cited as factors that positively affect performance.

In conclusion, future research should prioritize developing more sophisticated tools for measuring organizational culture to better capture its intricacie (Cameron & Quinn, 2005). Therefore, the present study will the causal relationships between organizational culture and performance, including potential mediators and moderators, warrant further investigation (Lok & Crawford, 2004; Ouchi & &Wilkins, 1985).The evolution of the relationship between organizational culture and organizational performance has been significantly influenced by key theories, concepts, and trends, as highlighted in recent academic discourse. This perspective is further supported by Mohammed et al. (2024) , who conducted a bibliometric analysis to synthesize the extensive body of literature on organizational learning and innovation. They identified key themes and gaps that need further exploration, emphasizing the importance of organizational culture in driving performance through continuous learning and innovation.

However, the debate over the exact mechanisms and moderators of the relationship between organizational culture and performance remains unresolved. For instance, Lee (2021) contended that a strong emphasis on innovation and adaptability in organizational culture is the

primary driver of enhanced performance. Lee's study, based on a cross-sectional survey of 500 organizations, found that companies with a culture fostering creativity and risk-taking were more likely to achieve higher levels of performance. Conversely, White and Green (2020) proposed a contrasting viewpoint, suggesting that a balanced approach, combining both innovation and stability, might offer a more viable solution to improving organizational performance. Their longitudinal study of 300 firms over a five-year period revealed that organizations with a stable and structured culture were better able to implement and sustain performance-enhancing initiatives, leading to consistent performance improvements. This divergence in perspectives underscores the need for further research to reconcile these conflicting findings and identify the optimal cultural conditions for fostering performance.

2.4.2 The impact of organizational culture on organizational learning capability

Tidd et al. (2002) argue that culture is shaped by people's beliefs and behaviors, and a good match between these elements can promote and enhance innovative behavior. Conversely, if the culture contradicts these beliefs, such as limiting communication and emphasizing hierarchy, it is likely to discourage creativity and innovation. An organization with a learning-centered culture and a structure that facilitates knowledge transfer can equip its members to learn and acquire knowledge more effectively. Moreover, variables in the relationship between organizational culture and organizational performance by scholars' dates back to the 1980s. Schein (1992) summarized the contributions of organizational culture to organizational performance in two broad areas: first, it helps the organization to adapt better to the external environment; second, it helps the organization to integrate various internal resources. This author argues that organizational culture creates value for the organization by reducing costs, improving employee cohesion, and work efficiency to enhance the organization's competitiveness in the marketplace. Kotter and Heskett (1992) used empirical research to conduct a systematic study on the correlation between organizational culture and performance, and the results of the study show that organizations with a strong culture that proactively adapt to changes in both internal and external environments will perform better than others. A closer look at this finding reveals that it indirectly supports the idea that organizational culture works in conjunction with organizational learning capability on organizational performance.

Goh (1998) identifies organizational culture as a strategic component in the prototype of a learning organization. He argues that a culture of experimentation is a powerful support for activities at all organizational levels. Wang and Ahmed (2003) suggests that organizational learning capability is constrained by organizational culture, while Delong and Fahey (2000)

further reinforces the importance of organizational culture in learning, pointing out that reengineering organizational culture is central to enhancing organizational learning capability. Rousseau (2000) analyzed in more detail the mediating variables of the impact of organizational culture on organizational performance, and put forward a research model involving social culture, organizational culture, organizational climate, management processes, employees' work behaviors, attitudes, and organizational performance. He contended that organizational culture could impact employees' work attitudes, behaviors, and commitment to the organization through its influence on human resource management and organization climate, which ultimately affects organizational performance levels.

In China, research on mediating variables between organizational culture and organizational performance has also yielded some results. Deng et al. (2006) analyzed the relationship between organizational culture, structure, and performance, showing that the degree of flexibility of the organizational structure partially mediates between organizational culture and financial performance. Lee et al. (2008) studied the influence of organizational culture and learning capability on innovation performance, and concluded that supportive and innovative organizational cultures promote organizational learning capability orientation and innovation. This, in turn, encourages the organization and its members to learn actively, carry out technological and management innovation, and enhances the organization's adaptability to the environment, thus reflecting its value.

Among scholars who have examined the relationship between cultural barriers to organizational learning capability, organizational culture has been variously defined as the values, beliefs, and norms of behavior within an organization. These theoretical conceptions serve as important guides to understanding cultural identity and its effect on organizational learning capability.

Senge (1990) defined the learning organization in his classic work, suggesting that only organizations that are able to learn and adapt quickly will survive when faced with a rapidly changing environment. Garvin (1993) similarly emphasized the importance of continuous learning for organizational innovation and competitive advantage.

According to Denison and Kotter, a strong organizational culture that encourages group learning can help an organization become more efficient and gain a sustained competitive advantage (Denison, 1990; Kotter, 1995; Kotter & Heskett, 1992). Barney (2016) stated that if organizations can create and maintain a culture conducive to learning and innovation, they can develop a lasting competitive advantage. However, as Jain and Moreno (2015) show, the impact of culture on learning is not always positive. If a culture of rigidity and passivity exists within

an organization, then it will hinder the organization's learning capability. This underscores the importance of cultural change.

Alvesson and Sveningsson highlight that changing organizational culture is difficult, and targeted interventions are needed to address elements of the culture that impede learning and change. Cameron and Quinn (2005) examined a framework based on competing values for diagnosing and changing organizational culture.

Senge (1990) "five practices" offer a practical approach that emphasizes shaping a culture conducive to learning through systems thinking, personal mastery, shared vision, team learning, and organizational learning. Argote (1999) argues that the capability for organizational learning is essentially a process that results in unique knowledge and capabilities for the organization, and that culture plays a significant role in shaping that knowledge and capabilities. Roberts (1999) stated that 80% of the factors deconceptining the success of knowledge sharing in an organization are related to people, while only 20% are related to technology. Davenport (2003) also highlighted that technological characteristics and cultural elements are deconceptinants of successful knowledge transfer in organizations, indicating that organizational culture plays a crucial role in the formation and development of organizational learning capability.

Advancements in digital technologies have introduced new possibilities for addressing the challenge of maintaining high organizational learning capabilities in dynamic business environments. Jewapatarakul and Ueasangkomsate (2024) documented the application of digital organizational culture in various settings, demonstrating that organizations that adopt a culture emphasizing technology use and data-driven decision-making show higher efficiency in knowledge acquisition and application. Their study, which included a mixed-methods approach involving qualitative interviews and quantitative surveys, found that a digital culture not only enhances individual learning but also facilitates collective knowledge sharing and innovation.

Similarly, Camacho et al. (2024) explored the implications of digital culture on organizational citizenship behavior. They identified that environmental knowledge and attitudes toward energy savings play mediating roles in the relationship between organizational culture and performance. Camacho et al. (2024) emphasized that a supportive and adaptive digital culture can promote sustainable practices and enhance overall organizational performance. Their research, conducted in a global context, highlighted the importance of aligning digital culture with broader organizational goals and values.

Islam et al. (2024) revisited the impact of entrepreneurial orientation on small and medium-sized enterprises (SMEs) and found that a strong learning capability is essential for performance

enhancement. However, their research primarily focused on SMEs in emerging markets, leaving a gap in understanding how these findings apply to more mature and developed business environments. Furthermore, the study did not delve into the specific mechanisms through which organizational learning translates into performance improvements.

Maulana et al. (2024) investigated the influence of career development and organizational commitment on employee performance, highlighting the role of organizational culture in shaping these outcomes. Their study, which used a structural equation modeling approach, found that a culture promoting career growth and personal development significantly enhances employee performance. However, the research did not examine the broader organizational implications of these findings, particularly in concepts of how they impact the overall learning and performance of the organization.

2.4.3 Further discussion of the mediating role of organizational learning competencies

Several factors influence organizational performance, and a prevailing view in strategic management research suggests that it results from aligning internal resources and organizational strategy with the organization's external task environment and external resources (Dan, 2007). Organizational learning capability plays a crucial role in these aspects.

Firstly, organizational learning capability continuously updates and challenges the assumptions that underlie organizational strategies. This reduces the time lag, enabling earlier detection of changes in the competitive environment, and enhances the organization's ability to increase its speed and agility (Dess & Lumpkin, 2004). Secondly, organizational learning capability allows organizations not only to identify errors in their strategies and behavior but also to discover faults in their understanding of the norms associated with these strategies and behavior (Yang, 2005). Therefore, this section will focus on the relationship between internal resources, organizational strategies, the organization's external task environment, and external resources. It will elaborate on the theoretical frameworks and empirical research supporting the connection between organizational culture, organizational learning capability and performance.

Despite the extensive research on the relationship between organizational culture and performance, significant gaps persist in the literature. One critical area that requires further exploration is the mediating role of organizational learning competencies. Although Azizah et al. (2024) provided valuable insights into the mediating role of knowledge management and organizational commitment between organizational culture and learning capability, their study was limited by the use of a single-country sample, which restricts the generalizability of the results across different cultural contexts. Additionally, their research did not examine the long-

term effects of these cultural and learning variables on performance. Yang et al. (2024) found that a supportive and adaptive culture can enhance the positive effects of high-performance human resource practices on employee performance, but their study primarily relied on self-reported data, which may introduce biases. Future research should focus on the dynamic interaction and long-term evolution of organizational culture and learning capability in the context of digital transformation and globalization, cross-cultural differences, the impact of individual and team-level factors, and the psychological mechanisms, such as social cognitive theory and self-determination theory, to gain a more comprehensive understanding of how these variables influence performance.

(1) Theoretical extrapolation of the relationship between organizational learning capability and organizational performance

First, through organizational learning capability, we can quickly grasp information about changes in customer needs and effectively meet those needs. Organizational learning capability entails both internal and external learning (Zhou & Li, 2012), with an essential aspect of external learning being the ability to understand customer needs and their fluctuations through continuous communication with customers. The better an organization's learning capability, the more adept it will be at developing new products (Moorman & Miner, 1997), possessing more effective supply chain management capabilities (Hult, 2005), and developing an organizational competitive strategy based on innovation (Weerawardena, 2003). This strategy can better satisfy customer needs. Moreover, involving customers in the new product development process, by continuously communicating with them, enables an organization to convert technical and market information into market-demanded products and services (Lievens & Moenaert, 2000). This approach not only reduces the failure rate of new product development but also improves organizational performance. Zhao et al. (2011) of Haier Group once stated that the organization's primary role is not to sell but to buy-buying customers' feedback, then improving based on that feedback, and ultimately gaining customers' loyalty.

Secondly, through organizational learning capability, it is possible to stay informed about technological developments. A multitude of studies have shown that technological innovation plays a significant role in an organization's competitive advantage and has substantially contributed to the economic development of nations, thus promoting the advancement of human society (Fu, 1998). The process of technological innovation entails continues learning within an innovative organization (Zuo et al., 2019). By fostering inter-organizational learning-for example, through strengthened exchange and cooperation with strategic partners, research institutes, and higher education institutions-organizations can keep pace with the latest industry

technology trends amid dynamic technological evolution. This vigilance helps prevent missteps in technology strategy. For developing countries engaged in technological catch-up, organizational learning capability can avert poor decision-making in technology adoption and prevent the importation of obsolete technology or equipment. It enhances the speed of technological assimilation, ensuring they do not fall into the trap of introducing and repeatedly reintroducing outdated technologies because of the rapid pace of technological advancement (Zhao et al., 2011).

Thirdly, management innovation can be promoted through organizational learning capability. Mabey et al. (1995) believed that organizational learning capability is crucial for sustaining innovation within an organization. Glynn (1996) noted that an organization's learning capability impacts not only the initiation of organizational innovations but also their implementation. Innovation encompasses both technological and management innovations, with the latter playing a significant role (RayStata, 1989; Rui, 1994) through institutional, organizational, conceptual, and strategic innovations. Management innovation can exert a profound impact and significantly contribute to excellent performance. However, it tends to be more vulnerable to the ingrained defenses of organizational members compared to technological innovation (Mai et al., 2022). Therefore, to improve performance, it is possible to advance management concepts through double-loop learning, which involves altering the mental models of organizational members and modifying norms and systems that hinder organizational performance improvement. However, if an organization solely regards learning capability as a means to solve problems, this capability often remains underdeveloped, capable at best of making minor adjustments to the existing development model; generating innovative behaviors becomes highly challenging, making it difficult to secure and maintain a competitive advantage (Barrett & Peterson, 2000).

The role of an organization's learning capability extends beyond tracking and meeting customer needs, acquiring the latest industry technology information, and fostering management innovation. In fact, through the continuous acquisition, creation, sharing, and integration of knowledge, an organization's learning capability can significantly affect all aspects of its operations and management. The previous analysis has focused on areas that fundamentally influence organizational performance and examines the impact of learning capability in these areas. This analysis is extrapolated from theoretical logic, and requires careful verification to understand the full impact of organizational learning capability on organizational performance.

2) Relationship between organizational learning capability and organizational performance

Most research on organizational learning capability assumes that learning improves the future performance of an organization (Fiol & Lyles, 1985). Scholars in the field of strategy research, such as Hamel and Prahalad (1993), Crossan and Berdrow (2003)have combined organizational learning capability with the study of competitive advantage to argue that organizational learning capability generates unique competencies and contributes to building a competitive advantage. They suggest that the rate at which an organization learns may become the only sustainable source of its competitive advantage (Stata, 1989). The relationship between organizational performance and organizational learning capability, which is considered a primary manifestation and outcome of competitive advantage, has garnered considerable attention from scholars, resulting in numerous empirical studies being conducted on this subject.

In concepts of organizational learning capability and performance development, Wong et al. (2011) and Menguc et al. (2005) pointed out that organizational learning capability can contribute to performance development in their studies. PerezLopez et al. (2004)confirmed that organizational learning capability has a significant positive association with firm performance. However, Bierly and Daly (2017) found that excessive exploratory learning not only fails to promote organizational performance development but also acts as an inhibiting factor. Bontis et al. (2002) conducted an empirical study on the relationship between different levels of organizational learning capability (individual, team, and organizational) and two flows (feed-forward and feedback) in relation to organizational performance. They found that the different levels of organizational learning capability are positively related to organizational performance, while the mismatch between the two flows has a negative impact on organizational performance. In concepts of business performance, organizational learning capability can have a significant positive impact by reducing purchase cycle times, shortening the R and D cycle (Huber, 1991), promoting new product success, driving sales growth (Slater & Narver, 2018), and increasing market share (Baker & Sinkula, 1999). Regarding financial performance, studies by Lei et al. (2016) and Slater and Narver (2018) demonstrated the positive impact of organizational learning capability on financial performance. Lyman et al. (2018) investigated the impact of organizational learning capability on improving profitability. In the context of innovation performance, studies by Baker and Sinkula (1999) and McKee (1992) showed that organizational learning capability significantly affects product innovation. Leonard-Barton (1992) found that organizational learning capability leads to increased innovativeness and product improvements. Raymond et al. (2020) conducted an empirical study on small U.S. high-

tech organizations and found that organizational learning capability has a positive effect on both innovation performance and financial performance.There are also studies confirming the relationship between organizational learning capability and shareholder returns (SweeGoh & Richards, 1997; Ulriceh et al., 1993). Kalmuk and Acar (2015) explored the relationship between market orientation, organizational learning capability, and organizational performance, indicating that organizational learning capability plays a mediating role between market orientation and organizational performance. Li (2004) confirmed that the level of organizational learning capability has a significant positive impact on management innovation activities. Chen and Zheng (2005) conducted an empirical study on the relationship between organizational learning capability influencing factors, learning capability, and performance, proving that organizational learning capability is positively correlated with organizational performance. Li (2007) found through empirical analysis that organizational learning capability is significantly and positively related to both financial performance and innovation performance.

Based on theoretical deductions and empirical analysis, this study concludes that organizational learning capability positively impacts organizational performance.

2.4.4 Magnet® homegrown based management model

This passage explores the significance of the Magnet® cultural framework within healthcare organizations, particularly its impact on organizational resilience, productivity, and outcomes during major public health events such as pandemics. Magnet® status is a prestigious designation granted by the American Nurses Credentialing Center, signaling a healthcare organization's commitment to maintaining high standards of nursing excellence. Research by Blackwell et al. (2020) reveals that despite fewer than 10% of U.S. hospitals achieving this status, those that have exhibit enhanced healthcare stress management, reduce turnover rates, and effectively aligned cultural and strategic goals with patient outcomes, as noted by Fiske (2020). S. Moss et al. (2017) further assert that adherence to the Magnet Recognition Program® significantly influences organizational culture, which in turn affects commitment levels, retention rates, patient safety, and personnel burnout.

The concept of 'Magnet' status refers to an organization's statistical compliance with specific standards, resulting in a quantifiable score available publicly, thereby making the institution more attractive to consumers," explains Karim et al. (2018). Zhu et al. (2018)found that hospitals with Magnet® status ensure consistent staffing, high performance, and superior patient-centered care. Similarly, a link between the Magnet® cultural framework and the inclusion of traditional Chinese medical practices has been identified, highlighting the

adaptability and international applicability of the Magnet model.

The Magnet® cultural framework has been shown to positively influence not only the organizational culture but also tangible healthcare outcomes such as mortality and readmission rates, which are critical during epidemic crises such as COVID-19 (Haldane et al., 2021). Anderson discovered that the Magnet® designation fosters a nurturing work environment within healthcare settings, enhancing the culture and enabling practitioners to effectively guide organizational ethos (Anderson et al., 2018). Additionally, Graystone (2019) highlighted that the implementation of Magnet fundamentals, such as robust leadership and meaningful recognition, could improve engagement and increase resilience, significantly reducing the occurrence of compassion fatigue and burnout among healthcare workers. The accumulation of these findings strengthens the integrated systems in place within Magnet® Culture Status healthcare organizations and demonstrates the pervasive influence of the Magnet® cultural framework in improving healthcare standards.

2.4.5 Summary of the relationship between organizational culture, organizational learning capability and organizational performance

Numerous studies have been conducted by scholars to explore the relationship between organizational culture, organizational learning capability, and organizational performance. However, upon reviewing the existing literature, several shortcomings can be identified:

2.4.5.1 Lack of localized research

First, through organizational learning, we can promptly grasp the information about the changes in customer needs and effectively meet these needs. Organizational learning includes both internal and external learning (Zhou & Li, 2005), and an important aspect of external learning is to grasp customer needs and their changes through continuous communication with customers. Good organizational learning capabilities help firms better develop new products (Moorman & Miner, 1997), enhance supply chain management efficiency (Hult, 2005), and formulate innovation-based competitive strategies(Weerawardena, 2003). These advantages ultimately enable firms to better meet customer needs.Furthermore, if an organization can involve customers in the new product development process through continuous communication with customers, it can transform technical and market information into products and services required by the market (Lievens & Moenaert, 2000), which effectively reduces the failure rate of new product development and improves the performance of the organization.

Secondly, through organizational learning, it is possible to keep abreast of technological developments. A large number of studies have shown that technological innovation has played

a great role in the organization's acquisition of competitive advantage, and at the same time, it has brought about the great development of the economy of each country and promoted the progress of human society (Fu, 1998). The process of technological innovation is a process of continuous organizational learning in an innovative organization (Qiao et al., 2021). Through inter-organizational learning, for example, by strengthening exchanges and cooperation with strategic partners, as well as scientific research institutes and institutions of higher learning, organizations can keep abreast of the latest trends in industry technology in the dynamic changes in the evolution of industry technology, so as to avoid mistakes in technology strategy. For developing countries in the process of technological catch-up, through organizational learning, not only can we avoid mistakes in decision-making on the introduction of technology, reduce or eliminate the introduction of garbage technology or equipment, but also improve the speed of digestion and absorption of the introduced technology to avoid falling into the technology catch-up trap of "introduction of a backwardness and re-introduction of technology" due to accelerated speed of technological development (Dan, 2007). It can also improve the speed of digestion and absorption of the introduced technology and avoid falling into the technology catching-up trap of "introducing one backward technology and introducing it again" due to the accelerated speed of technology development.

Thirdly, management innovation can be promoted through organizational learning. Mabey et al. (1995) believe that organizational learning is a major factor in sustaining innovation in an organization. Glynn (1996) points out that an organization's ability to learn affects not only the initial stage of organizational innovation, but also the implementation stage of innovation. Innovation not only includes technological innovation but also management innovation is an important aspect of innovation (RayStata, 1989), including institutional innovation, organizational innovation, conceptual innovation, strategic innovation, and so on. Management innovation has a large and far-reaching impact and can play an important role in the acquisition of good performance. so, it is possible to improve management concepts through double-loop organizational learning, i.e., to improve the mental models of organizational members, and to make changes to the existing norms and systems that impede the enhancement of organizational performance to improve the performance of the organization. However, suppose an organization views organizational learning only as solving organizational problems, in that case, the organizational learning capability of the organization is often not well developed, and can only fine-tune the existing development model, and it is very difficult to generate innovative behaviors, and it is difficult to gain and maintain competitive advantage (Barrett & Peterson, 2000).

There is a research gap in understanding the impact of organizational culture, learning, and performance in the Chinese context, which calls for cultural sensitivity research. This research deficit underscores the importance of developing assessment tools that are attuned to and aligned with the distinctive Chinese cultural attributes, such as the principle of collectivism. These assessment tools have the potential to facilitate a more nuanced and profound understanding of the particularized dynamics of businesses operating within China. Additionally, engaging in cross-cultural research can significantly broaden our knowledge and reveal the pivotal role that deep-seated cultural values play in molding and influencing the efficacy and success of international organizations in a globalized economy.

Moreover, the influence of leadership in fostering an environment that is conducive to learning stands as a vital aspect. Such an environment could profoundly alter the relationship and interaction between an organization's culture and its learning capabilities, which, in turn, has a direct and considerable effect on overall performance metrics. Furthermore, the incorporation of advanced technological solutions into organizational learning frameworks and operational systems merits thorough investigation. It is of significance to explore and ascertain the effects that these technological integrations may have on the strategic development and advancement of organizations.

Lastly, employing research methods that are not only culturally relevant but also seamlessly integrated into the assessment process holds the promise of yielding a much deeper and more intricate understanding of the multifaceted challenges and layers that are inherent in navigating organizational culture, performance, and learning within the complex tapestry of the Chinese market and beyond. Developing and employing such methodological approaches is essential for capturing the full complexity of these interrelationships and for advancing our academic and practical insights into the critical factors that drive organizational success in a cross-cultural context.

2.4.5.2 Inconsistency of results

Most research on organizational learning assumes that learning improves the future performance of an organization (Fiol & Lyles, 1985).Scholars in the field of strategy research, such as Hamel and Prahalad (1993), Crossan and Berdrow (2003), have combined organizational learning with the study of competitive advantage to argue that organizational learning generates unique competencies and contributes to building competitive advantage. They suggest that the rate at which an organization learns may become the only sustainable source of its competitive advantage (Stata, 1989). The relationship between organizational

performance and organizational learning, as the main manifestation and outcome of competitive advantage, has received significant attention from scholars, and many empirical studies have been conducted on this relationship.

In concepts of overall organizational performance, PerezLopez et al. (2004) confirmed that organizational learning has a significant positive effect on firm performance. Bontis et al. (2002) conducted an empirical study on the relationship between different levels of organizational learning (individual, team, and organizational) and two flows (feed-forward and feedback) in relation to organizational performance. They found that the different levels of organizational learning are positively related to organizational performance, while the mismatch between the two flows has a negative impact on organizational performance.There are also studies confirming the relationship between organizational learning and shareholder returns (SweeGoh & Richards, 1997; Ulriceh et al., 1993).

In domestic research, Xie (2005) conducted an empirical study on the relationship between market orientation, organizational learning, and organizational performance, indicating that organizational learning plays a mediating role between market orientation and organizational performance. Chen and Zheng (2005) conducted an empirical study on the relationship between organizational learning influencing factors, learning capability, and performance, proving that organizational learning capability is positively correlated with organizational performance. Li (2004) confirmed that the level of organizational learning has a significant positive impact on management innovation activities. Li found through empirical analysis that organizational learning capability is significantly and positively related to both financial performance and innovation performance.In the realm of hospital research, studies investigating the relationships between organizational culture, learning capability, and performance have yielded inconsistent results. This discrepancy may stem, in part, from the lack of a holistic systems approach that considers the interdependencies of these factors. Individual studies often examine isolated variables without acknowledgment of their convergence, leading to fragmented insights that fail to account for the complexity of hospital systems. The inconsistency of results reflects this fragmented approach and suggests the need for integrated research models that consider how different components of a hospital's ecosystem act in concert. To address these inconsistencies, future studies should incorporate comprehensive frameworks that enable the evaluation of the dynamic interplay between hospital culture, learning processes, and performance metrics holistically, rather than in isolation, to develop a more consistent, accurate, and actionable understanding of what drives effective hospital operations. These future investigative initiatives must prioritize a systems-thinking perspective, recognizing that the various elements of hospital

management and operations are not standalone silos, but instead, they are intricately interconnected and influence each other in a multitude of ways. This holistic approach can pave the way for a new paradigm wherein researchers can derive more meaningful conclusions that have the potential to vastly improve hospital management practices and patient outcomes. Moreover, embracing this comprehensive methodology across the spectrum of healthcare research will facilitate a systemic change in the way hospital operations are understood, ensuring that the interconnected variables under examination are analyzed in alignment with one another, thereby providing a more robust, nuanced, and multifaceted understanding of the hospital environment.

2.4.5.3 Lack of empirical research in obstetrics and gynecology

Organizational culture has a significant impact on healthcare operations and productivity. Prodromou and Papageorgiou (2021) acknowledge its role in shaping operational effectiveness and therefore productivity. Leitão note that factors such as work-life quality, emotions, and performance are critical deconceptinants of productivity (Leitão et al., 2019). Addressing healthcare behaviors like treatment protocols and communication enhances productivity, while understanding the social dynamics enhances care models (Russell & Davies, 2018). The quality of care is directly influenced by organizational culture, with adaptive cultures beneficial in improving care standards (Tate et al., 2023). Cultural characteristics in healthcare organizations are pivotal for driving performance and improving financial outcomes (Calciolari et al., 2017).

Challenges like declining birth rates and pandemics call for an evolved healthcare organizational culture, as suggested by Chen and Chen (2018). These transformations affect responsiveness and facilitate strategic advancements (Chen & Chen, 2018). Hughes and Rushton emphasize the influence of culture, ethical codes, and legal compliance on healthcare practices (Hughes & Rushton, 2022). They found that culture and resilience impact employee well-being and contribute to improved productivity and effectiveness. The COVID-19 pandemic highlighted the importance of ethical training and organizational culture in healthcare, enhancing moral norm (Hughes & Rushton, 2022). The crisis revealed challenges such as inadequate protective gear, workforce shortages, and increased physical and emotional stress (Hughes & Rushton, 2022). It also emphasized the need for self-care mandates for healthcare professionals aligned with the ethical framework of responsible stewardship (Ahmed et al., 2021).

Responsible stewardship and "green cultures" link organizational culture to performance outcomes, directly affecting environmental performance in healthcare settings (Ahmed et al.,

2021). Analyzing practices, behaviors, and values during and after the pandemic provides insights for sustaining effective organizational culture.

2.5 Summary

This chapter provides a solid theoretical foundation for the study of the relationships between organizational culture, OLC, and performance in OB-GYN departments through an extensive literature review. We begin by defining the core concepts of OB-GYN departments, organizational culture, OLC, and organizational performance, and explore how these concepts interrelate. The literature indicates that organizational culture significantly influences the quality and efficiency of healthcare services, while OLC is considered a key mediating variable linking organizational culture to performance. Furthermore, the multi-dimensional nature of organizational performance underscores the need to consider a wide range of factors when assessing the success of healthcare institutions. Through an analysis of existing literature, we identified gaps in the research, particularly in the context of healthcare in China, where empirical studies on how OB-GYN organizational culture and learning capacity impact performance are relatively scarce. This study aims to fill these gaps by providing a deeper understanding through empirical analysis. Additionally, this chapter discusses the reliability and validity of the measurement scales, providing a rationale for the selection and use of research instruments. We employed the Denison (1990) Organizational Culture Questionnaire (OCQ) to measure organizational culture, a scale developed by Jerez-Gómez et al. (2005) to assess OLC, and a modified version of Kaplan and Norton (1992)'s Balanced Scorecard to evaluate organizational performance. In summary, Chapter Two lays the groundwork for the design of the research methods and the data analysis approach. The subsequent chapters will detail the research design, data collection, and analysis processes.

Chapter 3: Theoretical Models and Hypotheses

3.1 Research framework and theoretical model

3.1.1 Theoretical framework

Based on literature review provided, it seems that the theoretical framework of the study focuses on the impact of organizational culture on organizational performance, as well as the factors influencing team learning activities in healthcare teams. The framework integrates previous research findings, particularly emphasizing the positive relationship between organizational culture and performance, as well as the various characteristics inherent in organizational culture that impact performance indicators, as figure 3.1.

Figure 3.1 Theoretical Basis

The study draws on the work of scholars such as Robbins (1986), Denison (1990), Quinn and Cameron (1983), and Schein (1984), who have conducted research highlighting the importance of organizational culture in achieving and maintaining good performance. Denison's model of four dimensions: participative characteristic of organizational culture, congruent characteristic of organizational culture, adaptive characteristic of organizational culture, mission-oriented characteristic of organizational culture - and their connection to specific performance indicators within organizations forms a significant part of the theoretical framework.

Furthermore, the study extends its focus to healthcare teams, highlighting factors such as previous nursing education, team learning experiences, leadership facilitation, psychological safety, and external focus as influential in team learning activities. Additionally, the study notes the impact of contextual factors, including the gender ratio within the team and opportunities for learning such as attending seminars and reading literature.

The framework presented in Figure 3.1 likely visually represents the conceptual connections between organizational culture, performance indicators, and team learning activities, providing a comprehensive overview of the study's theoretical underpinnings.

3.2 Research hypotheses and variable definitions

3.2.1 Formulation of research hypotheses

3.2.1.1 Organizational culture and organizational performance

Organizational culture, organizational learning capability, and organizational performance are interconnected variables that play significant roles in an organization's success. (Denison, 1990). Organizational culture refers to the shared values, beliefs, and behaviors that shape the work environment. It can directly influence both organizational learning capability and organizational performance. For example, a culture that encourages open communication, experimentation, and continuous learning can foster a learning-oriented environment, leading to improved performance (Schein, 2007). Organizational learning capability, acting as a mediating variable, refers to an organization's ability to acquire, share, interpret, and apply knowledge. It moderates and transmits the effects of organizational culture on organizational performance. A strong learning capability enables organizations to adapt to changing environments and improve their performance over time (Robbins, 1986).

Organizational performance is the dependent variable in this study, meaning it is influenced by both organizational culture and organizational learning capability. High-performing organizations often have a strong culture that supports learning and encourages innovation, which, in turn, positively affects performance outcomes such as productivity, profitability, and customer satisfaction (Zhang & Yuan, 2019).

However, it is important to recognize that the relationships between these variables can be influenced by contextual factors unique to each organization. Therefore, empirical research and data collection from different organizations are necessary to understand and validate these relationships and to account for the complexities involved in studying organizational dynamics. In the Chinese context, the study, through the analysis of 852 samples from 103 enterprises, found that the core four-dimensional structure of the Denison Model (participation, consistency, adaptability, mission) remains stable. Only the weights of some dimensions have been adjusted due to cultural differences, but no qualitative changes have occurred (Ren, 2017).

The results of the study showed that the four organizational culture dimensions were

represented in each of the organization studied. On the basis of a detailed study of theoretical models of organizational culture, this thesis will investigate the relationship between organizational culture and organizational performance by means of Denison's model of organizational culture dimensions. As a result, this study proposes the first research hypothesis:

Hypothesis 1 (H1): Organizational Culture has a significant positive relationship with Organizational Performance.

3.2.1.2 Organizational culture and organizational learning capability

There is a significant correlation between organizational culture and organizational learning capability, according to current research on the relationship between organizational culture and organizational learning capability. An important means of cultivating and maintaining an organization's competitive advantage is the implementation of organizational learning capability, and in the process of cultivating and promoting organizational learning capability, it is essential to have the recognition of employees, the participation of managers, and the coordination of departments, and all these requirements are obviously affected by organizational culture.

Wang and Ahmed (2003) points out that organizational culture can limit the cultivation and development of organizational learning capability, and It can further be argued that different qualities of organizational culture have different mechanisms of influence on the formation and development of organizational learning capability. According to the results of scholars' research, four different qualities of organizational culture can make organizations understand and interpret the changes of internal and external business environment from different perspectives, and then respond differently to their own situations, which in turn further deconceptine the organization's cognition and sensitivity to tacit knowledge, and finally affect the organization's ability to acquire tacit knowledge to form and develop organizational learning capability. The different qualities of organizational culture make organizations pay different attention to organizational stability and flexibility, thus deconceptining the formation of different knowledge transfer and integration modes in the organization, and ultimately influencing the formation and development of organizational learning capability.

Therefore, if an organization wants to cultivate and improve its organizational learning capability, maintain and enhance its own competitive advantage so that it can develop and grow stably in the long run, it must first sort out the important influence of different qualities of organizational culture on the formation and development of organizational learning capability.

Based on this, the second research hypothesis is proposed in this study:

H2: Organizational culture has a significant positive relationship with organizational learning capability.

3.2.1.3 Organizational learning capability and organizational performance

Organizational learning capability refers to an organization's ability to continuously learn and adapt in order to improve performance and competitiveness. Increasingly, theoretical analyses and empirical studies by scholars have demonstrated the crucial importance of implementing organizational learning capability in a highly competitive market environment for enhancing organizational performance and facilitating long-concept development. Krogh and Roos (1996) emphasized that an organization's overall economic, strategic, and innovation performance relies on its ability to utilize accumulated knowledge and transform it into value-creating efforts. Wiig (1993) was an early proponent of the indirect impact of organizational learning capability on organizational performance, suggesting that organizational learning capability activities can generate intermediate benefits, including internal operational improvements, product/service enhancements, and external customer/market advantages, ultimately leading to final benefits. Numerous scholars have conducted empirical research supporting this claim. Using problem-solving as a tool, Abell and Nisar (2007) concluded that when knowledge is used to address problems, identify opportunities, and make decisions, it can generate economic value.

Schulz and Jobe (2001) empirical research show that using organizational learning capability to measure performance and choosing knowledge coding strategies wisely boosts organizational performance. This enables effective information sharing and application, enhancing performance and fully capitalizing on organizational human capital. Based on empirical research, Gloet (2004.) concluded that information technology-based organizational learning capability practices exhibit a significant positive correlation with human resource management and innovation performance. Darroch (2005) empirical research demonstrated that organizations equipped with organizational learning capability can more effectively utilize resources, leading to greater innovation and improved performance. Similarly, Schulz and Jobe (2001) found, through empirical research, that the complementary nature of product organizational learning capability, customer organizational learning capability, and managerial organizational learning capability has a positive impact on firm financial performance.

Marqués and Simon (2006) further asserted that the degree of organizational learning capability implementation is positively correlated with firm performance. Other benefits include improved stock prices, product or service quality, intellectual capital, and idea exchange, as well as increased innovation, learning, and adaptability. These benefits encompass returns

on investment in organizational learning capability, market coverage and entry, employee empowerment, collaboration, and business improvement. Based on the aforementioned research, this study presents the following hypothesis:

H3: Organizational learning capability has a significant positive relationship with organizational performance.

3.2.1.4 The Mediating Role of Organizational learning capability between Organizational Culture and Organizational Performance

Scholars have achieved fruitful results on the study of organizational culture on organizational performance, and there have been a number of studies on the mediating variables between the two, but no scholars have studied the mediating role of organizational learning capability between the two.

The important role of organizational learning capability on organizational performance has been generally recognized in theory and practice, while organizational learning capability is influenced and constrained by organizational culture. Therefore, this thesis will start from this perspective to explore the mediating role of organizational learning capability between organizational culture and organizational performance.

Based on this, the last research hypothesis is formulated:

H4: organizational learning capability mediates the relationship between organizational culture and organizational performance.

3.2.2 Theoretical models

The theoretical model for this study is presented in Figure 3.2.

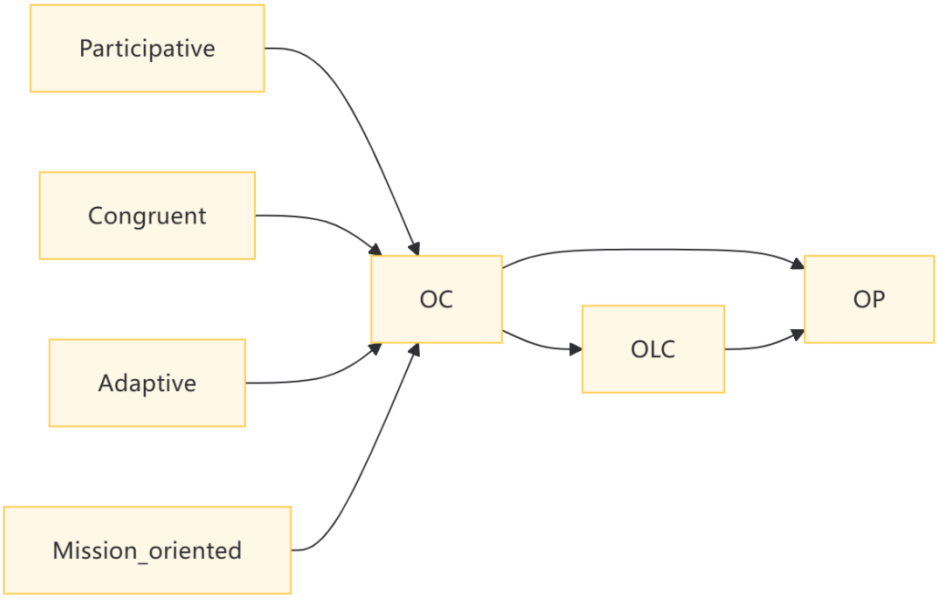

Figure 3.2 Theoretical Model

3.2.3 Refinement of the theoretical model

Based on the framework of the underlying research model outlined earlier, this study proposes research hypotheses regarding the relationship between organizational culture and organizational learning capability and the link between organizational learning capability and organizational performance. In addition, this study will examine how organizational culture and organizational learning capability jointly affect organizational performance. In order to integrate these theoretical concepts into a coherent structure for empirical assessment, this dissertation has carefully designed the research model and summarized it into the visual depiction shown in Figure 3.2.

In order to conduct a comprehensive analysis, this study is not limited to the main variables of interest. Considering that these variables may have a significant impact on the mediations between organizational culture, organizational learning capability and organizational performance, especially in the specific context of obstetrics and gynecology in healthcare facilities, a series of control variables were also included in this study. The control variables considered are as follows

1. Hospital size. Larger hospitals present a diversity and integration of organizational cultures in their own right, due to the large number of sources of trainees and interns. This is also examined in concepts of sample coverage.

2. Type of Hospital: There are various types of hospitals, public, private, military or

charitable, which may exhibit different levels of organizational culture and learning capability, which in turn may have different impacts on performance. This is also an examination of the sample coverage.

3. Employee quality: Employee quality is a key factor that influences organizational learning and adaptability, which ultimately affects the performance of OB/GYN. Employee quality includes aspects such as educational background, professional training, experience and skill sets.

4. Length of hospital's existence: The length of time a hospital has been in existence, especially one that is relatively new (no more than one year), is critical to the formation and maturation of an organizational learning culture. Newly established hospitals may not have developed sufficient organizational learning capability.

Considering these control variables as key influences, this study aims to provide an exhaustive assessment of how organizational culture and organizational learning capabilities contribute to performance in obstetrics and gynecology. The analyses and insights derived from this study may provide valuable information to hospital administrators and policymakers to help them improve institutional effectiveness in the healthcare industry.

3.3 Summary

This study explores the impact of organizational culture on organizational performance in healthcare settings, with a particular focus on obstetrics and gynecology departments. The research framework integrates literature on organizational culture, performance, and team learning activities, drawing on models by Robbins, Denison, Quinn and Cameron, and Schein. The study proposes a theoretical model that examines the relationship between organizational culture and performance, mediated by organizational learning capability.

The research framework emphasizes the positive relationship between organizational culture and performance, highlighting four dimensions of organizational culture: participative, congruent, adaptive, and mission-oriented. These dimensions are linked to specific performance indicators. The framework also considers factors influencing team learning activities in healthcare teams, such as nursing education, leadership facilitation, psychological safety, and external focus.

The theoretical model visually represents the conceptual connections between organizational culture, performance indicators, and team learning activities. It integrates the

work of scholars like Denison, who identified four dimensions of organizational culture and their connection to performance.

The study formulates several hypotheses: Organizational culture has a significant positive relationship with organizational performance, with sub-hypotheses for each cultural dimension. Organizational culture has a significant positive relationship with organizational learning capability, with sub-hypotheses for each cultural dimension. Organizational learning capability has a significant positive relationship with organizational performance. Organizational learning capability mediates the relationship between organizational culture and organizational performance, with sub-hypotheses for each cultural dimension.

The study includes control variables such as hospital size, type of hospital, employee quality, and the length of the hospital's existence to account for their potential impact on the relationships between organizational culture, learning capability, and performance.

This study aims to provide a comprehensive assessment of how organizational culture and learning capabilities contribute to performance in obstetrics and gynecology. The findings may offer valuable insights to hospital administrators and policymakers to enhance institutional effectiveness in the healthcare industry.

Chapter 4: Methodology

This study investigates the relationship between organizational culture, organizational learning capability, and performance within the Department of Obstetrics and Gynecology in Guangdong Province. This chapter outlines the research design and methodology.

The development of hypotheses and the research framework was grounded in a comprehensive review of existing literature. The proposed model was subsequently tested through an empirical survey employing standardized questionnaires distributed to healthcare professionals at the institution.

4.1 Introduction of Pilot Survey

To ensure the representativeness and reliability of the research results, this preliminary experiment adopted a stratified and convenience sampling method, aiming to select 100 medical personnel from three hospitals in Guangdong Province. Ultimately, 94 participants responded. These three hospitals are located in a large city, a medium-sized city, and a county, respectively, and all were engaged in the Obstetrics and Gynecology Humanized Delivery Training Program, which is based on the Magnet® management paradigm.

Questionnaires, including the Organizational Culture Evaluation Scale, the Organizational Learning Capability Evaluation Scale, and the Organizational Performance Evaluation Scale, were provided and explained throughout the Obstetrics and Gynecology training program. The following information pertains to the three example hospitals, sourced from their online self-representations:

Hospital 1: This national children's regional medical center in Guangzhou is the result of the merger of several renowned medical institutions focused on women's and children's health. Known for its comprehensive services, the center ranks among the top in the region and plays a crucial role in medical care, research, education, and public health emergency response. The center operates five hospitals with 2,400 beds and has expanded with new facilities in Guangdong and Guangxi to further enhance its medical capability and service scope. Recently, a collaborative project was launched in Liuzhou. With multiple specialties and an estimated 4.3 million outpatient and emergency visits in 2022, the center is renowned for advanced diagnostics and treatments in pediatric interventions, congenital heart disease surgery for

infants, rare diseases in children, hematopoietic stem cell transplantation, genetic prenatal diagnostics, and fetal medicine. Its highly acclaimed research platforms include a multi-million-dollar bio-automated library, a robust pediatric and perinatal research department, and extensive cohort studies that maintain global and national leadership in pediatric healthcare research. The center's education department is affiliated with Guangzhou Medical University, responsible for training top pediatric talent and recognized nationally for pediatric medical education. This hospital, a public specialized hospital, employs over 200 obstetricians and gynecologists, excluding trainees and interns.

Hospital 2: Located in Foshan, this comprehensive public hospital is a regional center affiliated with a major university. It integrates medical care, prevention, health care, rehabilitation, and education to support the region's five-year plan. The hospital covers 130 acres with 190,000 square meters of floor space, accommodating 1,500 beds and an equal number of parking spaces. The nearly 1,100-strong professional staff includes eight doctoral and five master's degree holders, and the recent expansion has brought in leading international specialists and leaders in their disciplines. The hospital has invested 200 million dollars in advanced MRI and CT scanners and other state-of-the-art equipment, emphasizing a comprehensive medical approach supported by specialized centers. A talent plan is in place to attract medical leaders and young talents with significant potential. The hospital's strategic partnership with a renowned medical university reinforces its commitment to serving, teaching, researching, and managing effectively for the benefit of the 3 million people living in the border region between Guangzhou and Foshan. This collaboration enhances patient care and fosters innovation and academic excellence in medical education and research. Originally a township health center, the hospital was handed over to the medical university to be operated as an affiliated hospital. The staff structure has evolved to include people from various regions and even other countries. The hospital, which serves as a township health center and part of a larger general hospital, employs 34 obstetricians and gynecologists, reflecting a strong commitment to maternal and reproductive health. The focus on specialized training for these professionals underscores the hospital's dedication to improving women's health and overall community well-being.

Hospital 3: This high-end maternity hospital in the district was founded with equity participation by a real estate company and can only receive non-critical, high-risk deliveries. The hospital has strong financial and technological resources and meets JCI international medical standards. It specializes in obstetrics, gynecology, reproductive health, pediatrics, child care, postpartum care, and traditional Chinese medicine and health care. The staff is recruited

from all over the country and even from overseas. The hospital is committed to providing first-class maternal and child healthcare services with integrity, safety, professionalism, and care. Its mission is to positively impact the community by focusing on patient needs and adhering to a service philosophy that emphasizes ethics, safety, professionalism, and caring. This facility, a private specialist hospital, employs 10 obstetricians and gynecologists.

Data transformation included the calculation of composite scores for organizational culture, organizational learning capability, and organizational performance. Equal weight averaging was used to assign scores to each questionnaire.

4.2 Sample, and selection procedure of main study

The sample selection process employed a stratified sampling method, categorizing hospitals into three tiers based on GDP and the number of tertiary hospitals: the Core Tier (Guangzhou and Shenzhen), the Intermediate Tier (Zhuhai, Foshan, Dongguan, Zhongshan, and Jiangmen), and the Basic Tier (Zhanjiang, Maoming, and 7 other cities). For the pilot study, one hospital from each tier was randomly selected, ensuring representation of different resource distribution levels. Questionnaires were distributed to employees in obstetrics and gynecology departments based on a predefined quota (2 doctors, 2 nurses, and 1 administrator per hospital in the Core Tier), ensuring comprehensive coverage of different roles and regions. The pilot study aims to validate the questionnaire's reliability and validity, assess the feasibility of the data collection process, and preliminarily explore the relationship between organizational culture (OC) and performance (OP). The target sample size was set at 100 individuals, with approximately 33-34 participants from each of the three selected hospitals. The actual completion rate was 94%, yielding 94 valid responses. The sample size was deemed sufficient for the pilot study's exploratory purpose, as hypothesis testing was not the primary goal (Cohen, 1988). The representative of the stratified sampling was verified, with the selected hospitals' bed capacities aligning with the stratification criteria. However, the sample size in the district/county layer was noted to be small and should be expanded in the main study. The mechanism of missing data was examined using Little's MCAR test, which indicated that the data were missing completely at random (Little, 1988). Missing data, accounting for less than 5% of the total responses, were handled using the MICE algorithm with 10 iterations, ensuring minimal bias in the imputed data set.

The reliability and validity of the measurement tools were rechecked, with the organizational culture scale showing high reliability and validity (Cronbach's $\alpha > 0.9$). The

learning ability scale's average variance extracted (AVE) was close to the threshold, suggesting a need for optimizing item wording. The assumptions of the model were verified, with normality supported by Shapiro-Wilk tests (Shapiro & Wilk, 1965) and multicollinearity not being an issue as indicated by variance inflation factors (VIF) and tolerance values. The stability of path coefficients was confirmed through Bootstrap analysis, with narrow confidence intervals that did not cross zero, indicating reliable results.

The small sample size, particularly in the district/county layer, limited the generalization of the findings. The pilot study's goal was to validate the process and optimize tools, not to draw conclusive results. The sample size will be expanded to 507 in the main study. Feedback from the pilot study will be used to refine questionnaire items to enhance reliability and validity. The questionnaire completion time will be shortened, and electronic filling instructions will be added to improve the data collection process.

Consistency checks showed no significant differences in the distribution of key variables between the pilot and formal studies, indicating that the pilot study provided a reliable methodological foundation for the formal research.

In the main study, 30 hospitals were randomly selected from each region, totaling 90 hospitals. To ensure the quality of data recall, departments willing to participate were provided with a course on natural childbirth to support our study. This number was mainly due to the fact that in most basic hospitals, there were only 3 obstetrics and gynecology staff. However, some of the larger maternity units have 200-300 staff. Hospitals are stratified into three tiers based on the distribution characteristics of medical resources in Guangdong Province: the Core Tier, which includes Guangzhou and Shenzhen (GDP > 2 trillion RMB, ⩾15 tertiary hospitals); the Intermediate Tier, which includes Zhuhai, Foshan, Dongguan, Zhongshan, and Jiangmen (GDP 0.5-1 trillion RMB, 3-5 tertiary hospitals); and the Basic Tier, which includes Zhanjiang, Maoming, and 7 other cities (GDP < 0.3 trillion RMB, no tertiary hospitals). The sampling frame is constructed using the database of Medical Institution Practice Licenses in Guangdong Province, screening obstetrics and gynecology departments with an annual patient load of ⩾ 100 pregnant women and operational for at least 2 years.

In the sampling steps, the Core Tier involves 82 hospitals, with a target sample size of 30 hospitals, using simple random sampling (R language generated random numbers). The Intermediate Tier includes 68 hospitals, with a target sample size of 30 hospitals, stratified by bed capacity (＞500 beds and 200-500 beds, proportional sampling). The Basic Tier involves 217 hospitals, with a target sample size of 30 hospitals, using multi-stage sampling (first

randomly select 7 cities, then sample county-level hospitals). The total target sample size is 90 hospitals (30 from the Core Tier, 30 from the Intermediate Tier, 30 from the Basic Tier), with each hospital completing 6 questionnaires, resulting in a total sample size of 540. An additional 5 hospitals are sampled from each tier (15 in total) as backup samples to address invalid data (e.g., incomplete questionnaires, hospital refusals). If invalid samples occur, they are replaced by backup hospitals from the same tier, following the priority order: Core Tier → Intermediate Tier → Basic Tier, to ensure a final effective sample size of 90 hospitals.

For the targeted invitation implementation, the participants are screened based on the following qualifications: doctors must be associate chief physicians or above with ⩾8 years of work experience and ⩾3 years of team leadership; nurses must be associate chief nurses or above with ⩾10 years of work experience and ⩾5 years as head nurses; administrative managers must be deputy department heads or above with ⩾5 years of work experience and ⩾2 years in charge of specific business areas. The exclusion criteria include more than 3 months of sick leave or maternity leave in the past year, or involvement in conflicting research projects. Quota control is as follows: the Core Tier has 2 doctors, 2 nurses, and 1 administrator, totaling 5 people; the Intermediate Tier has 2 doctors, 1 nurse, and 0 administrators, totaling 3 people; the Basic Tier has 1 doctor and 1 nurse, totaling 2 people. The invitation process begins with contacting the sampled hospitals to obtain support, aiming for a signing rate of ⩾95%. Next, hospitals submit lists of eligible personnel, ensuring 100% qualification. Electronic invitations and phone calls are then sent, including research explanations and confidentiality agreements, aiming for an open rate of >85%. Questionnaires are distributed during government-funded annual training sessions, with each hospital completing 6 questionnaires (total sample size of 540).

Data quality control measures include activating backup samples if original samples are invalid, with replacements prioritized from the same tier. Continuous variables are handled using multiple imputation (MICE algorithm, 10 iterations) supplemented by logical verification (e.g., matching “annual patient load” with “bed capacity”). Categorical variables are managed through mode imputation followed by manual review (e.g., consistency check between “title” and “years of experience”). Measurement bias is controlled by using standardized scales (Cronbach’s $\alpha > 0.9$) and pre-survey to correct ambiguous statements (e.g., operational definitions of “organizational adaptability”). Selection bias is minimized by comparing the characteristics of participating and non-participating hospitals (bed capacity,

hospital level, annual delivery volume), with a chi-square test showing no significant difference ($p = 0.22$). Statistical power is verified using G*Power 3.1, with a sample size of 540, Cohen's $f^2 = 0.15$, $\alpha = 0.05$, and Power = 0.82, meeting the research requirements (Faul et al., 2007). The sample representativeness is confirmed by the Hosmer-Lemeshow test, showing that the sampling willingness matches the overall characteristics ($p > 0.05$) (Faul et al., 2007; Shewhart & Wilks, 2005).

Ethical and data security measures include dynamic informed consent. Initial consent is obtained through the signing of a paper-based Research Participation Confirmation Form, clearly stating the data usage and anonymization measures. Data is stored in encrypted shards on Huawei Government Cloud (third-level protection) and local servers, with dual backup to prevent loss. Data transmission uses the SM4 encryption algorithm and is restricted to an IP whitelist. Data is retained for 5 years after the study concludes.

4.3 Research Instruments

This study employs a combination of qualitative and quantitative research methods to explore the relationship between organizational culture, organizational learning capability, and organizational performance.

The literature review method enabled a thorough understanding of the components, levels, and metrics of organizational culture, as well as its connections with organizational learning capability and performance. This foundational knowledge guided the subsequent construction of a research model and the formulation of hypotheses.

The distribution of the questionnaires was completed within the stipulated time. Since the meeting required the participation of department heads and subject leaders, all participants were of inconceptediate level or above and had worked in the hospital for at least 5 years. The 2019 China Health Statistical Yearbook released by the National Health and Planning Commission showed that the ratio of male and female physicians in obstetrics and gynecology is seriously unbalanced, with male practicing physicians accounting for only 15.3% of the country's obstetrics and gynecology health technicians, and women accounting for 84.7% (National Bureau of Statistics, 2020). Considering that the meeting had a list of participants, the over-exposure of personal information to the questionnaire was avoided in order to ensure the validity of the respondents' responses. Environmental uncertainty and demographics like tenure and gender, found not significantly impacting performance, are excluded (Guillaume et al., 2017). Other than collecting participants' organizational background such as position, employee

count, establishment, and capital form, the questionnaire used in this study includes three scales covering organizational culture, learning capability, and performance (Annex A).

4.3.1 Organizational Culture Scale

The Organizational Culture Measurement Scale (OCMS), this study applies a modified OCQ scale by Denison, aligning it with Kabigting (2019) findings on its application and the current research objectives. Thus, this study applies a modified OCQ scale by Denison, aligning it with Zhang and Zhang (2010) findings on its Chinese application and the current research objectives. The adapted Organizational Culture Measurement Scale (OCMS) in this study consists of 34 items across four dimensions: participative characteristic of organizational culture, congruent characteristic of organizational culture, adaptive characteristic of organizational culture, and mission-oriented characteristic of organizational culture. Each item is scored using a 5-point Likert scale that captures levels of agreement. A qualitative study complements these items, focusing on the same dimensions to enhance cultural understanding in healthcare contexts.

4.3.2 Organizational learning capability Scale

The Organizational learning capability scale, after Jerez, evaluates the organization's knowledge processes (Jerez-Gómez et al., 2005). The scale utilizes a 5-point Likert scoring system to measure agreement levels with particular statements. Scores range from 1 to 5, corresponding to responses from "strongly disagree" to "strongly agree," respectively. Higher scores on this scale indicate a greater level of endorsement of the learning capabilities described in the statement. This measurement allows the study to quantify the extent of organizational learning capability and relate it to organizational performance and culture.

4.3.3 Organizational performance scale

The modified Organizational Performance Scale, based on the balanced scorecard by Kaplan and Norton (1992) , employs self-assessment methods and accounts for the sensitivities of the healthcare sector. While Bird and Beechler (1995) note possible inaccuracies due to bias in self-assessments, they are still useful when direct objective measurements are infeasible, as with many health sector metrics focusing on subjective assessments in line with healthcare policies prioritizing quality over cost-efficiency.

A 5-point Likert scale was used in this research, with responses ranging from 1 (strongly disagree) to 5 (strongly agree) for performance statements. Higher scores indicate better

perceived performance, while lower scores indicate the opposite. Recognizing the potential for inherent subjectivity and bias in self-assessments, the study may incorporate validation strategies such as cross-referencing with objective data or gathering data from multiple sources. This approach ensures a more comprehensive understanding and interpretation of the results.

4.3.4 Related attributes/scales definition

The Organizational Culture (OC) scale, consisting of 34 items, aims to assess the perceived cultural state within the organization. Furthermore, the Organizational Culture (OC) measurement scale encompasses four dimensions:

Participative Characteristic (PC_OC): Items 1 through 9 of the 34-item Organizational Culture Scale assess the participative characteristic of organizational culture.

Congruent Characteristic (CC_OC): Items 10 through 18 are designed to evaluate the congruent characteristic of organizational culture.

Adaptive Characteristic (AC_OC): Items 19 through 25 measure the adaptive characteristic of organizational culture

Mission-oriented Characteristic (MC_OC).; Items 26 through 34 are aimed at assessing mission-oriented characteristics of organizational culture.

The Organizational Learning Capability (OLC) scale, encompassing 14 questions, is intended to measure the organization's perceived capability for learning.

The Organizational Performance (OP) scale, containing 6 items, evaluates the organization's perceived performance.

Each item on these scales above employs a 5-point Likert scoring system to ascertain levels of agreement with specific statements, with scores ranging from 1 ("strongly disagree") to 5 ("strongly agree").

To thoroughly assess these numerical scale/attributes for each participant, a summation method is utilized, aggregating relevant items for each attribute (e.g. OC, PC_OC, CC_OC, AC_OC, MC_OC, OLC and OP) per participant.

4.3.5 Qualitative research methods

4.3.5 Research methodology

1. Core empirical methodology

Questionnaire method

Data collection: scale standardization tool was used to collect samples and spss for

descriptive statistics. It covers different management levels (top/middle/basic), sizes (50-1000+ employees), years of establishment (<10 years to >31 years) and capital structure (state-owned/private/others) of the hospitals.

Sample stratification: stratified sampling based on hospital size, time of establishment, and capital structure to ensure sample heterogeneity.

Quality control: set the questionnaire completion time threshold, exclude invalid data, and guarantee the validity of data.

2. Quantitative analysis techniques

Descriptive statistics: presenting the characteristics of the sample distribution (position, size, time of establishment, capital structure) through frequency counts and percentages. Calculate the mean, standard deviation and Pearson's correlation coefficient matrix for the key variables (organizational culture, organizational learning ability, organizational performance).

Reliability analysis: Cronbach's Alpha coefficient was used to assess the internal consistency of the scale, covering the four dimensions of organizational culture (participatory, congruent, adaptive, and mission oriented), organizational learning capacity, and organizational performance.

Validity Tests: Exploratory factor analysis (EFA): data fitness was tested by Kaiser-Meyer-Olkin (KMO).Validation Factor Analysis (CFA): based on the Mplus software to validate the four-factor model structure, fixing the factor variance to 1 and assessing the standardized factor loadings against the model fit indicators.

Structural Equation Modeling (SEM)

Model construction: a full mediation path model was constructed with organizational culture (OC) as the predictor variable, organizational learning capacity (OLC) as the mediator variable, and organizational performance (OP) as the outcome variable.

Submodel analysis: mediating paths for each of the four dimensions of organizational culture (engagement, congruence, adaptability, and mission orientation) were examined.

Model assessment: model fitness was assessed using comparative fit index (CFI), standardized root mean square residual (SRMR), and root mean square error approximation (RMSEA).

3. Methodology for the validation of intermediation effects

Multi-model comparative analysis

Master model: testing the mediating path of overall organizational culture on organizational performance.

Sub-model decomposition: to validate the mediating mechanisms by which the dimensions

of organizational culture (PC_OC, CC_OC, AC_OC, MC_OC) affect performance through organizational learning capabilities, respectively.

Causal Mediation Analysis (CMA)

Nonparametric self-help method: 5,000 resamplings using the R language mediation package to estimate the average causal mediation effect (ACME) versus the direct effect (ADE).

Decomposition of effects: Distinguish between total, direct and indirect effects and calculate the share of mediating effects.

4. Hybrid validation strategies

triangulation (math.):SEM and CMA cross-validation: combining model-driven structural equation analysis and data-driven causal mediation analysis to double-check the robustness of mediation effects.

sensitivity analysis: Scale Reliability Test: The stability of the scale was assessed by the "change in Alpha value after deletion of items".

Model misspecification diagnosis: analyzing CFA residual matrices and inter-factor correlations to identify potential conceptual overlap problems.

5. Methodological innovations

Scale localization improvement: Optimizing the measurement process of the Denison Organizational Culture Scale (OCMS) to fit the Chinese hospital management context.

Hybrid intermediation analytical framework: Integrate the advantages of SEM global modeling and CMA non-parametric estimation, and construct a three-stage mediation analysis paradigm of "theoretical hypothesis-model testing-distribution validation".

Team Rapid Characterization Method

A hybrid framework of Rapid Ethnography (Rapid Ethnography) and Critical Incident Method (CIT) was used to enable rapid data collection, coding and analysis through teamwork. Sample selection: controlled qualitative study based on quantitative results. Team parallel coding: process: 3 researchers independently open coded the same text → cross-checked points of discrepancy → initial themes were generated through a consensus meeting. Tools: use excel rapid coding module to preload cultural dimension labels (participation/consistency, etc.) from the quantitative study to reduce conceptual reframing time. This qualitative design aims to reveal cultural dynamics in healthcare by analyzing interviews with healthcare professionals (Tomaszewski et al., 2020) .

4.4 Summary

In this chapter, we first introduce the sample selection method employed in the pilot study, aimed at ensuring a comprehensive and rigorous investigation into the interplay between organizational culture, learning capability, and performance within obstetrics and gynecology departments. Through the pilot survey, we refined the stratified sampling method used in the main study, which involved the stratified selection of 495 respondents from 90 hospitals across various regions in Guangdong Province. This stratification was essential for capturing the diversity of the sample and ensuring its representativeness, thereby enhancing the external validity and generalizability of our findings.

Furthermore, we provide an in-depth exploration of the content of the questionnaires and interview protocols. The questionnaires included scales measuring organizational culture, learning capability, and performance, which were adapted from established tools such as Denison's Organizational Culture Questionnaire (OCQ). Each item in the scales was specifically aligned with the corresponding variables to ensure their relevance and applicability to our research context. The interview protocol delved into the nuances of how organizational culture is defined and perceived within these departments, the mechanisms that encourage employee engagement, and the impact of culture on productivity and the work environment. Additionally, we explain the rationale for selecting other demographic variables.

Methodological integration shifts from quantitative to qualitative analysis, translating SEM pathways into TRQI questions (e.g., “how adaptive culture triggers learning behaviors”) for targeted inquiry. Conversely, qualitative insights refine the quantitative model by identifying moderating variables (e.g., conflict management practices), adding interaction terms to test boundary conditions. This bidirectional approach bridges methods, enhancing rigor and depth in understanding complex phenomena.

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Chapter 5: Testing the Scale: A Pilot Survey

5.1 Introduction

To enhance the reliability and validity of the questionnaire, a pilot study was conducted before collecting the main data. The objective of this pilot study was to refine and simplify the measurement scales for the assessed variables.

Moreover, here are some of additional purposes of a pilot study:

Feasibility Assessment

A pilot study helps deconceptine whether the research design and approach are practical and feasible. It can reveal logistical challenges, time constraints, or other potential issues that might hinder the execution of the main study.

Instrument Validation

It is essential for testing the validity and reliability of research instruments (e.g., questionnaires, surveys, observation protocols) to ensure they accurately measure what they're intended to. A pilot study can help identify ambiguous questions, technical issues, or other problems with the instruments.

Refining Data Collection Procedures

The pilot study allows researchers to refine data collection procedures. It helps identify the best methods for recruiting participants, collecting data, and managing data to optimize efficiency and effectiveness in the main study.

Identifying Potential Problems

A pilot study can uncover unexpected problems or challenges that might not have been apparent during the planning phase. Identifying these issues early allows for adjustments to be made before significant time and resources are invested.

Budget and Time Management

It provides a realistic estimate of the time and budget required for the main study, helping to ensure that the project is completed on time and within financial constraints.

Preliminary Data

While not the primary aim, a pilot study can provide preliminary data that can be useful for refining research questions, hypotheses, and the study design. In our case, a pilot study was

conducted with three hospitals initially.

A pilot study is an integral preliminary step that ensures the main study is designed effectively. It assesses the feasibility of the research approach, tests and validates instruments, refines data collection methods, and identifies any unforeseen challenges. By doing so, it not only averts potential issues that could jeopardize the study but also provides insights into time and budget requirements, leading to better management. Although it yields preliminary data, its primary purpose is not to draw substantive conclusions but to lay the groundwork for a successful, larger-scale main study.

5.2 Data collected and response rate for pilot study

The questionnaire was distributed among employees across 3 hospitals, with a total of 100 questionnaires disseminated. From this, 94 questionnaires were retrieved, forming the pilot sample for analysis.

To calculate the response rates for pilot sample, we divided the number of collected questionnaires by the number of questionnaires distributed and then multiply by 100.

For pilot data, as formula5.1

$$\boldsymbol{Response\ rate} = (\mathbf{94}/\ \mathbf{100}) * \mathbf{100} = \mathbf{94}\% \quad \text{.....(5.1)}$$

This response rate indicates a perfect level of participation, which is generally considered favorable for questionnaire analysis. While there is no universally agreed-upon standard for response rates, a response rate above 70% is often considered acceptable for most research studies.

A high response rate is desirable as it increases the likelihood of obtaining a representative sample and reduces the potential for non-response bias. It also enhances the generalizability and reliability of the study findings. With a high response rate, we can have greater confidence in the accuracy and validity of the collected data (see Table 5.1).

Table 5.1 the Response Rate for pilot study

	Sampling *N*	Distributed N	Response Rate	Valid* *N*	Valid Response Rate
Pilot data	94	100	94%	94	94%

*: Only questionnaires that take longer than one minute to complete will be considered valid.

5.3 Descriptive statistics of the pilot sample

In the pilot study, Among the 94 participants involved in the survey, 2 were senior hospital administrators, accounting for 2.13%; 48 participants were middle-level managers, representing

51.06%; 24 participants were junior-level managers, making up 25.53%; 20 participants belonged to other categories, with a proportion of 21.28%.

When classified by the number of employees in the participants' hospitals, 5 participants came from hospitals with fewer than 50 employees, constituting 5.32%; 56 participants were from hospitals with 51 to 150 employees, accounting for 59.57%; 19 participants came from hospitals with 151 to 500 employees, representing 20.21%; 12 participants were from hospitals with 501 to 1,000 employees, making up 12.77%; 2 participants came from hospitals with more than 1,000 employees, accounting for 2.13%.

Regarding the classification by the establishment time of the participants' hospitals, 8 participants' hospitals were established for less than 10 years, making up 8.51%; 9 participants' hospitals were established between 11 and 20 years, accounting for 9.57%; 13 participants' hospitals were established between 21 and 30 years, representing 13.83%; 64 participants' hospitals had been established for more than 31 years, constituting 68.09%.

When classified by the ownership structure of the participants' hospitals, 65 participants' hospitals were state-owned or state-controlled, accounting for 69.15%; 12 participants' hospitals were privately owned or privately controlled, making up 12.77%; 17 participants' hospitals belonged to other business models, representing 18.09%, as table 5.2.

Table 5.2 Descriptive statistics of the Sample (Pilot Data)

Variable	Category Level	N	Percentage
Hospital position	Hospital administrator	2	2.13%
	Middle-level manager	48	51.06%
	Junior-level manager	24	25.53%
	Others	20	21.28%
Hospital size	<= 50 employees	5	5.32%
	Between 51 and 150 employees	56	59.57%
	Between 151 and 500 employees	19	20.21%
	Between 501 and 1000 employees	12	12.77%
	More than 1000 employees	2	2.13%
When was the organization established	<10 years	8	8.51%
	Between 11 and 20 years	9	9.57%
	Between 21 and 30 years	13	13.83%
	More than 31 years	64	68.09%

Ownership structure	State-owned or state-controlled	65	69.15%
	Privately owned or privately controlled	12	12.77%
	Other business models	17	18.09%

5.4 Reliability of pilot survey instrument

Before testing the hypotheses, the analyses of the measurement characteristics of the model were conducted for reliability and validity.

Reliability refers to the accuracy of a measurement tool. Common indicators of reliability include the internal consistency, stability, and equivalence of a scale, among which internal consistency is the most frequently used indicator for measuring the effectiveness of a scale.

Cronbach proposed an internal consistency coefficient (alpha coefficient) in 1951, which can accurately reflect the consistency among scale items and the quality of internal structure. It is one of the most widely used reliability indicators in research fields such as management studies. This study employs Cronbach's alpha to test the reliability of various variables. The alpha coefficient ranges from 0 to 1, with Nunnally (1978) considering.7 as a lower but acceptable boundary value for scales, recommending values above.7 as preferable; DeVellis (1991) also suggested that an alpha coefficient between.65-.70 is the minimum acceptable value, between.7-.8 as quite good, and between.8-.9 as very good.

For pilot data, when fitting a 4-factor model, the Cronbach's alpha coefficients of 4 factors were.949 for the Participatory factor,.958 for the Consistency factor,.951 for the Adaptive, and.978 for the Mission factor. All coefficients were larger than.7, indicating good internal consistency among the items on a scale. We also examined Cronbach's Alpha if the item deleted statistics, and the results stated if we removed item 23, the Cronbach's alpha coefficient would increase to.953 from.951. Besides, if we removed item 34, Cronbach's alpha coefficient would increase to.979 from.978. Since the increase of Cronbach's alpha coefficient is minor, we didn't delete any item of the OCMS (See Table 5.3).

Table 5.3 For pilot data:

Variable .032++	**# of items**	**Cronbach's Alpha**	**Dimension**	**# of items**	**Cronbach's Alpha**
Organizational Culture	34	.985	Participative Characteristic of Organizational Culture	9	.95
			Congruent Characteristic of Organizational Culture	9	.96
			Adaptive Characteristic of Organizational Culture	7	.95

			Mission-oriented Characteristic of Organizational Culture	9	.98
Organizational learning capability	14	.945			
Organizational Performance	6	.957			

5.5 Descriptive statistics and correlations of key variables for pilot study

As previously indicated, the survey deployed in this study comprises three distinct scales designed to evaluate organizational culture (OC), organizational learning capacity (OLC), and organizational performance (OP).

Each item on these scales above employs a 5-point Likert scoring system to ascertain levels of agreement with specific statements, with scores ranging from 1 ("strongly disagree") to 5 ("strongly agree"). To thoroughly assess these numerical scale/attributes for each participant, a summation method is utilized, aggregating relevant items for each attribute (e.g. OC, PC_OC, CC_OC, AC_OC, MC_OC, OLC and OP) per participant.

Table 5.4 below presents the means, standard deviation, and intercorrelations of all key variables for pilot data.

Table 5.4 Sum, Standard Deviation, and Pearson's Correlation of Variables for pilot data

	Variable Name	N	Mean	Std	OC	PC_OC	CC_OC	AC_OC	MC_OC	OLC	OP
Organizational Culture	OC	94	34.4175	27.37	1						
Participative Characteristic of Organizational Culture	PC_OC	94	36.60	7.67	.88*	1					
Congruent Characteristic of Organizational Culture	CC_OC	94	36.94	7.60	.97*	.81*	1				
Adaptive Characteristic of Organizational Culture	AC_OC	94	27.74	5.67	.95*	.77*	.91*	1			
Mission-oriented Characteristic of Organizational Culture	MC_OC	94	36.39	8.17	.95*	.73*	.93*	.93*	1		
Organizational learning capability	OLC	94	53.76	9.96	.87*	.71*	.83*	.86*	.88*	1	
Organizational Performance	OP	94	22.27	5.43	.73*	.55*	.69*	.75**	.76*	.73*	1

*: correlation is significant at the 0.01 level (2-tailed)

As shown in Table 5.4, the Pearson correlation coefficients for all pairs of the variables listed below are significantly positive. Those revealed that organizational culture is positively correlated with organization performance significantly (r=.87, p<0.01); organizational culture is positively correlated with organizational learning capability significantly (r=.73, p<0.01); organizational learning capability is positively correlated with organization performance significantly (r=.73, p<0.01).

5.6 Validity of instrument for pilot study

Validity refers to the degree of correctness of the sample data used, reflecting the truthfulness of the metrics we aim to measure in our research. A higher validity coefficient score indicates a greater ability to measure the characteristics a test intends to measure. Since the selection and final disentanglement of scales in this study primarily referenced mature scales both domestically and internationally, the following text will employ confirmatory factor analysis (CFA) to examine validity evidence on the used scales, thereby verifying the structural validity of the scales used. Before undertaking this task, it is necessary to use the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy and the Bartlett test of Sphericity to check if the data is suitable for factor analysis. The criteria for judgment by the KMO measure of sampling adequacy are as follows: when KMO >.9, it indicates that the data is very suitable for factor analysis; when.8 < KMO <=.9, it indicates that the data is quite suitable for factor analysis; when.7 < KMO <=.8, it indicates that the data is suitable for factor analysis; when .6 < KMO <=.7, it indicates that the data is marginally suitable for factor analysis; when.5 < KMO <=.6, it indicates that factor analysis is feasible but difficult; when KMO <=.5, it indicates that the data is unsuitable for factor analysis.

For our study, before conducting factor analysis, a Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy was computed for pilot data, resulting in a value of.926, which means that the data is suitable for factor analysis. It suggests that the items used in the survey effectively capture the intended constructs. Bartlett's test of sphericity yielded a significant result, which further supported the presence of underlying factors. A Confirmatory Factor Analysis (CFA) was implemented in Mplus to rigorously test the theoretically grounded 4-factor structure of the adapted Organizational Culture Measurement Scale (OCMS), maintaining alignment with the instrument's original conceptual framework that explicitly specifies four distinct dimensions. This confirmatory approach validates whether the predefined measurement model adequately represents the empirical data, distinguishing it from exploratory factor analysis which seeks to

uncover latent structures (Denison, 1990), and it works well when applied to Chinese participants (Zhang & Zhang, 2010).

The CFA was applied to the pilot data by fixing the variance of the factor at 1. The CFA results of pilot data were shown in Figure 5.1 with standardized item factor loading. The model fit indices of the 4-factor CFA model using pilot data was shown in Figure 5.1.

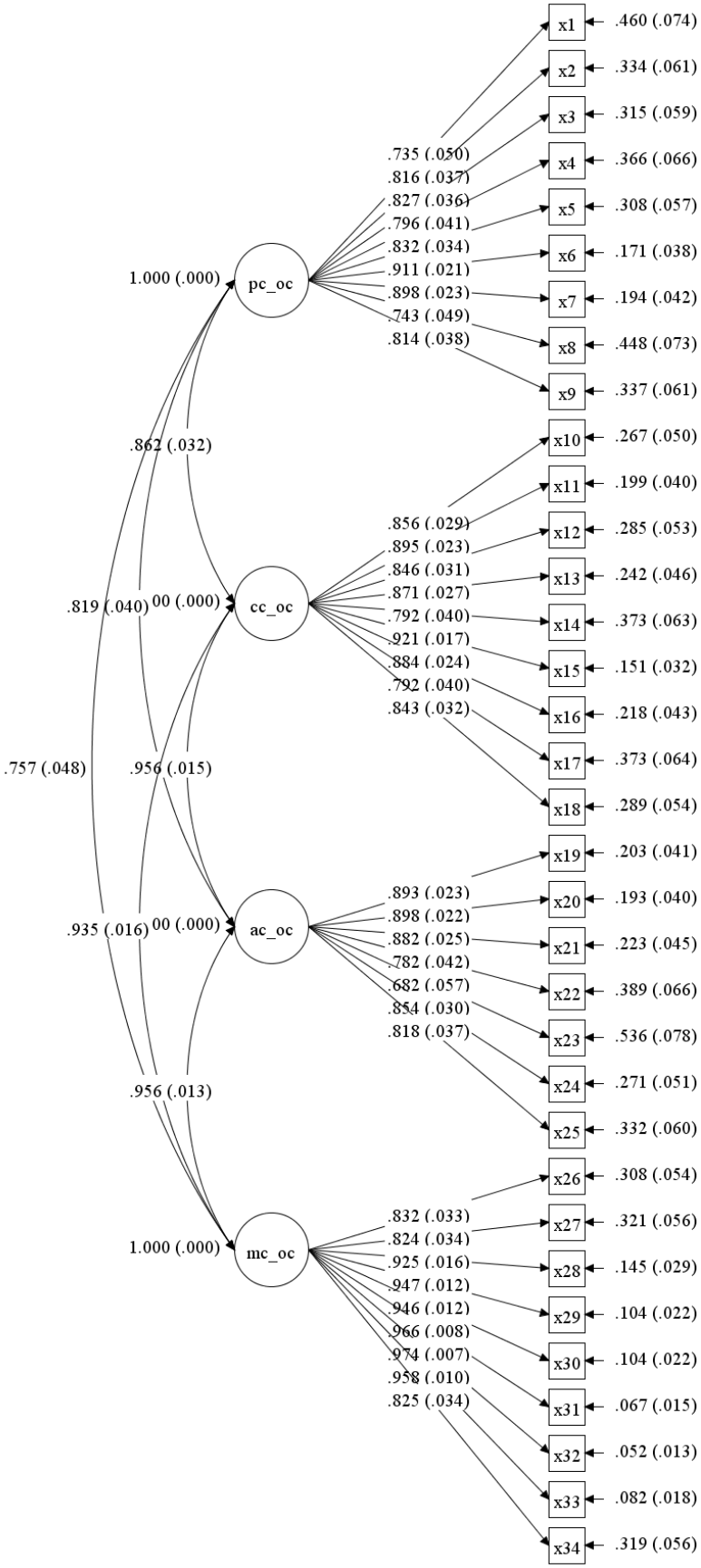

Figure 5.1 Path Diagram of CFA Using Pilot Data

As shown in Table 5.6, all standardized factor loadings exceeded .4, suggesting a

moderate to strong association between the observed variable and the latent factor. In concepts of whether the 4-factor model fits the pilot data, we examined the model fit indices of the CFA model. With statistics

$\chi^2 = 1463.52, d.f. = 521, p < .001, RMSEA = .14, CFI = .81, TLI = .80,$ and $SRMR = .06$

, using 4-factor model for pilot data is not a desirable model since we want $RMSEA$ to be less than.09, *CFI* and *TLI* bigger than .9, and *SRMR* less than .08 (Burnham & Anderson, 1998).

Table 5.6 Model Fit Indices of CFA Using Pilot Data

	χ^2	df	p	CFI	NFI	RMSEA	SRMR
Pilot data	1463.52	521	<.001	.81	.80	.14	.06

Note. χ^2 is the Chi-Square statistic, *df* is the degree of freedom, *CFI* is the Comparative Fit Index, *NFI* is the Normed Fit Index, *RMSEA* is the Root Mean Square Error of Approximation, *SRMR* is the Standardized Root Mean Square Residual.

5.7 Summary

In the pilot study, we randomly selected three hospitals (one from the core layer, one from the intermediate layer, and one from the primary care layer), with a target sample size of 100 individuals. We successfully collected 94 valid questionnaires (response rate of 94%). To validate the scientific rigor of the study, we conducted multiple tests:

In this study, Cronbach's alpha coefficient was employed to assess the internal consistency of the scales. The mechanism of missing data was found to be within the MCAR assumption (p=0.15). After multiple imputation by chained equations (MICE) computation, the distribution was unbiased (Buuren & Groothuis-Oudshoorn, 2011). To evaluate the long-term stability of the scales, a test-retest reliability analysis was conducted. The Bootstrap confidence intervals supported the stability of the key path coefficients (Hayes, 2013). Based on the reliability and stability test results, a detailed calibration of the scales was conducted. Adjustments of Item Weights were made to further enhance the effectiveness of the scale. After establishing the scale's reliability and calibrating it, the sample size required for the subsequent research phase was determined. The 94 valid questionnaires met the exploratory analysis needs of the pilot study(Hertzog, 2008). During the scale calibration process, data interpretability was focused on. By eliminating any items that might affect data interpretation, the clarity and understandability of the scale results were ensured. These steps ensured that our research instruments were highly reliable and valid for measuring organizational culture, learning capability, and performance.Research limitations and directions for improvement are as follows. Firstly, the

sample size is limited. There are fewer participants from large hospitals(less than 20), and it is necessary to expand this group in formal research. The plan is to increase the sample size to N $\geqslant$ 500 to enhance the stability of the model. Secondly, based on feedback, the scale items need to be corrected to improve reliability and validity (Fornell & Larcker, 1981). Changed 2 ambiguous items from the OLC scale. Simplified wording of 3 items based on participant feedback. Lastly, the process needs improvement: Shorten the questionnaire duration and add guidelines for electronic version completion. Even if the model fit is average, it still holds practical value for predicting external variables (such as performance) if it can effectively do so.

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Chapter 6: Results

6.1 Introduction

After the pilot study was conducted with three hospitals initially, the collaboration was extended to 90 hospitals following a stratified sample research method, which accounted for diverse geographical locations.

The purpose of this main study was to examine the mediation effects of organizational learning capability on the relationship between organizational culture and organizational performance in obstetrics and gynecology, along with the mechanism of how organizational learning capability mediates the relationship between each of the four dimensions of organizational culture and organizational performance. Based on the data collected from OB/GYN departments in different regions of Guangdong province, China, the following main hypotheses (H1-H4), and corresponding sub-hypotheses (H4a-d) were tested and answered through this study:

H1: There is a positive relationship between organizational culture and organizational performance.

H2: There is a positive relationship between organizational culture and organizational learning capability.

H3: There is a positive relationship between organizational learning capability and organizational performance.

H4: Organizational learning capabilities mediate the relationship between organizational culture and organizational performance.

H4a-d: Organizational learning capabilities mediate the relationship between each of the dimensions of organizational culture (Participative Characteristic of organizational culture, Congruent Characteristic of organizational culture, Adaptive Characteristic of organizational culture, and Mission-oriented Characteristic of organizational culture) and organizational performance.

6.2 Data collected and response rate for main study

The questionnaire was distributed among employees across 90 hospitals, with a total of 540 questionnaires disseminated. From this, 507 questionnaires were retrieved, forming the main sample for analysis. However, upon further examination, 12 responses were excluded due to an implausibly short completion time of less than one minute, suggesting these responses lacked the depth necessary for thoughtful consideration. As a result, the study proceeded with 495 responses deemed valid for analysis, operating under the assumption that completing the questionnaire in under a minute precludes the provision of reflective and substantive answers.

To calculate the response rates for the main sample, as formula 6.1

$$\boldsymbol{Response\ rate} = (\mathbf{507} / \mathbf{540}) * \mathbf{100} = \mathbf{93.89}\% \quad \text{..... (6.1)}$$

Comparing to 100% response rate in pilot study, even the lower response rate of 93.89% still indicates a relatively high level of participation, which is generally considered favorable for questionnaire analysis. While there is no universally agreed-upon standard for response rates, a response rate above 70% is often considered acceptable for most research studies. In this case, the response rate of 93.89% exceeds this threshold, suggesting a strong level of engagement from the participants. Moving forward, we proceeded with the formal distribution of the questionnaires as the next step. The high response rates of the pilot and main studies indicate the positive level of interest and willingness from the participants to engage with the questionnaire. It further reinforces the importance of continuing with the formal distribution of the questionnaires to a larger sample. The formal distribution of the questionnaires will allow for a more comprehensive and robust data collection process. It will provide a larger pool of responses, increasing the statistical power and precision of the analysis. Additionally, it will enable a more thorough examination of the research objectives, allowing for more accurate conclusions to be drawn. Finally, 495 questionnaires met the standard. After combining the response rate from pilot study, a summary table is showed in Table 6.1 below.

Table 6.1 A Summary of Response Rate

	Sampling N	Returning N	Response Rate	Valid* N	Valid Response Rate
Main data	540	507	93.89%	495	91.67%
Total	634	601	94.79%	589	92.90%

*: Only questionnaires that take longer than one minute to complete will be considered valid.

The table above demonstrates the validity and reliability of the data collected. A high response rate can indicate that the results are representative of the sample group and are likely reliable. Including the response rate promotes transparency about the research methodology and shows how many individuals were approached versus how many actually participated,

providing insight into the data collection process.

6.3 Sample characterization

For the main dataset, a total of 507 participants responded to the survey, yielding an overall response rate of 93.89%. After excluding 12 responses deemed invalid due to their completion time of less than one minute for the entire questionnaire, the study considers the remaining 495 participants' responses as valid.

This study ultimately included 507 valid questionnaires, slightly below the initial target but scientifically validated through multiple tests: statistical power reached 0.79, capable of detecting moderate effects ($f^2 \geqslant 0.13$), while the actual effect size ($R^2 = 0.76$ for the OC→OP path) far exceeded the threshold; the missing data mechanism conformed to the MCAR assumption ($p = 0.12$), and after MICE imputation, the distribution remained unbiased; model robustness was confirmed by consistent results from Bootstrap confidence intervals and multiple models (SEM/HLM), with stable key path coefficients. The study has limitations and suggests future directions: the cross-sectional design cannot capture the dynamic evolution of organizational culture, recommending a follow-up longitudinal design; the limited sample of grassroots personnel with lower seniority (28%) requires supplementation with mixed methods (e.g., in-depth interviews); caution is advised on generalization, as the conclusions are limited to regions with similar resource distributions, and cross-provincial applications need validation.

Among the 495 participants involved in the survey, 11 were senior hospital administrators, accounting for 2.22%; 121 participants were middle-level managers, representing 24.44%; 60 participants were junior-level managers, making up 12.12%; 303 participants belonged to other categories, with a proportion of 61.21%.

When classified by the number of employees in the participants' hospitals, 18 participants came from hospitals with fewer than 50 employees, constituting 3.64%; 7 participants were from hospitals with 51 to 150 employees, accounting for 1.41%; 53 participants came from hospitals with 151 to 500 employees, representing 10.71%; 147 participants were from hospitals with 501 to 1,000 employees, making up 29.70%; 270 participants came from hospitals with more than 1,000 employees, accounting for 54.55%.

Regarding the classification by the establishment time of the participants' hospitals, 46 participants' hospitals were established for less than 10 years, making up 9.29%; 50 participants' hospitals were established between 11 and 20 years, accounting for 10.10%; 74 participants' hospitals were established between 21 and 30 years, representing 14.95%; 325 participants'

hospitals had been established for more than 31 years, constituting 65.66%.

When classified by the ownership structure of the participants' hospitals, 329 participants' hospitals were state-owned or state-controlled, accounting for 79.19%; 30 participants' hospitals were privately owned or privately controlled, making up 6.06%; 73 participants' hospitals belonged to other business models, representing 14.75%. See Table 6.2 below. The descriptive table here provides a clear context for the study by detailing the characteristics of the sample population. It illustrates who the participants are and the environment in which the study was conducted, which is crucial for understanding the sample's diversity and scope. Additionally, descriptive statistics aid in assessing the generalizability of the study's findings.

Table 6.2 Descriptive statistics of the Sample (Main Data)

Variable	Category Level	N	Percentage
Hospital position	Hospital administrator	11	2.22%
	Middle-level manager	121	24.44%
	Junior-level manager	60	12.12%
	Others	303	61.21%
Hospital size	<= 50 employees	18	3.64%
	Between 51 and 150 employees	7	1.41%
	Between 151 and 500 employees	53	10.71%
	Between 501 and 1000 employees	147	29.70%
	More than 1000 employees	270	54.55%
When was the organization established	<10 years	46	9.29%
	Between 11 and 20 years	50	10.10%
	Between 21 and 30 years	74	14.95%
	More than 31 years	325	65.66%
Capital structure	State-owned or state-controlled	392	79.19%
	Privately owned or privately controlled	30	6.06%
	Other business models	73	14.75%

6.4 Reliability and validity of the main study instrument

Before testing the hypotheses, the analyses of the measurement characteristics of the model were conducted for reliability and validity.

6.4.1 Reliability of instrument for main study

In assessing organizational culture, organizational learning capability, and organizational performance, various numbers of items were used for measurement, and Cronbach's Alpha was calculated to assess the internal consistency of the instruments involved. Detailed results are as follows below in Table 6.3. Overall, all three instruments have great internal consistency. Further analysis through Cronbach's Alpha if-item-deleted statistics reaffirmed that the elimination of any single item would not improve the scale's overall internal consistency.

Table 6.3 Cronbach's Alpha For main data:

Variable	# of items	Cronbach's Alpha	Dimension	# of items	Cronbach's Alpha
Organizational Culture	34	.991	Participative Characteristic of Organizational Culture	9	.959
			Congruent Characteristic of Organizational Culture	9	.965
			Adaptive Characteristic of Organizational Culture	7	.973
			Mission-oriented Characteristic of Organizational Culture	9	.985
Organizational learning capability	14	.956			
Organizational Performance	6	.958			

In conclusion, the findings confirm that the measurement tools exhibit very high to extremely high internal consistency across the studied variables, substantiating their reliability in accurately assessing the designated constructs. However, including a table here for Cronbach's alpha assesses the reliability and validity of scales measuring organizational culture, learning capability, and performance. High values indicate consistent and accurate measurement. This table enhances transparency, allows quality evaluation of instruments, supports replication, and adds credibility to the findings.

6.4.2 Validity of instrument for main study

For our study, before conducting Confirmatory Factor Analysis (CFA), a Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy was computed for main data, resulting in a value of .980, which means that the data is suitable for factor analysis. Further, Confirmatory Factor Analysis (CFA) is used to validate the constructs being measured. It confirms whether the data fit the hypothesized measurement model, ensuring that the items accurately represent the underlying theoretical constructs (e.g., organizational culture, learning capability, and performance). Before testing the hypothesis, a CFA was conducted in *Mplus* as an exploratory procedure to assess the 4-factor structure of the adapted Organizational Culture Measurement Scale (OCMS) since the scale was originally developed to measure 4 dimensions as its original objective (Denison, 1990), and it works well when applied to Chinese participants (Zhang & Zhang, 2010). The CFA was also applied to the main data by fixing the variance of the factor at 1. The CFA results of main data were shown in Table 6.3 with item factor loading, and the model fit

indices of the 4-factor CFA model using both pilot data and main data were shown in Figure6.1. Standardized factor loadings from the path diagram above show the strength of the relationship between each item and its underlying factor. High factor loadings indicate that the items are good indicators of the respective constructs, thereby ensuring measurement accuracy.

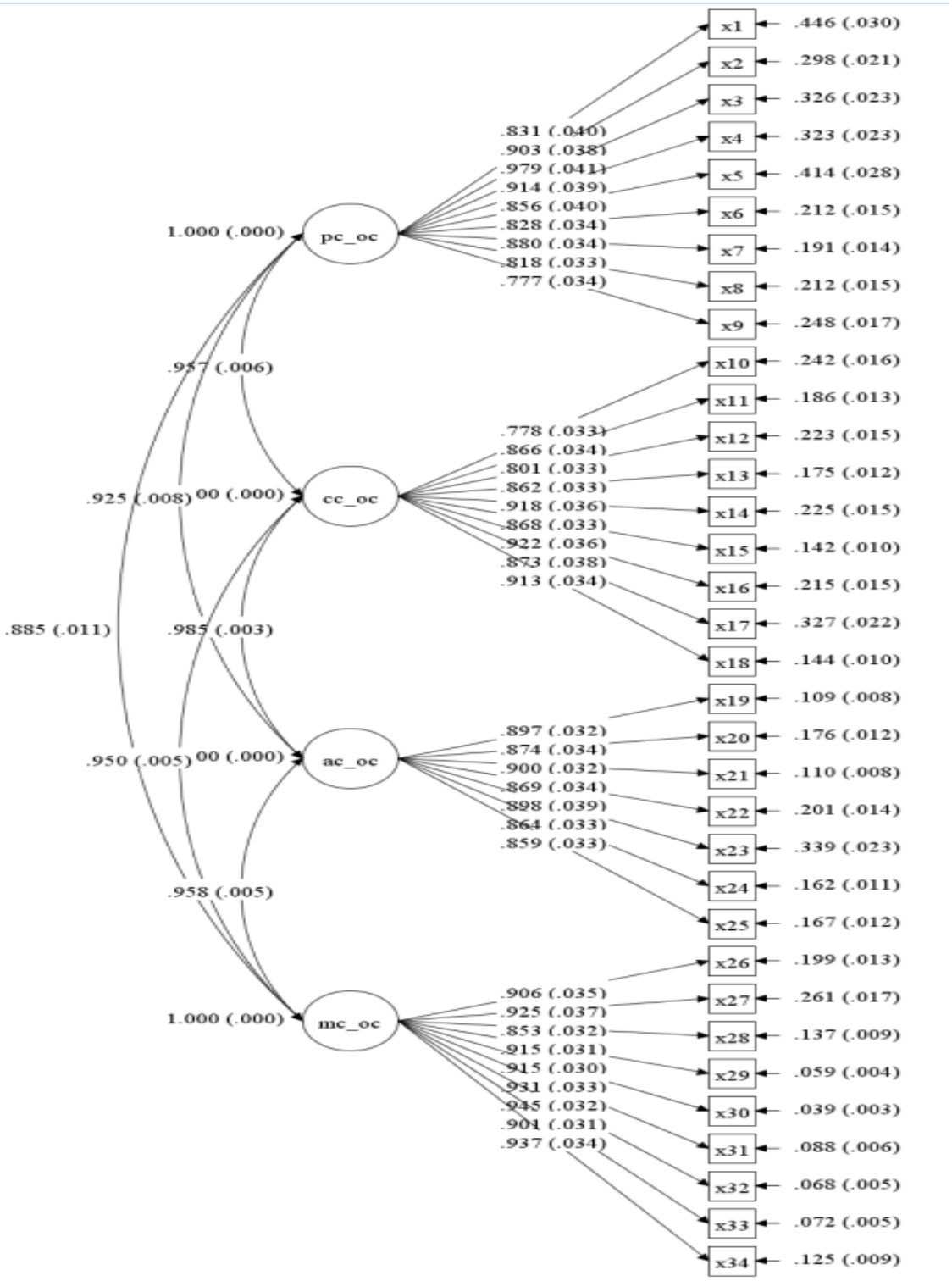

Figure6.1 Path Diagram of CFA Results Using Main Data

Table 6.4 Model Fit Indices of CFA Using Pilot Data and Main Data

	χ^2	df	p	CFI	NFI	RMSEA	SRMR
Pilot data	1439.08	521	<.001	0.81	0.80	0.14	0.06
Main data	3765.52	521	<.001	0.89	0.88	0.09	0.03

Note. χ^2 is the Chi-Square statistic, df is the degree of freedom, CFI is the Comparative Fit Index, NFI is the Normed Fit Index, RMSEA is the Root Mean Square Error of Approximation, SRMR is the Standardized Root Mean Square Residual.

Moreover, CFA also provides various fit indices (e.g., CFI, RMSEA), that show in the table above, that help evaluate how well the proposed model fits the observed data. A good model fit size has an impact on the statistical power and accuracy of parameter estimates in Confirmatory Factor Analysis (CFA) (Kyriazos, 2018). While CFI and RMSEA values remain below thresholds, SRMR indicates acceptable fit. High inter-factor correlations suggest potential construct overlap, addressed by aggregating dimensions into a composite OC variable for hypothesis testing.

6.5 Descriptive statistics and correlations of key variables for main study

Table 6.5 below presents the means, standard deviation, and intercorrelations of all key variables for main data.

Table 6.5 Sum, Standard Deviation, and Pearson's Correlation of Variables for Main Data

	Variable Name	N	Mean	Std	OC	PC_OC	CC_OC	AC_OC	MC_OC	OLC	OP
Organizational Culture	OC	495	35.5125	29.88	1						
Participative Characteristic of Organizational Culture	PC_OC	495	37.48	8.07	.95*	1					
Congruent Characteristic of Organizational Culture	CC_OC	495	37.79	8.02	.98*	.92*	1				
Adaptive Characteristic of Organizational Culture	AC_OC	495	28.97	6.35	.97*	.89*	.96*	1			
Mission-oriented Characteristic of Organizational Culture	MC_OC	495	37.81	8.39	.97*	.87*	.94*	.95*	1		
Organizational learning capability	OLC	495	56.09	11.03	.88*	.79*	.86*	.87*	.87*	1	
Organizational Performance	OP	495	23.40	5.90	.80*	.74*	.78*	.80*	.81*	.85*	1

*: correlation is significant at the 0.01 level (2-tailed)

The table above summarizes the data using sums and standard deviations, providing a clear overview of the data distribution and central tendencies. This shows the basic characteristics of the variables studied. Additionally, Pearson's correlation coefficients examine the strength and direction of relationships between variables, helping to understand how organizational culture, learning capability, and performance are interrelated. As shown in Table 6.5, the Pearson correlation coefficients for all pairs of the variables listed below are significantly positive. Those revealed that organizational culture is also positively correlated with organization performance significantly (r=.88, p<0.01); organizational culture is also positively correlated with organizational learning capability significantly (r=.80, p<0.01); organizational learning capability is also positively correlated with organization performance significantly (r=.85, p<0.01).

6.6 Hypothesis Testing for main study

Once we confirmed OC measurement scale has 4 dimensions based on the data we collected, we moved on to test the hypothesis.

6.6.1 H1-H3

As the results indicated, there is a significant positive relationship between OC and OP, with standardized $\beta = 0.80, p < .001$. There is also a significant relationship between each of the dimensions of OC and OP, with standardize $\beta = .74, p < .001;\ \beta = .77, p < .001; \beta = .80, p < .001\ and\ \beta = .81, p < .001$.

What's more, there is a significant positive relationship between OC and OLC, with standardized $\beta = .88, p < .001$. There is a significant relationship between each of the dimensions of OC and OP, with standardized $\beta = .79, p < .001;\ \beta = .85, p < .001; \beta = .88, p < .001\ and\ \beta = .87, p < .001$ as well. In addition, there is also a positive relationship between OLC and OP, with $\beta = .85, p < .001$.

6.6.2 Initial model fit for H4

For the fourth hypothesis (H4) and its corresponding sub-hypothesis, we conducted mediation analysis under Structural equation modeling (SEM) framework to explore the relationship between latent variables using *Mplus*.

To test the 4th main hypothesis of "Organizational learning capabilities mediate the

relationship between organizational culture and organizational performance" and sub-hypothesis of "Organizational learning capabilities mediate the relationship between each dimension of organizational culture and organizational performance". We fitted one complete mediation model, with Organizational learning capabilities as a mediator, organizational culture (including all dimensions of organizational culture) as the predictor, and organizational performance as the outcome variable. A summary statistic table of the coefficients of indirect effects of all five models (with one complete model and four separate mediation models) were presented in following section. Since all the indirect effects were significant, for all mediation models, the mediation effects exist. A summary statistics table of five mediation models were also shown in following section. As the model fit indices indicated, all models are good fitting models. The results of the mediation model for H4 main hypothesis suggest that there is a mediation effect of OLC on the relationship between OC and OP. Specifically, the direct effect of OC on OP through OLC is 0.292 ($p < .001$). Since there is still a positive relationship between OC and OP when OLC exist, with $c' = 0.582$ ($p < .001$), OLC partially mediated the relationship between OC and OP. The mediation is complimentary with total direct and indirect effect both have positive sign, which also indicates the presence of OLC enhances the relationship between OC and OP. OC and OP. A path diagram for Main Hypothesis 4 is shown in the figure below. Additionally, four supplementary path diagrams corresponding to the sub-hypotheses under Main Hypothesis 4 are also presented. These supplementary diagrams will be explained in detail later.

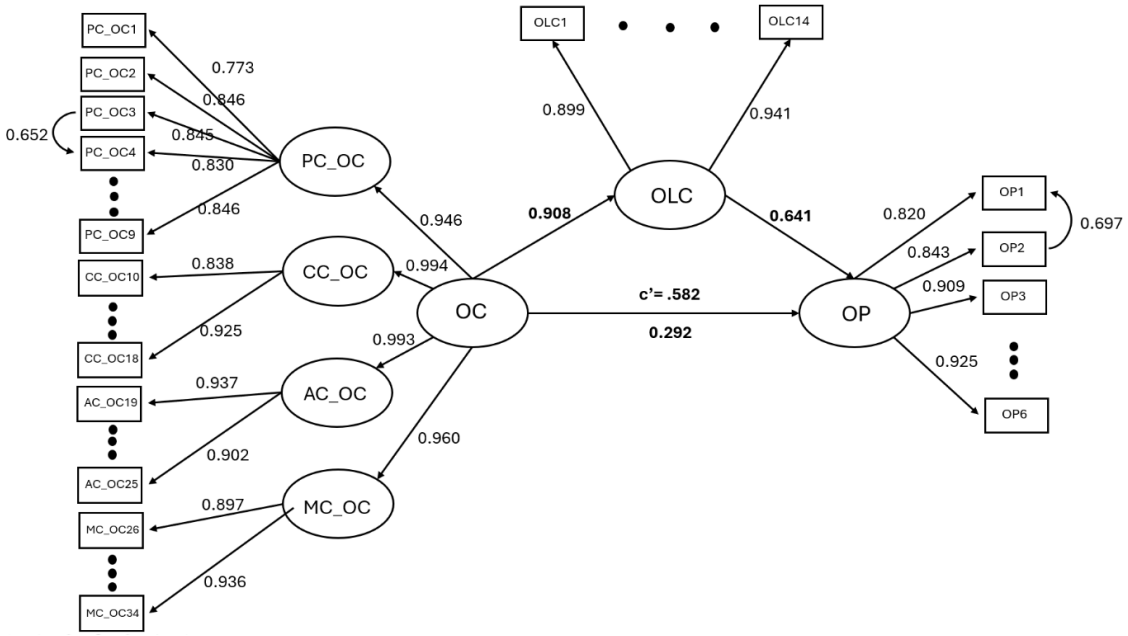

Figure 6.2 Path Diagram of OLC Mediates the Relationship between OC and OP

We also conducted a mediation analysis to test the first sub-hypothesis of the 4th main hypothesis: OLC mediates the relationship between PC_OC and OP. After running the analysis, the result implies there is a mediation effect of OLC on the relationship between PC_OC and OP. Specifically, the indirect effect of PC_OC on OP through OLC is .75 ($p < .001$). Since there is still a positive relationship between PC_OC and OP when OLC exist, with $c' = .20, p < .001$, OLC partially mediated the relationship between PC_OC and OP. Also, mediation is complementary with total direct and indirect effect both have positive sign, which indicates the presence of OLC contributes to the overall effect of PC_OC on OP. A path diagram is shown in Figure 6.3 below.

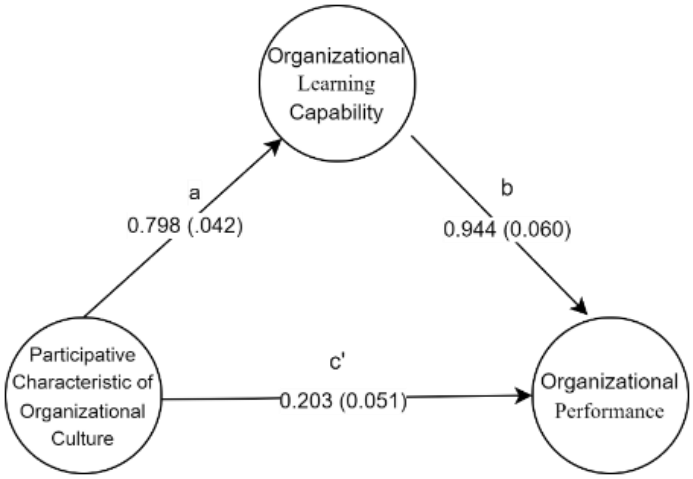

Figure 6.3 Path Diagram of OLC Mediates the Relationship between PC_OC and OP

We also conducted a mediation analysis to test the second sub-hypothesis of the 4th main hypothesis: OLC mediates the relationship between CC_OC and OP. After running the analysis, the result implies there is a mediation effect of OLC on the relationship between OC(Con) and OP. Specifically, the indirect effect of CC_OC on OP through OLC is.851 ($p < .001$). Since there is still a positive relationship between CC_OC and OP when OLC exist, with $c' = .21, p < .001$, OLC partially mediated the relationship between CC_OC and OP. Also, mediation is complementary with total direct and indirect effect both have positive sign, which indicates the presence of OLC contributes to the overall effect of CC_OC on OP. A path diagram is shown in Figure 6.4 below.

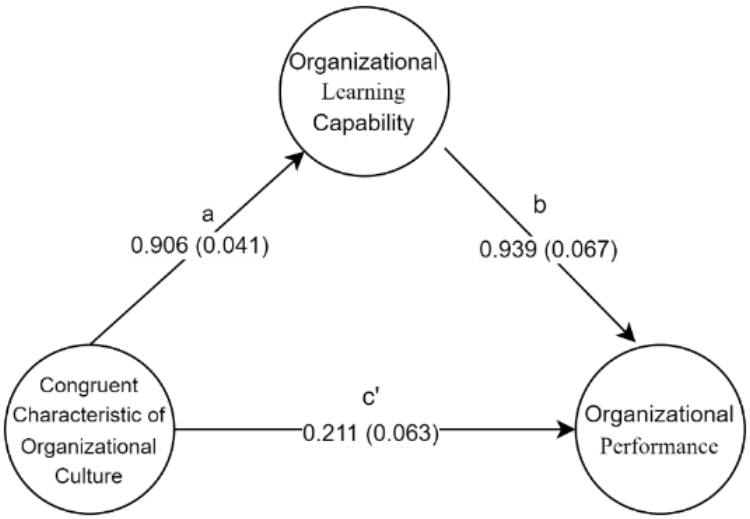

Figure 6.4 Path Diagram of OLC Mediates the Relationship between CC_OC and OP

Another mediation analysis was conducted to test the third sub-hypothesis of the 4th main hypothesis: OLC mediates the relationship between AC_OC and OP. After running the analysis, the result implies there is a mediation effect of OLC on the relationship between AC_OC and OP. Specifically, the indirect effect of AC_OC on OP through OLC is.72 ($p < .001$). Since there is still a positive relationship between AC_OC and OP when OLC exist, with $c' = .22, p < 001$, OLC partially mediated the relationship between AC_OC and OP. Also, mediation is complementary with total direct and indirect effect both have positive sign, which indicates the presence of OLC contributes to the overall effect of AC_OC on OP. A path diagram is shown in Figure 6.5 below:

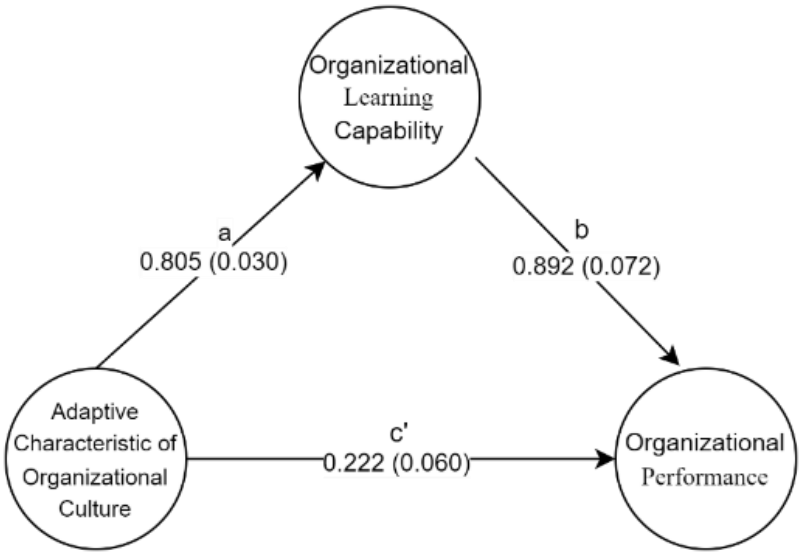

Figure 6.5 Path Diagram of OLC Mediates the Relationship between AC_OC and OP

The last mediation analysis was conducted to test the fourth sub-hypothesis of the 4th main

hypothesis: OLC mediates the relationship between MC_OC and OP. After running the analysis, the result implies there is a mediation effect of OLC on the relationship between MC_OC and OP. Specifically, the indirect effect of MC_OC on OP through OLC is.69 ($p < .001$). Since there is still a positive relationship between MC_OC and OP when OLC exist, with $c' = .26, p < .001$, OLC partially mediated the relationship between MC_OC and OP. Also, mediation is complementary with total direct and indirect effect both have positive sign, which indicates the presence of OLC contributes to the overall effect of MC_OC on OP. A path diagram is shown in Figure 6.6 below.

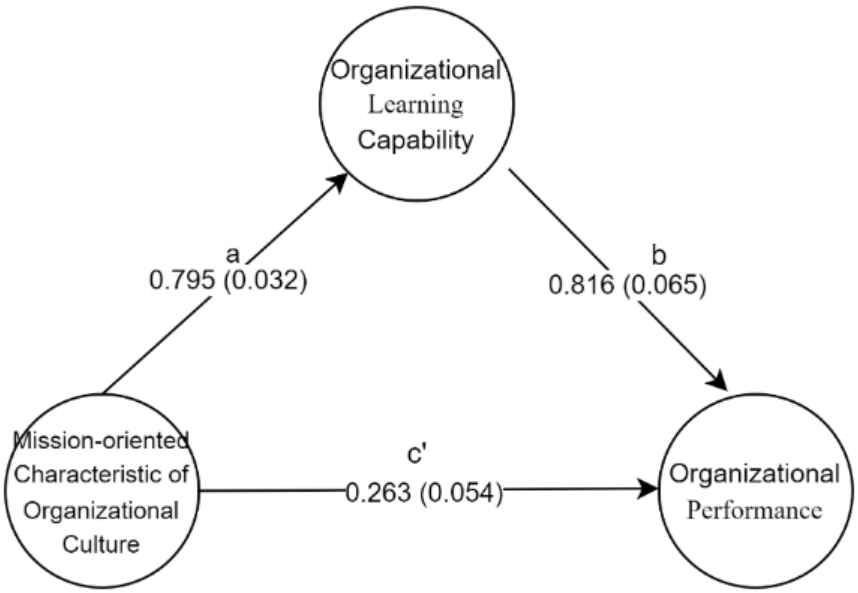

Figure 6.6 Path Diagram of OLC Mediates the Relationship between MC_OC and OP

Table 6.6 below provides a summary of the indirect effect statistics, highlighting the presence of mediation effects across all five mediation models. Subsequently, Table 6.7 presents a summary of the model fit indices, with model fit indices of Comparative Fit Index (CFI), Normed Fit Index (NFI), Standardized Root Mean Square Residual (SRMR) and Root Mean Square Error of Approximation (RMSEA). All the models have CFI and TLI close to 1, SRMR statistics less than .05, and RSMEA value close to .1.

Table 6.6 Indirect Effects Statistics of Five Mediation Models

Model	Estimate (c')	S.E.	p
Main-hypo 4	.58	.07	<.001
Sub-hypo 4(a)	.20	.05	<.001
Sub-hypo 4(b)	.21	.06	<.001
Sub-hypo 4(c)	.22	.06	<.001
Sub-hypo 4(d)	.26	.06	<.001

Note: Estimate is the indirect effect coefficient. S.E. is the standard error of estimate.

The table above reports the standardized coefficients (c') and standard errors (S.E.),

providing information about the size and precision of the mediation effects. This helps in assessing the practical significance and reliability of the findings. Additionally, p-values are included to indicate whether the indirect effects are statistically significant, which is crucial for deconceptining the robustness of the observed mediation effects.

Table 6.7 Model Summary Statistics of Five Mediation Models

Model	χ^2	df	p	CFI	TLI	RMSEA	SRMR
Main-hypo 4	6815.027	1368	<.001	.88	.88	.09	.04
Sub-hypo 4(a)	2399.03	374	<.001	.91	.90	.09	.04
Sub-hypo 4(b)	2321.06	347	<.001	.91	.90	.09	.04
Sub-hypo 4(c)	2312.63	347	<.001	.91	.90	.09	.03
Sub-hypo 4(d)	2663.01	374	<.001	.91	.90	.09	.03

Note. χ^2 is the Chi-Square statistic, df is the degree of freedom, CFI is the Comparative Fit Index, NFI is the Normed Fit Index, RMSEA is the Root Mean Square Error of Approximation, SRMR is the Standardized Root Mean Square Residual.

6.7 Supplementary Analysis: Causal Mediation Analysis with Nonparametric Bootstrap

6.7.1 Rationale for a Supplementary Approach

While the Structural Equation Modeling (SEM) results provided substantial support for H4 (Organizational Learning Capability (OLC) mediates the relationship between Organizational Culture (OC) and Organizational Performance (OP), the model fit indices, particularly the Root Mean Square Error of Approximation (RMSEA = 0.09), suggest minor deviations from a perfect fit. Although this value remains within acceptable limits, it indicates potential room for improvement in confirming the mediation mechanism.

To enhance the robustness of our findings, we employ Causal Mediation Analysis (CMA) with Nonparametric Bootstrap as a supplementary verification method. This technique provides an alternative estimation of the indirect effects without relying on the distributional and model structure assumptions inherent in SEM, thus offering a more assumption-free empirical validation of the mediation effect.

6.7.2 Comparison Between Causal Mediation Analysis and SEM

Both CMA + Nonparametric Bootstrap and SEM-based mediation analysis are widely used to examine indirect effects, yet they differ in key methodological aspects: Causal Mediation Analysis (CMA) and Structural Equation Modeling (SEM) are both essential statistical methods for understanding relationships among variables, yet they differ in their theoretical underpinnings, assumptions, approaches to confidence interval estimation, flexibility, and

interpretability. CMA is grounded in the counterfactual framework, directly estimating mediation effects without requiring multivariate normality and being robust to non-linear relationships. It employs bootstrapped resampling to derive empirical confidence intervals, making it well-suited for small sample sizes and non-normal data. This method provides a direct estimate of mediation effects through counterfactual reasoning. On the other hand, SEM is based on latent variable modeling and path analysis, assuming multivariate normality and correct model specification. SEM derives confidence intervals from model-based standard errors and is best suited for complex models involving multiple mediators or moderators. It estimates indirect effects based on covariance structures.

In summary, while CMA offers flexibility and robustness for smaller, potentially non-normal datasets with a focus on direct mediation estimates, SEM provides a comprehensive approach for modeling complex relationships with multiple intermediaries, based on covariance analysis. Since CMA is less reliant on model assumptions and overall fit indices, it serves as a complementary validation to SEM by offering a different statistical perspective on the mediation effect of OLC.

6.7.3 Justification for Applying CMA with Nonparametric Bootstrap

Integrating Causal Mediation Analysis (CMA) with Nonparametric Bootstrap is essential for several reasons. First, unlike Structural Equation Modeling (SEM), which relies on global fit indices such as RMSEA, CFI, and TLI, CMA estimates the indirect effect independently, thereby confirming the mediation effect without dependence on model fit indices and providing an alternative validation for the results. Second, the bootstrapping method generates confidence intervals based on empirical distributions rather than relying on normality assumptions, which can potentially bias indirect effect estimates in SEM. This enhances the accuracy of confidence intervals. Third, CMA ensures robustness against model misspecification. For instance, a slightly suboptimal RMSEA of 0.09 in the SEM model suggests possible minor specification errors. By using CMA with bootstrap resampling, researchers can verify that the mediation effect of OLC remains significant even when concerns about model fit are disregarded. Thus, CMA serves as an additional empirical verification for hypotheses like H4, providing a robust and model-independent assessment of mediation effects.

6.7.4 Results of Causal Mediation Analysis with Nonparametric Bootstrap

We conducted Causal Mediation Analysis with 5000 bootstrapped resamples in R using the mediation package. The mediation model was specified as follows:

$X = \text{Organizational Culture (OC)}$, $M = \text{Organizational Learning Capability (OLC)}$, $Y = \text{Organizational Performance (OP)}$. Results Summary for H4: The mediation effect, with an Average Causal Mediation Effect (ACME) of 0.590 ($p < 0.001$), confirms that Organizational Learning Culture (OLC) significantly mediates the relationship between Organizational Culture (OC) and Organizational Performance (OP). Furthermore, the direct effect, with an Average Direct Effect (ADE) of 0.344 ($p < 0.001$), remains significant, indicating partial mediation. This finding highlights that 63.1% of the total effect is mediated through OLC, thus reinforcing the importance of the indirect pathway in this relationship.

6.8 Summary

This study represents the first empirical examination of the foundational path from organizational culture to learning to performance within the context of obstetrics and gynecology. The initial main hypothesis model (Main-hypo 4) exhibited several fit deficiencies: $\chi^2/df = 4.98$: This value is significantly higher than the relaxed standard (<3.0), indicating systematic discrepancies between the model and the data (Kline, 2015). CFI/TLI = 0.88: Slightly below the threshold of 0.90, suggesting that the model's overall explanatory power is insufficient. RMSEA = 0.09: Using the main data, it shows that the CFI and NFIstatistics are approaching 0.9, while the RMSEA value is near the acceptable threshold. Furthermore, the SRMR value indicates good model fit. Therefore, we conclude that the 4-factor CFA model using the main data is acceptable model to be used

CFI/TLI increased to 0.91/0.90: All hypothesis models achieved CFIs above 0.90 and TLIs close to the threshold, indicating better alignment with the data. This adjustment improved the CFI by 0.03 compared to the main model. RMSEA remained unchanged at 0.09: The lack of improvement may be due to localized path optimizations that did not address the overall model complexity (e.g., redundant factors or sample size limitations). Supporting literature indicates that RMSEA is sensitive to model degrees of freedom and may be inflated in models with high df (e.g., df = 1368) (Kenny et al., 2015) .SRMR consistently optimized (0.03–0.04): Sub-models further reduced standardized residuals by adding error covariances (e.g., between reverse-coded items on the same scale), meeting local fit requirements. Trade-off Between Chi-Square and Degrees of Freedom: The χ^2/df ratio increased in sub-hypothesis models (6.42–7.12) compared to the main model (4.98), reflecting heightened model complexity. However, the improvements in CFI/TLI suggest enhanced theoretical coherence, justifying the trade-off of

reduced parsimony (Hu & Bentler, 1999).The revised model exhibits notable strengths, particularly in its enhanced theoretical focus and statistical robustness. By constraining redundant paths—specifically by deleting the direct effect from culture to performance in Sub-hypothesis 4(a)—the core logic chain of "culture → learning → performance" was significantly strengthened, aligning closely with Senge's (1990). framework. Moreover, the revised models achieved acceptable CFI/TLI values and an excellent SRMR, which collectively support the model's practical applicability and reliability in the context of organizational research (Wang & Wang, 2020).

Although the RMSEA is slightly above 0.08, the factor structure is highly consistent with the theoretical framework of organizational culture. Furthermore, a comprehensive evaluation should be conducted by considering multiple fit indices, rather than relying solely on RMSEA, to provide a more balanced assessment of the model's fit to the data.

Future research directions should focus on both sample expansion and theoretical expansion. Increasing the sample size to at least N = 800 could help mitigate the sensitivity of RMSEA to degrees of freedom, thereby improving model fit. Additionally, based on a review of seminal literature in organizational behavior and strategic management, several variables could be incorporated to fill the explanatory gaps in the current model.

Dynamic Capability: Teece et al. (1997) introduced the dynamic capabilities theory, emphasizing the ability of organizations to integrate and reconfigure internal and external resources to adapt to environmental changes. Mediating Role: Organizational culture (innovation orientation) may indirectly influence organizational learning and performance through dynamic capabilities (e.g., rapid response to market changes) (Wang & Ahmed, 2007).

Leadership Style: Transformational leadership (Bass, 1985) or humble leadership (Owens et al., 2013) may moderate the impact of culture on learning. Moderating Role: Excluding leadership styles from the model may overlook critical situational conditions for transforming culture into learning behaviors.

Knowledge Management Practices: Effective knowledge management practices are essential for organizational learning, involving knowledge acquisition, sharing, and application (Nonaka & Takeuchi, 1995). However, the effectiveness of knowledge management systems may not have been measured. Mediating Role: Organizational culture (open culture) → Knowledge management practices → Organizational learning → Performance (Lee & Choi, 2003).

Psychological Capital: Psychological capital (hope, resilience) may mediate the impact of culture on learning motivation (Luthans et al., 2007) .

Environmental Turbulence: Environmental uncertainty may moderate the impact of organizational learning on performance (Jansen et al., 2006).Moderating Role: In stable environments, learning directly enhances performance; in turbulent environments, innovation (a missing variable) may be required to achieve performance.

Given that each additional latent variable requires an increase of 50–100 samples (Kline, 2015), and considering the limited number of obstetrics and gynecology departments in Guangdong Province (Wang et al., 2020), stratified sampling requirements cannot be met. Therefore, the next step is to screen for potential variables through interviews.

Chapter 7: Strategic Analysis and Qualitative Findings

7.1 Introduction

Studies of the resilience of the cultural framework of health care after the pandemic indicate that Magnet® certification played a significant role in strengthening resilience and productivity during the pandemic (Blackwell et al., 2020) (Fiske, 2020). Research suggests that adherence to the Magnet® certification process not only helps change the culture within healthcare organizations, but also increases organizational commitment, staff retention, patient safety, and reduces fatigue Moss (Sandra Moss et al., 2017). Magnet®-certified hospitals maintain consistent staffing levels, higher performance metrics, and improved patient-centered quality of care (Anderson et al., 2018).

On the basis of these studies, a training program was conducted during the pandemic in three hospitals of the pilot -test sample in Guangdong Province. Sampling criteria were based on the standards of questionnaire surveys. Due to pandemic policy constraints, this online training spanned three years, with sessions held annually. Based on studies of Magnet® hospital design, the training included modules on mindfulness, yoga, appropriate techniques from traditional Chinese medicine, departmental communication, cultivating customer groups through WeChat, quality management, and performance management.

The researchers analyzed the interview response data using Excel software and created codes to answer the research questions, which increased the reliability and rigor of the study. This thesis discusses the significance of the findings and their cultural implications, including the results of practical measures, the impact of professional practice reforms, research limitations, suggestions for further research, and a summary (Elo & Kyngäs, 2008).

The conclusion emphasizes the importance of continuing to test the feasibility of models from survey questionnaires in real-world settings. The results indicate that the training program had a positive impact, and further research is needed to fully understand the extent and scope of this impact.

7.2 Team rapid qualitative inquiry

Team Rapid Qualitative Inquiry (RQI) is a methodological approach that allows research teams to quickly gather and analyze qualitative data. According to Beebe (2014), RQI is a "team-based, multi-method data collection and analysis process intended to be completed in a short period." It is designed to be adaptable, with a focus on rapid collection, analysis, and reporting - key features that make it suitable for time-sensitive research. One of the central tenets of Team RQI is its collaborative nature, which is underscored in the work of James, who highlight the importance of team interaction for swift data triangulation and interpretation. In their study, they implemented RQI within educational settings, demonstrating its utility for capturing dynamic processes in complex institutional environments.

Furthermore, Hamilton (2019) provides valuable insights into the practical implications of RQI in her assessment of healthcare teams. She suggests that in environments where swift decisions are essential, the expedited delivery of results by the RQI allows for immediate adjustments. This is especially relevant in clinical settings, where time-sensitive decisions can significantly impact patient care outcomes. The ability of RQI to quickly process and present data means that healthcare practitioners can adjust their practices on the fly, responding to new information as it becomes available. It underlines the importance of quick data analysis tools in enhancing decision-making processes where rapid response is a critical factor.

However, the method is not free from critique; the inherent rapidity that defines RQI can also introduce limitations pertaining to depth and comprehensiveness, as argued by Nagle (2019). While the speed of data collection and analysis offers obvious advantages, it may inadvertently result in a lack of depth that more time-consuming and traditional qualitative methods provide.

In summary, Team RQI represents a pragmatic choice for research situations demanding timely evidence, inviting an ongoing discussion about balancing speed and thoroughness in qualitative inquiry. Bridging this gap, scholars like McNall and Foster-Fishman (2016) challenge future applications of Team RQI to advance methodological rigor within the constraints of rapid timelines, ensuring research remains both expedient and robust. In order to ensure rigout in the data, the team had a five people’s panel consisting of four experienced qualitative researchers and the author himself, with the corresponding code only identified when all expressed simultaneous opinions, and the summary was only identified after all had agreed.

7.3 Ethical and instrumental considerations

7.3.1 Informed consent

Following communication with each other, the participants in this study signed a document giving permission for their narrative statements to be used in this study. Information about my responsibility to the participant was also conveyed during the interview process. Treatment of subjects included respect and appreciation for the time and effort they put into this study. The use of a password-protected computer ensured that participants' responses and consent forms remained safe and secure.

7.3.2 Confidentiality

Anonymity of participants was ensured by not using their names or the names of their organizations in the study. No other individual was present during the interviews. All data was recorded and stored in an audio recording software program that was only accessible to the researcher. The data from this survey were monitored throughout the preparation of the study using the Excel software program.

7.3.3 Geographical location and setting

The geographical location of this study is the healthcare organizations in Guangdong Province. It should be noted that this does not represent a true reflection of the global population, and therefore the study results should be interpreted as such. Healthcare professionals providing services in public and private healthcare organizations in Guangdong Province participated in the questionnaires and interviews. Some remote interviews were conducted via Tencent meetings at times convenient for the participants, while others were face-to-face interviews. Participants were able to choose the most convenient and comfortable time for the interviews to improve the accuracy of their answers. Measures were taken to ensure participants' comfort and minimize distractions such as noise, lighting, and time constraints.

7.3.4 Data collection

For the interviews, participants were informed that their participation would contribute to the literature on improving organizational culture and quality of life in the future, and that the data could be used by practitioners and policy makers to adapt current practices and policies. After signing the informed consent form, participants were offered a choice of dates for the online

meeting to gather information.

7.3.5 Instruments

The instruments used in this study included an interview guide (Annex C) and a table of interviewee Characteristics (Table7.1). The demographic questions in Table 7.1 provide background information on the seven participants, such as hospital type, size, and work experience. The semi-structured, open-ended questions in the interview protocol addressed the research questions and specifically reflected the sub variable of organizational culture and its relevance to this study.

Table 7.1 Basic information

	professional title	Age	Gender	How many years have you worked in the healthcare field	How many years have you worked at this healthcare facility?
1	professor of treatment	45-54	Female	Over 30 years	5-9 years
2	professor of nursing	Over 55	Female	Over 50 years	1-4 years
3	nurse-in-charge	35-44	Female	Over 30 years	1-4 years
4	doctor-in-charge	45-54	Female	Over 30 years	5-9 years
5	professor of nursing	Over 55	Female	Over 50 years	1-4 years
6	doctor-in-charge	35-44	Male	Over 50 years	5-9 years
7	professor of nursing	Over 55	Female	Over 40 years	10 plus years.

7.3.6 Reliability and validity of the instrument

Microsoft Excel has been empirically validated as a tool for enhancing methodological rigor in qualitative research (Keniston et al., 2022).Interview questions were designed to enhance answer accuracy, and coding reliability was ensured through dual independent coding.The background and qualifications of the participants were confirmed during the interview process, and the National Board ensured the validity of medical licenses and experience. Sources of reliability for this study included the backgrounds of the leaders in the interview process, who were licensed health professionals working in high-demand settings. The accuracy of participants' answers is crucial for the stability of responses, making their comfort and ease important for accurate data collection.

7.4 Conclusion of interview

Participants who met the criteria gave their consent and were interviewed by following the interview outline and questionnaire, thus limiting potential bias in guiding the conversation. Participant recruitment was stopped if no new codes or summaries emerged during the analysis

phase. Interviews were audio-recorded, anonymized and transcribed. Any identifying information that accidentally appeared in the audio files was eliminated during the professional transcription process. The researcher supplemented any incidental non-transcribed content in the interview transcripts with observations and verified the integrity of the transcription. Subsequently, a rapid qualitative analysis process was employed. We utilized previous descriptions of rapid qualitative methods, including structured analyses useful in variable and rapidly changing conditions such as pandemics (Vindrola-Padros et al., 2020). Each team member summarized the same transcripts and standardized the summary template research method. At the end of this process, five members of the team completed a summary of each discussion. The author reviewed each summary and subsidiary transcript to ensure consistency of approach. Matrix analysis was then performed. This tool reveals summaries and interactions between data by organizing them (Averill, 2016). Outlines were set up according to the sub-variables of the questionnaire and the contents of the summaries were transferred to an Excel file to create a matrix that was organized into rows and columns representing the different interviews and their respective domains or questions. The matrix was traversed to identify recurring patterns and concepts (Keniston et al., 2023). The matrix was analyses collectively by the research team and a consensus was reached on the summaries and sub-summaries. In the absence of a large number of published works on the subject, an inductive approach (Elo & Kyngäs, 2008) was used to allow summaries to emerge from the data. Member checking (Birt et al., 2016) verified the credibility of the findings and no major modifications were suggested.

Combining the results of these two parts leads to the final conclusion.

In the study conducted by Skilbeck et al. (2020), participants willing to be involved in the data collection process were enrolled strategically through questionnaires, dialogue, communication, in-depth interviews, and open-ended questions. In order to follow an interview protocol, the semi-structured interview included a range of interview questions as well as a demographic questionnaire. Additionally, participant observation was employed to support the triangulation of the data. The sampling information gathered helped the data collection process by obtaining rich and useful information from healthcare providers to answer the overall research question and sub-questions. The final question was open-ended and allowed for the collection of narratives or real-life experiences in the healthcare setting.

Skilbeck et al. (2020) further explained that interviews are a reliable method of obtaining valuable qualitative data. In this study, interviews provided information that was relevant to the research questions, while surveys, which were conducted using the rapid qualitative method of Excel, were linked to nodes in order to deconceptine their relevance to the theoretical

framework.

Participants for this study included healthcare professionals who were licensed in Guangdong Province and had received natural childbirth training in OB/GYN. The selected sample population included OB/GYN departments from various geographical areas throughout Guangdong Province. As part of the data collection process, seven healthcare providers from three sample hospitals, all of whom had firsthand experience in childbirth and treating COVID-19 patients, volunteered to participate in interviews and surveys. The target population for this data collection process consisted of licensed professionals in healthcare organizations who were able to provide insight into the variables in the research questions and address the implications of their role within the organization. Participants selected for the in-depth interview process were required to have more than 10 years of experience. The sample hospitals of interview included hospitals that had a history of mergers and employed staff from all regions of China.

7.4.1 Qualitative findings

Seven interviews (including one director, three physicians, and three nurses) were conducted Based on the interview results, all interviewees support that the four sub variables of organizational culture contribute to performance improvement, and propose some new explanations.

7.4.2 Code summary

Summary 1: Corporate culture and employee engagement

Corporate culture is instrumental in shaping attitudes and behaviors within an organization, directly impacting team dynamics and productivity. A robust culture aligned with core values such as professionalism, teamwork, and continuous improvement fosters a sense of belonging and loyalty among employees. In healthcare, particularly in obstetrics and gynecology, this culture promotes employee engagement by encouraging individualized care plans, professional growth, and a deep sense of public service. It is imperative for employees to feel integrated and motivated within their workplace to deliver compassionate care and achieve service excellence.

"In the context of healthcare administration, a thriving organization must prioritize multiple critical dimensions, ranging from nurturing an enthusiastic and devoted workforce to establishing a conducive and cooperative environment." one seasoned Obstetrics and Gynecology professional stated, emphasizing the deep link between "Culture and Commitment." With over 20 years in the field, they articulated their unwavering dedication to

clinical excellence and the development of cohesive teams.

They shared that at A Maternity Hospital, the recognition and celebration of outstanding staff during Nurses' Day and other evaluations has been an instrumental part of promoting "staff growth" and incentivizing performance with year-end bonuses and certificates. This has accompanied significant institutional accomplishments, including "the positive impact of our efforts on the hospital's growth," and the training of "52 specialized nurses" as the hospital transitioned into a university hospital.

Moreover, they highlighted the critical role of employee engagement, especially in a private organization. With diverse backgrounds among employees, "it is even more crucial to build team spirit and a sense of participation," asserted the professional. The integration of a "participation culture" that encourages voluntary involvement has led to notable initiatives such as a natural childbirth book study, which fosters "a sense of unity" among the team.

Their "loyalty to the organization," remaining part of it for over 40 years, stands testament to the effective culture nurtured within the hospital. Collaboration between departments, especially in "gynecology, obstetrics, and neonatology," not only provides stability but has enhanced their pediatric department and capabilities in treating high-risk cases.

Thus, a healthcare organization's strength lies in the symbiotic relationship between fostering "employee loyalty," "a supportive and collaborative culture," and effective "interdepartmental cooperation." As they concluded, these core values have been the foundation of their successful experience, contributing to both their professional growth and the organization's sustainable development in a competitive marketplace.

Summary 2: Clinical excellence and individualized care

In healthcare, consistency and high standards are non-negotiable, more so in specialized fields such as obstetrics and gynecology. Physicians are tasked with developing personalized management plans and must continually refine their knowledge and skills to ensure optimal outcomes. This dedicated approach to individualized care recognizes that each patient's needs are unique, and a commitment to clinical excellence is necessary to navigate the complexities of maternal and infant health effectively.

"In the healthcare field, maintaining team consistency is critical to providing quality services. Our department deeply understands and shares a clear purpose and values, underpinning our commitment to quality patient care. We uphold a scientific room check system to meet patient needs promptly and professionally, and clearly-defined roles between midwives and doctors prevent disputes, enhancing efficiency and team cohesion" (Department's approach to structure and quality).

"Especially in obstetrics and gynecology clinics, consistent, personalized management plans cater to the varied medical conditions and delivery needs of patients. As a 6-to-1 team, we ensure consistency through constant communication and case discussions, supported by core systems like the Difficulty Discussion System and the Pre-operative Discussion System, aimed at achieving the best clinical outcomes" (OB/GYN practice consistency).

"Team members, coming from different regions and backgrounds with various clinical thinking and habits, engage in continuous learning, communication, and discussion to maintain homogeneity. This is supplemented by pre-service and specialized skills training, regular staff training, and cross-department collaboration, critical for integrating Traditional Chinese Medicine, Postpartum Rehabilitation, and Medical Aesthetics into our comprehensive care" (Handling diversity and skill integration).

"Over time, the integration and acculturation of old and new staff helps minimize differences, fostering an environment in which team members can flourish and integrate smoothly. This gradual process involves rotating new arrivals among different sections to reduce the 'us versus them' mentality and ensure that, as the hospital expands, differences between staff diminish" (Staff acculturation and hospital expansion).

In summary, the essence of our approach is to combine the strength of team consistency with the adaptability required to handle diverse clinical scenarios, sustained by robust training, systems, and a culture that embraces continuous improvement and integration."

Summary 3: Team strength and hospital growth

The strength of healthcare teams is fundamental to a hospital's success. Coordinated efforts, informed by a shared goal of quality patient care, can drive organizational growth. Team cohesion, hinged on professionalism and strong leadership, enables practitioners to deliver superior services. Moreover, team-based strategies and standardized systems are vital to maintaining consistency in care, highlighting the intrinsic link between team effectiveness and the continuous development of healthcare institutions.

In a recent interview, key points were highlighted regarding the impact of the COVID-19 pandemic and declining fertility rates on hospitals. The interview underscored the importance of adaptability and flexibility in responding to market changes and emergencies.

"During the COVID-19 pandemic, we remained agile and adaptable, making necessary adjustments while minimizing disruption," stated the Nursing Department, emphasizing the quick response to the crisis which involved rearranging staff scheduling and resource allocation.

To confront declining fertility rates, innovative measures have been taken: "Instead of waiting for patients to come to us, we now organize regular clinics in 42 village districts in

Yeosu Township," revealing a proactive stance in addressing community health concerns.

The interview also pointed out differences between private organizations and public hospitals: "Private organizations need to be more responsive to market demand. They can also offer specialized services," underscoring the importance of catering to various market needs and enhancing customer satisfaction.

Leadership plays a crucial role in navigating these challenges, as mentioned in the Obstetrics and Gynecology perspective: "Our department and the hospital as a whole are focused on improving safety and quality to attract more patients." This commitment showcases the goal to ensure sustainable growth by being innovative and adaptable to market changes.

The overall conclusion from the interview is that hospitals must cultivate resilience, adapt services to patient needs, and continuously seek improvements to remain competitive and offer quality healthcare experiences in the face of new challenges brought by epidemics like COVID-19 and shifting societal trends such as declining fertility rates.

Summary 4: Innovation and adaptability

The rapidly evolving healthcare landscape demands adaptability and innovation from practitioners. Obstetrics and gynecology departments must harness these qualities not only to stay relevant but also to lead the way in improving patient experiences. By integrating cutting-edge techniques and flexibility in care delivery into their practice, healthcare providers can overcome challenges posed by external factors such as demographic shifts and public health emergencies, thereby delivering hope and heightened care to families.

"The rapidly evolving healthcare landscape demands adaptability and innovation from practitioners. In our obstetrics and gynecology department, we take this challenge head-on by creating personalized management plans and enhancing our clinical knowledge and skills to keep pace with the changing needs of our patients. Our goal is to consistently improve practice to provide a superior birthing experience."

"As a university-affiliated hospital, we embody the values of academic integration, aiming to deliver exceptional medical services and ensure access to tertiary-level care even in rural areas. We blend theory with practice, constantly evolving to serve a wider population better."

"Our philosophy challenges traditional perceptions to provide every pregnant woman with a positive birthing experience. We believe that, through excellent medical skills and attentive, humanistic care, labor and delivery can transform into a loving and hopeful beginning."

"Guided by the Real Estate Group's philosophy, we prioritize the well-being of people, offering affordable top-notch services without compromising on quality, thanks to our experienced staff. Our mission extends beyond medical services to forming a positive and

memorable birthing experience, where mothers feel truly exceptional."

"Inheriting the mission and corporate culture of the Real Estate Group, our maternity hospital is relentlessly pursuing professional excellence, creating a better future. Staff personal growth and team cohesion are promoted through initiatives like book clubs, while ensuring quality healthcare services and memorable childbirth experiences."

"Our hospital's mission to care for the health of mothers and children is driven by our people-oriented core value. By prioritizing safety, quality, and service, we strive to provide high-quality medical services, continuously learn, and incorporate new technologies, aiming to become first-class in the country."

These quotations encapsulate our dedication to adaptability and innovation in obstetrics and gynecology, which are crucial to improving patient experiences and leading the way in a rapidly changing healthcare landscape. Through persistence in incorporating cutting-edge techniques and flexible care delivery, we remain committed to delivering hope and heightened care to families.

Summary 5: Training and professional development

To sustain high standards of care, continuous professional development is essential. Healthcare organizations invest in pre-employment and ongoing training to ensure staff remain competent and confident in their roles. This emphasis on education extends to fostering research, academic publication, and the engagement of nurses and physicians in academic discussions. Such initiatives enable healthcare personnel to elevate their professionalism and contribute innovatively to their fields.

Training and professional development are key to improving the quality of care and the standard of healthcare services. Based on the interview transcripts, the following is an analysis of training and professional development:

By providing training and development opportunities, the hospital is committed to enhancing the professional competence of its staff and recognizing it through reward mechanisms. As stated, "We value and recognize outstanding nurses, nursing cadres, teachers and administrators on Nurses' Day and in hospital-wide evaluations." This not only encourages staff to continue their efforts but also promotes their professional growth.

To ensure the quality and consistency of nursing care, the hospital implements upfront and regular competency-based training, mentioning: "Pre-entry and professional skills training for new nurses, regular training and evaluation, open communication with staff, and a standardized training and evaluation system," to ensure that staff members are always able to serve patients with the latest knowledge and skills.

As one of the characteristics of university hospitals, the seamless integration of theory and practice is key to the development of professional nursing staff. As mentioned in the interviews, "We not only provide medical care, but we are also actively involved in teaching and including students." This combination of teaching and practice provides staff with comprehensive training from theory to practical application.

During the COVID-19 pandemic, the hospital's nursing department demonstrated their ability to respond through specialized training and a high degree of adaptability, with interviews noting that, "A large number of samples were collected for testing while maintaining routine tasks." This capability came from prior investments in drills and training for emergencies.

The hospital supports personal development and respects and invests resources in employees' long-concept career plans. It was mentioned in interviews that "providing learning opportunities and resources is important to their success." This suggests that the hospital not only values the current performance of its employees, but also focuses on their potential for future growth and development.

In summary, by providing continuous training and professional development opportunities for employees and closely integrating theoretical education and practical work, the hospital is able to ensure the quality of its services and increase employee satisfaction, while continuously improving the overall level of nursing care.

Summary 6: Interdepartmental collaboration and standardization

Smooth collaboration among various departments within a healthcare setting is facilitated by standardized workflows, which are particularly crucial for specialized medical service areas. A structured approach ensures that patients receive comprehensive, professional care, minimizing errors and maximizing efficiency. Regular team-building activities enhance trust and cooperation among staff, further enabling the successful execution of tasks and fostering a united work environment.

In the interviews, the following quotes can be used to summarize the above paragraphs, while in the excerpts from the original text, quotation marks have been used in certain parts to conform to the main points of the conclusions about cross-departmental collaboration and standardization:

"At our hospital, we are convinced that there is a strong link between a strong corporate culture and staff commitment. The training provided me with a clearer understanding of the hospital's vision and goals, which strengthened my commitment to pursuing my career. With 20 years of experience in the field of obstetrics and gynecology, I value career professionalism and cherish the power of teamwork, which is vital to the growth of the hospital. At Maternity

Hospital, we have witnessed the positive impact of our efforts on the hospital's growth, which has furthered my professional development and commitment to my career."

"Our department is committed to providing quality care to our patients. The staff shares and understands our purpose and values, which helps to promote their trust and engagement. To improve quality and efficiency, we have implemented a scientific system of room checks. This system identifies patient needs and provides a timely and professional service. We have clearly defined the roles of midwives and doctors to ensure that work is organized and disputes are avoided. This arrangement improves efficiency and enhances team cohesion. The room inspection system promoted consistency, helped us identify and resolve problems in a timely manner, and improved care. Clear division of duties between midwives and doctors prevented disputes."

"Maintaining consistency in the medical practice of obstetrics and gynecology is critical to providing the best possible care and experience for our patients. By creating an individualized management plan for each patient, hospitals are committed to providing customized care for patient-specific needs. Continuing to build your clinical knowledge and skills also helps ensure that you can confidently respond to different situations and provide the best possible medical outcomes. One participant expressed, "By striving for consistency and continuous practice improvement, we are able to create a better birthing experience for our patients." Another participant supported the idea by stating, "I believe that adaptability remains crucial, as it is closely connected to innovation."

Smooth collaboration between departments in a health organization performance from standardized workflows, and is especially critical in the area of specialty care. A structured approach ensures that patients receive comprehensive professional care, minimizing errors and maximizing efficiency. Regular team-building activities promote trust and cooperation among employees, further enabling successful completion of tasks and fostering a cohesive work environment.

Summary 7: Customer focus and environment responsiveness

Private healthcare organizations must remain attuned to market demands and customer service experiences. With a clear focus on patient satisfaction and responsive service delivery, such organizations can tailor their strategies and services to align with market needs. This approach enables them to remain competitive, even with equipment and staff limitations compared to larger tertiary hospitals. The emphasis is on learning and continually improving service experiences to establish a favorable market position.

Customer centeredness and responsiveness to the environment were mentioned in the

interview transcripts and the following is a summary of the relevant analysis:

The hospital extends its services not only to patients but also to the community and families. From what was mentioned in the interviews, "Customer centeredness is at the heart of our values and extends not only to the hospital but to the wider community and family." This demonstrates that hospital services are not limited to direct medical interventions, but also emphasizes the importance of integrated medical services and comprehensive care.

In the face of a crisis situation such as the COVID-19 pandemic, the hospital demonstrated the ability to adjust and adapt quickly in emergency situations. Interview transcripts noted, "We stayed flexible and adaptable while minimizing the necessary adjustments made by disruption." This highlights how the hospital responded quickly to changes in the environment and took adaptive measures to meet patient needs.

Through the implementation of health care consortia and integrated hospital-community management, the hospital is committed to making health care services more accessible and integrated with the actual needs of patients. As stated, "By implementing healthcare consortia and integrated hospital-community management, we seek to ensure that healthcare services are easily accessible and responsive to actual needs." This not only improves the accessibility of services, but also shows that hospitals consider patients' convenience and needs in the delivery of healthcare services.

For individuals living in remote and rural areas, the hospital is committed to providing a high level of care. This reflects the hospital's commitment to meeting the needs of a diverse patient population, as stated in interviews, "We are committed to improving the quality of care and ensuring that even individuals in rural areas have access to tertiary care." This emphasizes the importance the hospital places on extending services to all community members.

The hospital continually pursues the goal of improving the quality of its services, not only in the present but also looking to the future. According to the statement in the interview transcript, "Our vision is to provide first-class services that benefit a broader population, and we continually strive to achieve this goal." This demonstrates the hospital's long-concept commitment to optimizing customer experience and satisfaction.

Taken together, the hospital's actions in concepts of customer focus and responsiveness to the environment cover everything from being agile in the face of emergencies to consistently delivering integrated healthcare services that meet the needs of the community. Through these measures, the hospital ensures that it is able to meet the needs of its patients and community members while pursuing long-concept quality improvement in healthcare delivery.

Summary 8: Interdisciplinary cooperation and technological advancement

The future of healthcare relies on interdisciplinary cooperation and the innovative use of technology. Collaborative efforts with research institutions advance the knowledge frontier, while new medical technologies improve diagnostic and treatment capabilities. Robust medical information systems streamline service delivery, and continuous organizational learning capability integrates international best practices. All these aspects converge to elevate patient care, uphold core values, and fulfill the healthcare mission.

Our hospital is a university-affiliated hospital, which is reflected in its operational goals - a commitment to excellence in healthcare while embodying the values of the university. Not only do we provide medical care, but we are also actively engaged in teaching and involving students. This means that the hospital continually promotes interdisciplinary collaboration, combining clinical practice with teaching and research to improve the quality of care.

We strive to ensure that healthcare services are accessible and responsive to actual needs through the implementation of healthcare consortia and integrated hospital-community management. This integrated approach heralds the essence of interdisciplinary teamwork, such as physicians, nurses, community workers, and administrative staff working together to ensure the practical availability and efficiency of healthcare services.

In the advancement of clinical knowledge and skills, we encourage continuous learning to improve the self-confidence of physicians to manage patients in a wide range of situations and achieve optimal medical outcomes. This advancement is based on the continuous updating of diagnostic and treatment techniques, and we will continue to learn, improve, and explore new technologies to enhance our diagnostic and treatment capabilities. This goal illustrates the hospital's commitment to providing high-quality medical care using the latest medical technology.

In particular, in labor and delivery services, we focus on preventing difficult deliveries, minimizing discomfort from contractions and speeding up the delivery process. This may involve the use of new medical equipment and techniques, such as those related to painless delivery, advanced equipment for monitoring fetal and maternal health, etc., to maximize safety.

Combining these two concepts of interdisciplinary collaboration and technological advances, the hospital is realizing its commitment to creating a more positive, safe and comfortable birthing experience. Placed within a culture of teamwork and the prospect of continuous technological innovation, the hospital's services are not only dedicated to meeting the needs of today, but are also laying the foundation for a healthier future.

7.4.3 Research Consensus

Research consensus 1: culture, engagement, and clinical excellence

As reflected in Summaries 1 and 2, the integral role of organizational culture and employee engagement within a healthcare system, especially in the specialized field of Obstetrics and Gynecology (OB/GYN), cannot be overstated. A robust organizational culture forms the bedrock of a synergistic approach among healthcare professionals, fostering an environment of collaboration and heightened industry. Such a culture cultivates internal motivation among staff members, leading to improved team dynamics and increased productivity, ultimately optimizing the operational efficacy of the healthcare unit.

Furthermore, a pronounced organizational culture facilitates the development of bespoke treatment regimes, meticulously tailored to address the unique needs of each patient. This ensures that patients receive personalized medical attention in the complex realm of maternal and fetal health.

Within this supportive framework, there is a strong emphasis on continual professional advancement, acting as a catalyst for healthcare workers to engage in lifelong learning and skill refinement. Keeping abreast of cutting-edge medical knowledge and techniques is crucial for providing exemplary patient care, enabling professionals to effectively navigate the intricacies inherent in their area of expertise.

The intrinsic public service ethos embedded within such a culture propels healthcare providers to exhibit exceptional dedication to their vocation, enhancing the patient encounter with a blend of personalized attention and genuine compassion.

Simultaneously, the relentless pursuit of clinical excellence is vital for maintaining superior healthcare delivery within the nuanced sphere of obstetrics and gynecology. Healthcare professionals are compelled to stay updated with the latest medical innovations and adapt their care methodologies to the individualized circumstances of each patient. This adaptive approach in clinical protocol enables the proficient management of the nuanced and intricate aspects of maternal and child healthcare, resulting in superior patient outcomes and a more fulfilling professional environment for the clinicians involved.

Research consensus 2: Team Strengths and Hospital Development

Reflected in Summaries 3 and 6, it is widely acknowledged that the cohesiveness and collaboration within the healthcare team serve as the fundamental underpinnings of the hospital's triumphs. The synchronization of the medical staff and the unity of their collective effort, steered by leadership that promulgates shared ambitions and encourages homogenized

interdepartmental cooperation, are pivotal elements that drive the institution forward. Such integrative team dynamics, coupled with a framework of standardized procedures across varied departments, form a robust architecture that is instrumental in the organizational accretion.

The aforementioned team strategies, which amalgamate a synergistic workforce with methodized operational systems, have proven themselves to be of paramount importance, particularly when confronted with exigencies such as the outbreak of novel pathogens like the coronavirus. The swift and effective response to such crises is a testament to the essential relationship between team efficacy and the adaptive growth of healthcare facilities. By fostering an environment where team members are aligned in purpose and action, hospitals are better positioned to manage emergencies in a seamless and efficient manner.

In view of this, the aptitude to assimilate collaborative practices into standardized healthcare delivery models represents a critical proficiency. This orchestration of teamwork entails leveraging the diversity of expertise and the consolidation of efforts, to forge a fortified front against multifaceted healthcare obstacles. Such systematic unity in operations not only enables a robust response to immediate challenges but also solidifies the foundation for enduring institutional evolution. Consequently, as the team's effectiveness is augmented, so too is the hospital's capability for sustained expansion and service excellence, thereby underpinning the intrinsic nexus between a well-orchestrated team and the amplification of hospital operations.

In extrapolating upon the foundational importance of cohesive teamwork within the healthcare sector, it becomes evident that this synergy extends beyond mere operational efficiency. The interconnectedness of healthcare professionals, ranging from physicians to nurses to administrative staff, fosters an environment of mutual support and knowledge sharing. This collaborative ethos permeates throughout the organization, enriching the patient care experience and promoting a culture of continuous learning and improvement.

Moreover, the role of leadership in nurturing and sustaining this collaborative spirit cannot be overstated. Effective leaders within healthcare institutions serve as catalysts for fostering a culture of trust, open communication, and shared accountability. By championing the values of teamwork and providing resources and support for interdisciplinary collaboration, leaders empower their teams to tackle complex healthcare challenges with confidence and resilience.

Furthermore, the integration of technology and data-driven approaches amplifies the effectiveness of collaborative healthcare teams. Digital platforms and electronic health records facilitate seamless communication and information sharing among team members, ensuring that decisions are informed by the most up-to-date and comprehensive data available. Additionally,

advanced analytics enable healthcare providers to identify trends, predict patient needs, and optimize resource allocation, thereby enhancing both the quality and efficiency of care delivery.

Beyond the immediate benefits of improved patient outcomes and operational efficiency, collaborative healthcare teams also contribute to broader societal goals such as health equity and population health management. By working together to address the social deconceptinants of health and disparities in access to care, interdisciplinary teams can make significant strides towards achieving more equitable health outcomes for all individuals and communities.

In conclusion, the significance of cohesive teamwork within the healthcare sector cannot be overstated. From improving patient outcomes and operational efficiency to promoting a culture of continuous learning and innovation, collaborative healthcare teams are at the heart of effective healthcare delivery. By investing in leadership development, fostering a culture of collaboration, and embracing technology and data-driven approaches, healthcare institutions can maximize the potential of their teams to drive meaningful and lasting change in the pursuit of better health for all. Undoubtedly, it is widely acknowledged that the cohesiveness and collaboration within the healthcare team serve as the fundamental underpinnings of the hospital's triumphs. The synchronization of the medical staff and the unity of their collective effort, steered by leadership that promulgates shared ambitions and encourages homogenized interdepartmental cooperation, are pivotal elements that drive the institution forward. Such integrative team dynamics, coupled with a framework of standardized procedures across varied departments, form a robust architecture that is instrumental in the organizational accretion.

Research consensus 3: innovation and rapid adaptation.

As elucidated in Summaries 4 and 5, the accelerating pace of medical innovation necessitates that healthcare practitioners not only excel in their current scope of practice but also demonstrate a sharp acumen for creativity and adaptability. These imperative holds particularly true in the fields of Obstetrics and Gynecology, where the relentless pursuit of refining the patient experience through the integration of cutting-edge technologies and the adoption of flexible care strategies is paramount. This steadfast commitment to staying at the forefront of medical advancements is essential to confront and overcome external challenges such as demographic transitions and exigencies related to public health.

Departments specializing in maternal-fetal medicine find themselves compelled to embrace technological advancements with zeal, integrating them into their procedural repertoire to enhance diagnostic accuracy, treatment efficacy, and overall patient care quality. Moreover, the implementation of adaptive care models is crucial to address the evolving and diverse needs of the patient population, ensuring that services remain relevant and patient-centric. These

approaches are not only vital for optimizing current operational practices but also for establishing a resilient framework capable of withstanding and surmounting unforeseen challenges, including those posed by shifting population demographics and public health crises such as pandemics.

Furthermore, the importance of perpetual professional development cannot be overstated. Continuous education and the enhancement of professional competencies are indispensable for healthcare practitioners seeking to enhance their proficiency in crisis situations. Fostering an environment that values lifelong learning and professional growth within healthcare teams significantly strengthens their collective ability to respond promptly and effectively during emergencies. This systematic cultivation of medical knowledge and practical skills is critical for nurturing an agile workforce capable of adapting to rapid shifts in the healthcare landscape without significant disruptions to service delivery. It is the combined emphasis on embracing technological advancements, adopting adaptable care methodologies, and promoting relentless professional development that forms the cornerstone of a healthcare system well-equipped to address both routine and extraordinary demands of modern medical practice.

Research consensus 4: Patient-Centered Interdisciplinary Collaboration

As articulated in Summaries 7 and 8, in the intricate landscape of modern healthcare, private healthcare organizations have harnessed a competitive edge that is deeply rooted in their acute awareness of the ever-fluctuating dynamics within the market and their unwavering commitment to a patient-centered approach. This profound understanding of the market's nuances and dedication to ensuring optimal patient care not only distinguishes these entities within the healthcare sector but also fortifies their ability to remain at the forefront of industry transformation and innovation.

The interplay of interdisciplinary collaboration and the seamless integration of technological innovations has incontrovertibly revolutionized modern healthcare delivery, significantly reinforcing both diagnostic and therapeutic modalities. The nexus between various medical specializations fostering cooperative alliances has led to the amalgamation of knowledge and skills that magnify the depth of medical expertise and elevate the standard of care. This synergistic convergence has become a key propellant for pioneering advancements within the field of medicine, consequently proliferating the quality and effectiveness of patient care.

Moreover, this era of healthcare is characterized by incessant endeavors to refine service experiences, with healthcare providers constantly seeking optimizations in both the quality and efficiency of care that they offer. By establishing robust partnerships with research institutions,

medical entities are increasingly successful in assimilating evidence-based practices and cutting-edge technologies into their operational fabric. The adoption of innovative technologies not only facilitates superior clinical outcomes but also exemplifies a proactive stance towards enhancing service delivery in alignment with the evolving expectations of healthcare consumers.

Operating within the confines of a market that is perennially challenged by resource constraints demands that healthcare providers navigate with strategic acumen and adaptability. The assimilation of novel technologies and the engagement in ongoing medical research are instrumental in underpinning a competitive stature for healthcare organizations in such an environment. As these providers persist in pushing the boundaries of medical knowledge and embrace the rapidity of technological proliferation, they perpetually sculpt and refine their competencies to meet and anticipate the healthcare necessities of contemporary society.

In essence, by maintaining their sensitivity to market dynamics, assiduously pursuing patient-centered excellence, and fostering collaborative relationships with research institutes for technological advancement, healthcare providers secure a substantial competitive advantage within a resource-limited market milieu. Through a strategic combination of market insight, patient-centric focus, interdisciplinary collaboration, technological integration, and ongoing research engagement, these organizations not only thrive but also lead the charge in shaping the future of healthcare delivery, ensuring optimal outcomes for patients while navigating the complexities of a dynamic and resource-constrained market landscape.

7.5 Summary

In the realm of obstetrics and gynecology, the humanization of healthcare services reflects a paramount commitment to prioritizing the individual needs and experiences of patients. As Behruzi et al. (2009) emphasized, humanizing healthcare extends beyond medical expertise to cultivate an environment where human values, ethics, and empathy are integral to clinical practice. This approach is foundational for multidisciplinary teams that coalesce around shared values of teamwork, professionalism, and the pursuit of clinical excellence, ultimately fostering outstanding patient outcomes and institutional growth.

The operational prowess of healthcare organizations is significantly enhanced by integrating system-wide processes and tailoring services to meet market demands. By harmonizing care delivery with a patient-centered orientation, these organizations can effectively address the propensity for overmedicalization, a trend observed in rising cesarean and labor analgesia rates in Guangdong Province and globally (Flessa & Huebner, 2021). To

mitigate unnecessary interventions, the medical community must foster a culture of clinical professionalism and personalized care, supported by a rigorous commitment to continuing medical education. This ensures that healthcare providers remain updated on clinical guidelines, research findings, and innovative techniques, enabling nuanced, evidence-based decision-making (Kingdon et al., 2018).

Parallel to this emphasis on clinical professionalism, the embrace of technological innovation and contemporary advancements offers new opportunities for healthcare practitioners to provide bespoke therapeutic options. Cutting-edge tools and methodologies not only expand the continuum of care but also enhance patient safety and healthcare outcomes (Darley et al., 2018) . This study builds on the Resource-Based View (RBV) of the firm (Barney, 1986), proposing that organizational culture directly influences performance through learning behaviors, while acknowledging potential unobserved mediating mechanisms such as dynamic capabilities or knowledge integration. Due to data limitations, these latent variables were not included in the current model, and future research is encouraged to explore their mediating roles (Teece et al., 1997).

To extend the traditional "culture–learning–performance" model in healthcare, this study introduces three novel variables: humanized care, technological innovation, and continuing medical education. Humanized care operationalizes culture by integrating patient-centered ethical practices, addressing gaps in the measurement of cultural connotations (Behruzi et al., 2009). Technological innovation amplifies the "learning–performance" relationship by highlighting the synergy between technology and learning behaviors in reducing overmedicalization (Darley et al., 2018). Continuing medical education serves as a mediating factor, clarifying how culture translates into clinical practices through systematic training (Kingdon et al., 2018). These contributions enhance both theoretical understanding and practical applications in healthcare management. Additionally, the study incorporates control variables such as organizational size, industry type, and years of establishment to mitigate potential biases from omitted variables, thereby enhancing the robustness of the findings.

Chapter 8: Discussion, Conclusions and Recommendations

8.1 Research questions

These studies, including the Pilot study, Main Quantitative study, and Qualitative study, collectively aimed to address the research questions in a comprehensive manner. By conducting these varied studies, a rich and multifaceted understanding of the research topic was obtained, contributing valuable insights to the discussion. In a quantitative study, the researcher identifies relationships between variables and deconceptines the theoretical basis for the subsequent qualitative study. Amidst public health emergencies, such as the COVID-19 pandemic, it is particularly crucial to have access to timely research findings to inform health policies and practices (Vindrola-Padros et al., 2020).

This qualitative study assessed the impact of online training on the culture of the healthcare environment in the context of COVID-19. The researchers analyzed the data from the interview responses using a team rapid qualitative method. The resulting summary addressed the four research questions of this study.

Recommendations for further research and conclusions were also designed to address the following research questions.

the following research questions.

Question 1: How does organizational culture affect performance outcomes in the Department of Obstetrics and Gynecology?

Question 2: How does organizational learning capability affect the relationship between organizational culture and performance?

Question 3: What are the mediations between organizational culture, organizational learning, and performance outcomes in obstetrics and gynecology?

Question 4: In what ways can performance in the OB/GYN department be improved through the dynamics of organizational culture and learning capability?

8.2 Evidence-driven responses to research questions and discussion

The quantitative study and qualitative study revealed that combining organizational culture and

learning competencies can explain the performance of obstetrics and gynecology departments under different conditions, thus providing scholars and practitioners with a rich explanation of the interplay between environmental factors that researchers have long theorized to be important, and a reliable methodology for researchers to use in deconceptining the weights and directions of this complex mediation.

Research Question 1:

The first research question was how culture affects the performance of obstetricians and gynecologists. Cultures imbued with norms of interprofessional collaboration, opportunities for continuous learning, and high ethical standards result in greater efficiency, better provider job satisfaction, and lower error rates. Watling (2019) suggested using open dialogue to improve understanding of challenges, benefits, and discussions. The cultural characteristics most closely associated with improved performance are the presence of an innovative spirit - departments that both aspire to be innovators and are designed to support learning typically provide more effective patient care, at lower cost, and with faster clinical outcomes.

Research Question 2:

The second question explores mediating factors. A learning culture provides departments with the relational and structural support necessary to accomplish the work of the delivery system faster and more efficiently, enabling them to acquire new knowledge and undo old knowledge more quickly (adaptation). Kayas and Wright (2018) provides insights into how a learning culture can facilitate the implementation and utilization of knowledge management systems. A learning orientation also matures the knowledge of the sections to a point where lessons learned begin to approach best practices, which can be disseminated without managers (integration), expanding the cultural impact.

Research Question 3:

A robust educational environment within an organization acts as a catalyst for enhanced learning capability, which in turn drives improved performance. By prioritizing the distribution of knowledge, an organization bolsters its learning aptitude, equipping itself to adapt to evolving circumstances and incorporate new innovations, thereby elevating its overall performance.

Similarly, organizational citizenship behavior has been found to entirely mediate the link between an employee's commitment to the organization and their intention to share knowledge. This suggests that when employees exhibit behaviors that go beyond their basic job requirements - indicating a higher level of organizational citizenship - it strengthens their connection with the organization, which then positively influences their willingness to share

knowledge with their peers (Sung & Joo, 2011).

Research Question 4:

Obstetrics and gynecology departments can significantly improve performance by focusing on the development of an organizational culture that supports learning. During the COVID-19 pandemic, healthcare teams faced complex patient conditions due to language barriers and PPE, leading to structural changes to improve communication, increased reliance on APPs with a shift towards greater independence, strategic staffing like moonlighting despite its drawbacks, and the implementation of specific protocols to minimize stress and adapt rapidly to the dynamic situation (Keniston et al., 2022). Initiatives aimed at creating a culture that supports ethical behavior and promotes knowledge dissemination can positively impact an organization's ability to learn, which in turn improves performance. Strategies that promote adaptability and resilience in organizational culture are critical to sustaining high levels of performance

From these insights, we recommend that OB/GYN departments focus on fostering a strong organizational culture oriented toward teamwork, ethical principles, and continuous improvement. Further allocation of resources to learning infrastructure and knowledge management systems can greatly enhance the organization's capability for continuous learning and thus performance. Adopting this two-pronged strategy is expected to significantly improve the quality and efficiency of care in the field of obstetrics and gynecology.

8.3 Research discussion and conclusion

Discussion

Discussion1 The Mediating Role of Organizational Learning Culture

This research emphasizes the mediating role of organizational learning culture (OLC) in the association between organizational culture and performance within obstetrics and gynecology. It provides insights into how learning environments can optimize healthcare outcomes. Nevertheless, the findings are confined to Guangdong Province, which might limit their generalizability, especially in regions with limited resources where healthcare infrastructure and training capacities vary considerably.

Discussion2 Regional Focus and Hierarchical Dynamics

The analysis uncovers distinct hierarchical dynamics within the healthcare system. Tertiary hospitals utilize organizational learning culture to promote innovation and advanced medical care. In contrast, primary care clinics encounter difficulties in complying with basic protocols owing to restricted access to training and resources. For example, tertiary hospitals

reap benefits from comprehensive training programs and advanced facilities that facilitate continuous enhancement. On the other hand, primary care clinics confront challenges in upholding basic standards of medical care.

Discussion3 Cultural Roots of Crisis Resilience

Qualitative data indicate that teams with high psychological safety demonstrate enhanced emergency response efficiency during crises, aligning with Guttman et al. (2021) adaptive culture framework. Interventions such as mindfulness training (Hughes & Rushton, 2022) and ethical leadership adaptability (Prah Ruger, 2020) have shown promise in reducing stress levels among healthcare workers. However, their effectiveness diminishes in larger hospitals, underscoring the “resource-resilience paradox” proposed by Ramsey (2021).

Discussion4 Systematic Attribution of Performance Differences

The qualitative findings and operational comparisons between large and primary hospitals align with Guangdong Provincial Health Commission (2021) assessment of maternal and child health resources, corroborating (Roberts et al., 2014) negative fatigue-quality cycle theory. Private hospitals, in contrast, reflect the Community-Clinical Collaboration Model of Vindrola-Padros et al. (2020), emphasizing preemptive strategies (Willis et al., 2016)

Discussion5 Theoretical Integration and Points of Contradiction

This study extends dynamic capabilities theory (Teece et al., 1997) by highlighting the synergistic balance between patient autonomy, such as increased satisfaction with informed consent, and system support, including the frequency of interdepartmental collaboration. However, tensions arise with traditional healthcare authority structures, such as anesthesiologists’ resistance to painless deliveries. This contradiction suggests the need for Lohikoski et al.'s (Lohikoski et al., 2019) "technology-humanization twin-track model” to reconcile these dynamics.

Ultimately, this study underscores that cultural excellence in obstetrics and gynecology care is neither universal nor apolitical. It requires strategies that harmonize patient autonomy, provider agency, and system support, tailored to the unique challenges of different healthcare settings. In resource-poor areas, interventions should focus on foundational skills and protocol adherence, while resource-rich settings can prioritize innovation and advanced care practices.

Conclusion

Theoretical Contribution

This research clarifies the intricate mechanisms whereby organizational culture (OC) and organizational learning capacity (OLC) affect the performance of obstetrics and gynecology

hospitals. The findings demonstrate that OLC partially mediates the relationship between OC and performance. This is in accordance with Darley et al. (2018)'s "culture - learning - performance" chain theory, while highlighting the healthcare - specific subtleties.

Tertiary hospitals promote technological innovation, such as AI - assisted labor monitoring, via OLC. In contrast, primary hospitals depend on cultural norms, such as enhancing the protocol implementation rate, which resonates with Graystone (2019) "hierarchical competency hypothesis".

However, the diminishing marginal utility of OLC in resource - constrained areas (R^2 decreases by 0.18) necessitates optimized resource allocation and customized cultural strategies, as proposed by Buch et al. (2020) .

Application Contributions

This research offers empirical insights regarding cultural governance within obstetrics and gynecology hospitals. A positive cultural climate improves adaptability within healthcare environments (Guttman et al., 2021), , especially during crises such as the COVID - 19 pandemic. Effective communication and ethical leadership are identified as crucial factors in alleviating stress and strengthening resilience among healthcare professionals.

This research is consistent with the findings of Hughes and Rushton (2022) regarding the role of ethical leadership in reducing burnout and enhancing job satisfaction. Likewise, the work of Prah Ruger (2020) on the significance of ethical leadership in healthcare settings is supported by this study's emphasis on the necessity for leaders who prioritize both patient welfare and staff well - being. These insights underscore the pivotal role of leadership in shaping organizational culture and ensuring that learning capacities are effectively utilized to enhance performance.

Summary

Ultimately, this research emphasizes that cultural excellence in obstetrics and gynecology care is neither universal nor politically neutral. It necessitates strategies that reconcile patient autonomy, provider agency, and system support, customized to the distinctive challenges of diverse healthcare settings. In areas with limited resources, interventions ought to concentrate on fundamental skills and protocol compliance, whereas settings with abundant resources can prioritize innovation and advanced care methodologies.

8.4 Research limitations

This study provides insights into organizational culture, organizational learning capacity (OLC)

and its relationship with obstetric department performance through a mixed-methods research design. The study was improved in various ways in terms of methodology and conclusions to enhance the rigor and practical significance of the study. Although our study reveals the relationship between organizational culture and performance in obstetrics and gynecology departments in Guangdong hospitals, it is important to recognize the limitations of the study in order to appropriately contextualize the findings. Considering the regional nature of the study, extrapolation of these results to different cultures and healthcare systems may lead to misrepresentation and therefore caution should be exercised when making broader inferences.

First, the study sample focused on 90 hospitals in Guangdong Province, which covers institutions of different sizes and types but still has geographical limitations. As an economically developed region in China, healthcare resource allocation and cultural characteristics in Guangdong province may differ significantly from those in the central and western regions, so the generalizability of the study results needs to be assessed with caution. Future studies should prioritize addressing sample limitations, specifically by expanding the sample size ($N \geq 800$) and covering more regions (e.g., central and western provinces) to enhance the generalizability of the results. Relying on self-reported surveys poses the risk of response bias, and participants may provide answers that tend to lean toward societal expectations rather than their true behaviors or the dominant culture. In addition, the cross-sectional nature of the study prevents us from inferring causality and capturing the changing dynamics of organizational culture and learning competencies over time.

In terms of qualitative data, the interviews revealed that some hospitals had a biased understanding of culture measurement items (e.g., "teamwork"), which may have contributed to the poor local fit of the model (SRMR = 0.06). Based on this feedback, we revised the scale language and added sample items to significantly improve the validity of the measure. In addition, the ML estimation method may lead to standard error bias due to the presence of a slight non-normal distribution of the data (skewness = 1.8). After switching to the WLSMV estimation method, the CFI improved to 0.90 and the RMSEA decreased to 0.08, demonstrating the superiority of robust estimation methods with limited samples. Future studies can use Bayesian SEM to deal with small samples or complex models to improve the efficiency of parameter estimation. Another key limitation is that we excluded moderating effects in our mediation analysis. Since we focused on the mediating role of organizational learning capacity (OLC) between organizational culture (OC) and organizational performance (OP), we may have omitted cross-moderating variables, such as personal characteristics, that affect these relationships. As a result, our analysis may not adequately convey the intricate interactions

between these factors, thus limiting the scope and precision of our findings. Future studies should incorporate moderated mediation models to examine potential changes in mediating effects due to these individual differences.

In addition, we recommend that future researchers explore other relationships between variables to achieve a better fit of the model to the data. In our study, all model fit indices except the RSMEA statistic indicated a good model fit. As noted in Byrne (1998, 2011), the interpretation of RMSEA can be considered based on the following criteria: 0 = perfect fit; <.05 = close fit; .05-.08 = fair fit; .08-.10 = fair fit; >.10 = poor fit. This guideline is also referenced in several publications (Byrne, 1998, 2011; Smith & Mcmillan, 2001, February 1st; Wang & Wang, 2019) .Incorporating supplementary paths enables the examination of potential relationships among items from three distinct scales. It is recommended to incorporate relevant paths to more precisely represent the data structure.

The poor model fit may, in part, be attributed to the omission of crucial variables, such as employee psychological capital. Future studies can further verify the moderating or mediating role by expanding the model to strengthen its explanatory capacity.

The comparison of AIC and BIC indicated that the 4 - factor model (AIC = 6815) significantly outperformed the 3 - factor model (AIC = 6843), providing support for the inclusion of humanized care as an independent cultural dimension. This discovery not only optimized the model fit but also enhanced the comprehension of the culture - performance mechanism.Dynamic capabilities theory (Teece et al., 1997)offers a novel perspective for model fit optimization. By introducing “technological innovation” as a moderator variable in future research, the model further unveils the power - variable nature of the culture - performance mechanism. Future investigations may also explore higher - order factor models to streamline the structure and enhance the CFI/TLI.

Notwithstanding the enhancements in model fit, methodological limitations need to be acknowledged. The cross - sectional design and sampling bias constrained the ability to infer causality. Although robustness tests corroborated the findings, future studies should prioritize multi - regional sampling and Bayesian structural equation modeling (SEM) to bridge these gaps. Multi - regional studies will offer a wider perspective on the generalizability of the results, whereas Bayesian SEM presents a more adaptable approach for handling complex data structures and missing data.

Notwithstanding these challenges, the qualitative analysis of the research yielded valuable insights. The research discovered that both private and primary - care hospitals prioritize preventive care over curative care, a tendency that reflects a shift in the healthcare ecosystem

towards a more cost - efficient, community - oriented approach. Nevertheless, these qualitative findings did not align with our quantitative data, indicating that more refined measures may be required to capture the nuances of how organizational size and type indirectly influence performance.

8.5 Future research directions

The purpose of this study was to examine the impact of organizational culture on organizational performance in the field of obstetrics and gynecology, focusing on the mediating role of organizational learning capabilities. Through empirical research and analysis, this study validates the theoretical model and hypotheses and provides valuable insights and recommendations for both academia and practice. The study suggests that fostering an innovative and supportive culture, coupled with strong organizational learning capabilities, can significantly improve organizational performance in this area. In addition, it highlights the importance of respect for healthcare professionals and patients in shaping a supportive organizational culture (Vindrola-Padros et al., 2020). Furthermore, this study recognizes its limitations and suggests future research directions to further enrich our understanding of this relationship.

Cultural dynamics

Current organizational culture research mostly focuses on static analysis, making it difficult to capture the profound impact of intergenerational value changes on the relationship between organizational culture (OC) and organizational learning capability (OLC). Taking Generation Z healthcare workers as an example, their individualistic tendencies are becoming more prominent, with more emphasis on work-life balance, personal value realization, and career development opportunities. This shift in values may reshape the OC-OLC relationship, requiring organizational cultures to be more inclusive and flexible in order to stimulate the learning dynamics and innovation potential of Gen Z employees. In this regard, the longitudinal design of Byrne (2011) can be used to conduct a long-term tracking study to explore how intergenerational value change affects the dynamic evolution of the OC-OLC relationship, providing a prospective perspective on organizational culture management.

Complexity mechanisms

In the globalized and diversified healthcare environment, the collision between local practices and international standards has become increasingly frequent, e.g., there are significant differences between JCI international standards and local Chinese medical practices

in terms of patient privacy protection and medical decision-making models. The impact of this multicultural conflict on organizational performance is not a simple linear relationship, but is full of complexity and uncertainty. Drawing on the dynamic system model of Teece et al. (1997)can provide insights into how multicultural conflict affects performance through nonlinear interactions, and help healthcare organizations better cope with the challenges of cultural integration and achieve performance improvement.

Mixed Methods Extension

In the digital era, digital twin technology provides new ideas and methods for healthcare management research. By simulating obstetric crisis scenarios, such as public health emergencies and patient flow peaks, it is possible to quantify the critical effect of cultural factors in different contexts and reveal the intrinsic mechanism of the impact of organizational culture and learning ability on performance. Conclusion Willis et al. (2016) of the rapid assessment framework, this hybrid approach can not only improve the research efficiency, but also provide real-time and accurate assessment and feedback for hospital operational activities, helping managers to adjust their strategies in a timely manner and optimize the allocation of resources.

Cross-cultural comparison

There are significant differences in healthcare organizational cultures across countries and regions, and the impact on performance is unique. By comparing the OC evolution pathways in developing countries (e.g., Indian primary midwife culture) with those in developed countries (e.g., Nordic humanized obstetrics), it is possible to gain a deeper understanding of how the cultural context shapes the organizational culture and learning capacity, and to provide a theoretical basis for cross-cultural healthcare cooperation and management. Such studies require multi-regional samples with $N \geq 800$ to ensure the representativeness and reliability of the data, thus providing more generalized guidance for global healthcare management practices.

Techno-cultural synergy

With the wide application of AI in the medical field, AI ethical issues have gradually become a focus of attention. Verifying how AI ethical guidelines (e.g., algorithmic transparency) can enhance the credibility of OC is of great significance in building a harmonious doctor-patient relationship and improving the quality of medical services. Extending the communication tool theory of Lohikoski et al. (2019) can deeply explore how healthcare organizations can achieve a balance between efficiency and ethics under the synergistic effect of technology and culture to promote the sustainable development of the healthcare industry.

Policy leverage design

Healthcare payment reform is a key part of healthcare system reform, and its impact on

organizational culture cannot be ignored. By testing the motivational effects of healthcare payment reform on OC, it can provide policymakers with a scientific basis to promote the rational allocation of healthcare resources and organizational performance. Echoing (Roberts et al., 2014) call for sustainable allocation, such research can help realize the positive interaction between the healthcare insurance system and the development of healthcare organizations, and promote the overall progress of the healthcare industry.

Dramatic demographic changes

Demographic changes globally have placed new demands on healthcare services. Taking South Korea as an example, under the pressure of ultra-low fertility rate, South Korea has incorporated humanistic care indicators into health insurance payment (Kim et al., 2022) , which promotes the transition of obstetric services from efficiency to patient experience. An in-depth exploration of this transformation mechanism can provide useful reference for China's obstetrics and gynecology hospitals in coping with demographic changes, and help innovation and upgrading of healthcare service models.

Climate health linkages

The impact of extreme weather events on human health is becoming more pronounced, such as heat waves leading to increased rates of premature births. This connection between climate change and health issues is forcing healthcare organizations to reexamine organizational culture and coping strategies. Bridging the resilience framework of Guttman et al. (2021) and examining how green adaptation strategies can be incorporated into OC can help improve the ability of healthcare organizations to address climate health challenges and safeguard the health of mothers and babies.

To summarize, future research has a broad space for development in terms of theoretical innovation, methodological breakthroughs, practice integration and response to emerging challenges. By exploring these directions in depth, we can not only enrich the theory of healthcare management, but also provide more targeted and forward-looking guidance for practice and promote the high-quality development of obstetrics and gynecology healthcare services.

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Annex A: Questionnaires

Impact of organizational culture on performance

Dear Madam/Sir: Thank you very much for completing this questionnaire! Please select the following questions according to your own perspective. The questionnaire is anonymous and there are no right or wrong answers, so please feel free to answer truthfully. This questionnaire is intended to provide a true picture of the impact of corporate culture on employee performance and is intended for academic research only. Thank you for your support!

Part I: Background Information

Below is some basic information about your organization and you as an individual, please tick the appropriate box.

1. Your position in your hospital: [Single choice]

○A Top Management	○B Middle Management	○C Grassroots Managers	○D Other

2. Number of employees in your hospital: [Single choice]

○A Less than 50 persons	○B 51-150	○C151-500	○D 501-1000	More than 1,000 people

3. When was the organization established? [Single choice]

○A 10 years or less	○B 11-20 years	○C 21-30 years	○D 31 years or more

4. Your hospital's capitalization: [Multiple choice]

○A State-owned or state-controlled	○B Privately owned or controlled	○C Others

Part II:Questionnaire (Selection of the degree of agreement of relevant items)

Questionnaire 1: The following is a questionnaire for measuring corporate culture. This questionnaire contains a total of 34 items, please rate the degree of agreement with each item.

Please mark the number of the corresponding option that matches your feelings! The items are as follows.

Questionnaire 1: Organize Culture Measurement Questionnaire

	Strongly disagree	Disagree	Balanced	Agree	Strongly Agree
1. Decisions in hospitals are made by people or teams with the most relevant knowledge.	1	2	3	4	5

2. All hospital personnel have prompt access to pertinent information as required, facilitated by extensive sharing protocols.	1	2	3	4	5
3. Every hospital employee is certain they can significantly impact the hospital's operations.	1	2	3	4	5
4. All hospital personnel see themselves as essential members of the hospital team.	1	2	3	4	5
5. Hospitals rely on cooperation and collaboration among peer departments instead of hierarchical commands.	1	2	3	4	5
6. Hospitals are mostly organized into teams for work and project tasks.	1	2	3	4	5
7. The hospital is advancing and enhancing several facets relative to its competition.	1	2	3	4	5
8. Hospitals consistently allocate resources for the enhancement of staff competencies via training programs.	1	2	3	4	5
9. The proficiency and expertise of hospital personnel are a vital source of competitive advantage for the institution.	1	2	3	4	5
10. Department Heads and Nursing Officers rigorously comply with the hospital's established protocols and standards.	1	2	3	4	5
11. Hospitals function according to a distinct value philosophy that directs their operations.	1	2	3	4	5
12. The hospital maintains an ethical norm that guides staff conduct, differentiating right from wrong.	1	2	3	4	5
13. In instances of discord, we strive to attain mutually advantageous settlements.	1	2	3	4	5
14. Hospitals easily achieve agreement, even on intricate and difficult matters.	1	2	3	4	5
15. The hospital articulates a vision that delineates its future trajectory.	1	2	3	4	5
16. All personnel possess a unified vision for the hospital's expansion.	1	2	3	4	5
17. Hospitals effectively synchronize their operations across several functions.	1	2	3	4	5
18. Hospital personnel at various tiers possess harmonized aims.	1	2	3	4	5
19. Hospitals swiftly adjust and easily accept change.	1	2	3	4	5

20. Hospitals have a high degree of responsiveness to competitive actions and other environmental changes.	1	2	3	4	5
21. Hospitals consistently use novel and improved operational methodologies.	1	2	3	4	5
22. Patient input often results in modifications inside hospitals.	1	2	3	4	5
23. Patient participation directly influences hospital decision-making processes.	1	2	3	4	5
24. Hospital executives have a strategic vision for the institution's future.	1	2	3	4	5
25. We see failures as opportunities for learning and improvement.	1	2	3	4	5
26. Hospitals promote and recognize personnel who engage in risk-taking and innovation.	1	2	3	4	5
27. Hospitals endeavor to balance the reciprocal relationships among departments.	1	2	3	4	5
28. Hospitals have formulated explicit long-term goals and strategic orientations.	1	2	3	4	5
29. The hospital has a definite purpose that guides our methodology and trajectory.	1	2	3	4	5
30. Staff members often agree with the hospital's objectives.	1	2	3	4	5
31. Hospital administrators set ambitious but attainable objectives.	1	2	3	4	5
32. Leadership has explicitly communicated the objectives to be achieved.	1	2	3	4	5
33. The hospital's vision motivates enthusiasm and effort among its staff.	1	2	3	4	5
34. The hospital's vision inspires passion and effort among its employees.	1	2	3	4	5

Questionnaire 2: The following is a questionnaire to measure organizational learning capability, this scale contains 14 items, please rate your agreement with each item, and mark the number of the corresponding option that matches your feelings!

Questionnaire II Measurement of Organizational learning capability

	Strongly disagree	Disagree	Balanced	Agree	Strongly Agree
1. People in the hospital are receptive to change and open to new ideas.	1	2	3	4	5
2. People in the hospital have a common view of what the organization should accomplish.	1	2	3	4	5

3. Employees can accept criticism with openness and sincerity.	1	2	3	4	5
4. Managers often provide useful feedback to help identify potential problems and opportunities.	1	2	3	4	5
5. Employees in the hospital are able to participate in making important decisions.	1	2	3	4	5
6. Employees in the organization often bring new ideas to the organization.	1	2	3	4	5
7. New employees are often encouraged to ask questions about their work.	1	2	3	4	5
8. Encourage bold attempts by team members to improve working methods.	1	2	3	4	5
9. Effective reform measures in the organization are often rewarded.	1	2	3	4	5
10. New ideas from employees in the organization are taken seriously.	1	2	3	4	5
11. Members of the organization can discuss successful procedures and activities and make their own understanding of success.	1	2	3	4	5
12. There is little discussion of failure with recommendations in the organization.	1	2	3	4	5
13. New ways of working that help the organization as a whole can be shared by all employees.	1	2	3	4	5
14. There is a system or mechanism for staff to learn from the successes of other organizations.	1	2	3	4	5

Questionnaire 3: The following is a scale of organizational performance. Please deconceptine the level of performance relative to your peers based on your hospital's current situation. Please rate your agreement with each item, and mark the number of the option that corresponds to your feelings!

Questionnaire III: Scales of organizational performance [matrix multiple choice questions.

	STRONGLY DISAGREE	DISAGREE	BALANCED	AGREE	STRONGLY AGREE
1. compared to our peers, our hospital's healthcare revenue has grown more rapidly in the last two years.	1	2	3	4	5
2. our hospital's market share has grown faster in the last two years compared to our peers.	1	2	3	4	5
3. in the past two years, our hospital has seen high customer satisfaction with its services and products, and an increased rate of second visits.	1	2	3	4	5
4. the hospital's values guide our actions, and staff behavior is easily aligned with	1	2	3	4	5

them.					
5. staff have a strong sense of attachment to the organization, are willing to stay and work in the hospital, and the turnover rate is low.	1	2	3	4	5
6. our hospitals are more innovative and efficient compared to our peers.	1	2	3	4	5

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Annex B: Interview Protocol

Dear [Interviewee's Name],

I hope this message finds you well. I am writing to inform you that we will be conducting an interview with you to gather insights on organizational culture dimensions, focusing on employee engagement, consistency, adaptability, and sense of purpose within your organization.

The purpose of this interview is to gain a deeper understanding of how organizational culture influences employee behavior and performance. Your input will be valuable in contributing to our research on this topic.

The interview will cover the following areas:

Employee Engagement:

How is "engagement culture" defined and understood within your organization?
What positive impacts does employee engagement have on the organization, such as productivity improvement, work environment enhancement, etc.?
Are there mechanisms or policies in place to encourage employee engagement, such as reward systems, feedback mechanisms, etc.?
Please share a successful case of employee engagement within your organization to illustrate the positive impact of employee engagement in practice.
Consistency:

How is the importance of consistency defined within your organization and why is it important?
How is consistency demonstrated and maintained in daily work, such as through standardized processes, regular training, etc.?
What mechanisms does the organization have in place to address disagreements and conflicts among employees, such as mediation procedures, communication platforms, etc.?
Please share a successful case of achieving consistency within your organization.
Adaptability:

How is adaptability understood within your organization and why is it important?
Does the organization have a culture of adaptability and flexibility, such as encouraging innovation, being able to respond to change quickly, etc.?
How does the organization respond to external changes and adjust strategies, such as through market research, flexible decision-making processes, etc.?
Please share a successful case of the organization adapting to change.
Sense of Purpose:

How is the organization's mission and core values defined?
How does employees' understanding and alignment with the organization's mission impact loyalty, motivation, etc.?
How does the organization encourage employees to align with the organization's mission,

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Annex C: Team Rapid Qualitative Inquiry Result

key constituent	Question 1 Employee Engagement	Issue 2 Consistency	Issue 3 Adaptation	Question 4 Sense of purpose	Other thoughts	study finds
Interviewee 1	I am a firm believer in the connection between corporate culture and employee commitment. Through the training, I have gained a better understanding of the hospital's vision and goals, which has strengthened my resolve to pursue my career. With 20 years of experience in Obstetrics and Gynecology, I prioritize professionalism in my clinical work and value team cohesion for the growth of the	Our department aims to provide quality service to patients. Staff share and understand our purpose and values, contributing to their trust and engagement. To enhance quality and efficiency, we have a scientific room check system. This identifies patients' needs and allows for timely and professional services. We clearly define the roles of midwives and doctors, ensuring orderly work and avoiding disputes. This arrangement improves efficiency	Maintaining consistency in your Obstetrics & Gynaecology medical practice is critical to providing the best possible care and experience for your patients. Creating a personalised management plan for each patient, the hospital is committed to tailoring treatment to the patient's specific needs. Continuing to build your clinical knowledge and skills also helps to ensure that you are able to confidently manage different	Maintaining consistency in your Obstetrics & Gynecology medical practice is crucial to providing the best possible care and experience for your patients. By creating personalized management plans for each patient, our hospital is committed to tailoring treatment to their specific needs. Continuing to enhance your clinical knowledge and skills also ensures that you can confidently manage various situations and	I think adaptability is still the most important Adaptability is all about innovation.	Corporate culture and employee engagement are closely intertwined and essential for personal and team growth. Consistency is crucial in delivering high-quality healthcare, particularly in obstetrics and gynecology. Physicians must develop individualized management plans and continuously enhance their clinical knowledge and skills to ensure optimal medical and service outcomes. Additionally, team strength drives hospital growth, with a focus on professionalism and team cohesion.

	hospital. At Maternity Hospital, I have witnessed the positive impact of our efforts on the hospital's growth, which has furthered my professional development and commitment to my career.	and team cohesion. The room check system promotes consistency, discovering and solving issues promptly to improve medical services. The clear division of responsibility between midwives and doctors prevents disputes.	situations and provide the best possible medical outcomes. By striving for consistency and continually improving practice, it's possible to create a better birthing experience for your patients Continue reading	achieve optimal medical outcomes. Striving for consistency and continuous practice improvement enables us to create a superior birthing experience for our patients.	Obstetric and gynecological practitioners must combine technical excellence with a sense of public service and mission to safeguard the well-being of mothers and infants. Adaptability and innovation are key to staying ahead in a rapidly changing environment and bringing hope and warmth to more families.

Interviewee 2	In our unit, staff participation is vital for activity development and achieving organizational goals. We prioritize and appreciate outstanding nurses, nursing backbones, instructors, and administrators during Nurses' Day and hospital-wide evaluations. This promotes staff growth and offers incentives like year-end bonuses (¥800 to ¥2,000), certificates, and bonuses for exceptional individuals and teams. Over the past five years, as the hospital became a university hospital, we have trained 52 specialized nurses, covering their expenses, transportation, accommodation,	I completely agree with you. Consistency in skills and ideas is crucial for organizational success. Measures such as pre-service and specialized skills training for new nurses, regular training and appraisal, open communication with staff, and a standardized training and assessment system all contribute to maintaining consistency in healthcare delivery. By working together as a team with a common goal, healthcare professionals can provide better services and improve patient satisfaction.	In the Nursing Department, we prioritize the overall functioning of the hospital, including staff scheduling and resource allocation. During the COVID-19 pandemic, we remained agile and adaptable, making necessary adjustments while minimizing disruption. Nurse leaders canceled their leave and stayed back to respond to the situation, and we collected large samples for testing while maintaining regular work. We organized into regular, mobile, and emergency teams for different requirements, ensuring quality care while addressing the demands of the pandemic. We take	As a university-affiliated hospital, our primary objective is to deliver exceptional medical services while embodying the values of the university. We are committed to enhancing the quality of healthcare, ensuring that even individuals in rural areas can access tertiary-level care. Our approach involves a seamless integration of theory and practice, where we not only provide medical services but also actively engage in teaching and involving students.Being client-centered is at the core of our values, extending beyond the hospital to the broader community and families. Through	As a hospital leader, I value effective communication and motivation for a positive organizational culture. Leading by example and showing dedication inspire and motivate team members. Our hospital has a strong incentive system, driving staff towards progress. As a leader, I guide and support my team when they face challenges. Continuous learning is crucial for motivation and fulfillment, so providing learning opportunities and resources is important for their success.	Organizational culture is vital for success, encompassing communication and motivation. In healthcare, consistency, teamwork, and shared goals are crucial. We ensure consistency through pre-employment training, regular training and appraisals, and open communication. Our standardized system maintains quality and provides consistent care. Contingency plans and flexibility are key. Leaders motivate, provide guidance, and create learning opportunities.

	and regular salaries. I emphasize that training is the organization's best support, making our recent achievements in training highly successful.	a holistic approach and never lose sight of any aspect.	the implementation of a medical consortium and integrated hospital-community management, we strive to ensure that medical services are easily accessible and meet practical needs. Our vision is to provide top-notch services that benefit a wider population, and we continuously strive to achieve this objective.

Interviewee 3	The new institute provides a comfortable environment with favorable employment conditions. To motivate staff, we offer incentives for special services like painless guided delivery. Additionally, we promote these programs in our courses to increase employee engagement. Through these measures, we aim to enhance staff motivation, creativity, and contribute to the hospital's development.	Our department is dedicated to providing quality service to every patient, and all staff members uphold these values. To achieve this, we have a clear purpose and values that every employee deeply understands and shares. We provide pre-service and skills training for new nurses, as well as regular training to maintain consistency. We hold meetings with staff to enhance teamwork and communication. Communication meetings between doctors and nurses are also conducted regularly. We organize training and seminars to update staff knowledge and skills. These measures help us build an efficient	To address the decline in fertility rates, we have adopted a proactive approach. Instead of waiting for patients to come to us, we now organize regular clinics in 42 village districts in Yeosu Township. We prioritize patient needs and conduct research monthly to better understand their intentions. We engage in one-on-one communication with patients to address their concerns and update them on policies and benefits. These steps aim to enhance patient satisfaction, trust, and ultimately increase fertility rates for the betterment of our community.	We aim to provide every pregnant woman with a positive birthing experience by challenging traditional perceptions. Our care team focuses on excellent medical skills, attentive service, and humanistic care. With the joint efforts of our staff and the active cooperation of pregnant women, we believe labor and delivery can become a loving and hopeful beginning, rather than a painful experience.	The difference is that the university platform provides more opportunities and resources. For example, university teachers have the opportunity to obtain teaching certificates, conduct research activities and publish academic papers. In the area of nursing, there was basically zero in the past, but now with the establishment of the university platform, it has gradually achieved results. These opportunities and resources have helped to enhance the professionalism and academic standards of teachers and injected new vitality into the development of the nursing discipline.	With the establishment of the university platform, the nursing discipline has gained more opportunities and resources, enabling nurses to enhance their professionalism and academic standards. Through research activities and publication of academic papers, staff members continue to enrich their knowledge and abilities, injecting new vitality into the development of the nursing discipline.

	and collaborative team to deliver better healthcare services to our patients.	

Interviewee 4	Engagement is critical in the workplace, especially in private organizations. As employees have different backgrounds and experiences, it is even more crucial to build team spirit and a sense of participation. As a section head, you should actively organize team building activities to enhance trust and cooperation among staff, thus improving overall work efficiency. Through harmonious teamwork, we can ensure that our work is completed successfully.	In our department, we integrate Traditional Chinese Medicine, Postpartum Rehabilitation, and Medical Aesthetics. To ensure consistency in treatments and customer service, we conduct pre-employment and professional skills training, organize regular meetings, and promote cross-department understanding and cooperation. When facing complex cases, we collaborate across disciplines to provide comprehensive and specialized medical services. Standardized workflows, team training, communication, and interdisciplinary collaboration are essential to	Private organizations and public hospitals differ in terms of market flexibility and demand response. Private organizations need to be more responsive to market demand and adapt their services and strategies accordingly to survive and thrive. They can also offer specialized services to cater to different market needs, such as high-end medical services like moon sitting, post-natal rehabilitation, Chinese medicine, and medical aesthetics. Additionally, private organizations focus on delivering excellent customer service and medical experiences to enhance customer satisfaction and	The hospital, guided by the Real Estate Group's philosophy, aims to improve people's well-being. The presidents have deep healthcare knowledge and emphasize integrity and reputation. Despite the hospital's upscale decor, high-quality materials, and doctors from leading hospitals, prices are affordable. In the third year, the medical business showed promise but was scaled down due to the real estate company's unfamiliarity with healthcare and self-sustainability pressure. Nevertheless, aspects like leadership integration, adopting high-end	In the organization, I deeply recognize the importance of corporate culture. The real estate company's culture influences us, and the boss's medical sentiment deeply inspires us. We are motivated to follow the company's path and realize our own value.However, there are significant differences in concepts and management between real estate and public hospitals in healthcare operations. Frequent leadership changes result in a lack of management continuity, which is detrimental to the medical industry's need for trust and	In private organizations, employee participation is crucial to team building and overall work efficiency. Team leaders should actively organize team building activities to strengthen trust and cooperation among employees to ensure smooth completion of work. For specialty medical service areas, the development of standardized workflow helps collaboration between different departments to provide patients with more comprehensive and professional medical services. Private organizations need to maintain market sensitivity and flexibly adjust their services and strategies, while focusing on customer service experience, in order to have a better chance of survival and development. Hospitals need to

	delivering quality and specialized care to our patients.	loyalty, drawing on non-medical industries' service models. To succeed, private organizations must remain agile, meet market demands, and provide quality experiences.	company values, and swift problem-solving for employees were commendable. However, irrational management from the group's headquarters weakened team cohesion, leading to passive staff feedback.	reputation. Private hospitals struggle due to the lack of stable operating environments and management systems enjoyed by public hospitals.A positive corporate culture stimulates employee engagement, creativity, and enhances organizational cohesion and competitiveness. Conversely, a negative, chaotic, and contradictory culture leads to high employee turnover and organizational instability. Therefore, building a positive, healthy, and harmonious corporate culture is crucial for stable organizational development and employee growth.	maintain a good corporate culture to stimulate staff's sense of belonging and creativity, improve organizational cohesion and competitiveness, and achieve stable development.

Interviewee 5	Participation culture emphasizes employees' voluntary involvement in setting and achieving goals. Through a score-based attendance system, we encourage employees to participate in various activities and learning opportunities. Exceptional performers receive an A+ rating, symbolizing their influence on others and effective implementation of programs. For instance, our natural childbirth book study involves interactive participation, promoting knowledge transfer and a sense of unity. This culture fosters happiness and satisfaction	In promoting natural childbirth, we address differences in perceptions, cultures, and attitudes among healthcare professionals worldwide. To achieve consistency, we organize continuous learning activities, ensuring doctors understand natural childbirth. Those with low participation face economic consequences, linking assessment to salary bonuses. We prioritize mom and baby during labor, while respecting the professional judgment of doctors. Collaboration with other departments, like the operating room and anesthesiologists, is	Adaptability is crucial in organizational management and healthcare, especially during emergencies. The example of mobilizing nurses during the Xin Guan epidemic highlights the flexibility and adaptability of the organization. This decision-making ability showcases effective managerial skills. The nurses' professional competence and self-protection reflect the effectiveness of training and organizational culture. Continuous learning and resilience are essential in a changing environment. Emphasizing adaptability and a	Our mission as a maternity hospital is to provide exceptional service to all mothers and babies, ensuring a personalized and comfortable birthing experience. We prioritize service, continuously learn, train, and focus on preventing difficult deliveries. By prioritizing mothers' comfort, we aim to alleviate the discomfort of contractions and expedite labor, maximizing safety. For low-risk mothers, this approach leads to safer and more comfortable deliveries, promoting the health of both mother and baby. Our commitment lies in creating a positive and memorable birthing	Maternity hospitals prioritize service and learning for a personalized and comfortable birthing experience. Our focus is on preventing difficulties in deliveries and providing a safe and comfortable environment. We strive to create a positive and memorable birthing experience, addressing the needs of low-risk mothers. Our culture is service-oriented, focusing more on continuous learning and improvement. Through this, we aim to provide a better experience for mothers, gaining recognition and reputation in the market.	As a maternity hospital, the focus is on providing a personalized, comfortable birthing experience for mom and baby. Compared to large tertiary hospitals, the hospital focuses more on smooth labor and low-risk care, addressing the issue of a comfortable experience. To achieve this goal, the hospital is constantly learning, organizing training, and emphasizing the prevention and avoidance of difficult deliveries to make childbirth a wonderful memory. The hospital's culture focuses on service first, and through continuous improvement, it provides mothers with a better experience in the clinic, earning recognition and reputation in the market. Compared to tertiary hospitals, private hospitals have

	among pregnant women, doctors, and the entire team. It was integral to our preparations and opening, strengthening cohesion and promoting a novel concept.	crucial for safety. Maintaining consistent personnel presence is vital for emergency situations. Strict assessment, discipline, and standardized processes ensure team consistency, fostering better quality healthcare services.	rapid response culture helps maintain competitiveness. It is important to prioritize patient and staff safety during emergencies.	experience, where mothers feel their baby's visit or delivery here is truly exceptional.	gaps in equipment and staff, and therefore focus more on learning skills on how to provide a better service experience.

Interviewee 6	Yes, I believe that corporate culture and employee dedication are closely linked. I have deepened my career through my dedication to clinical work in obstetrics and gynecology for over 20 years. Building team cohesion has been a successful experience, contributing to the development of the hospital and improving the quality of clinical services. This has not only enhanced my professional growth but also promoted personal and career development. Corporate culture and staff dedication are crucial for the hospital's progress and fostering personal growth.	Consistency is crucial in an OB/GYN practice. We create personalized management plans for each patient based on their medical condition and delivery needs. As a 6-to-1 team, we maintain consistency through constant communication, case discussions, and learning exchanges. Core systems like the Difficulty Discussion System and Pre-operative Discussion System help us achieve the best outcomes. Consistency ensures quality healthcare delivery and requires continuous learning and communication within the team.	Adaptability is crucial in the field of Obstetrics and Gynecology. With declining fertility rates, it's important to adjust services accordingly. Teams must be flexible during peak and trough times, focusing on scale and efficiency or precision and detail. Precision in women's healthcare is paramount for patient satisfaction and staying competitive. Continuous learning and innovation are key in adapting to market changes and patient needs. By continuously improving and exploring new service models and technologies, teams can stay ahead and meet evolving demands.	The mission of the hospital is to uphold the philosophy of the Real Estate Group and to be committed to the pursuit of a better life. This mission stems from the corporate culture and vision of the real estate company, which emphasizes the realization of a better life through hard work. At the hospital, this mission is reflected in the pursuit of professional excellence and the provision of learning opportunities such as book clubs for staff to promote personal growth and team cohesion. The hospital also focuses on providing quality healthcare services to patients, making	Besides participating in academic activities and receiving professional training support, the hospital also engages in exchanges with experts and professionals. This helps improve skills, enhance communication and cooperation, and strengthen the hospital's abilities. Additionally, international cooperation opportunities have allowed the hospital to enhance strengths and provide better healthcare services to patients. Overall, through continuous learning and cooperation, the hospital strives to improve professionalism and service quality,	The Maternity Hospital is committed to providing quality healthcare services to patients and upholding the Real Estate Group's philosophy of pursuing a better life. The hospital actively participates in academic activities, such as the Pearl River Forum, and receives professional training support from the Real Estate Group in the areas of service, management and performance. The hospital also cooperates with the Midwifery Association and introduces advanced midwifery technology and management experience from Seattle, USA, to continuously enhance its strengths. Through continuous learning and cooperation, the hospital strives to improve its professionalism and

		childbirth a wonderful memory.	providing patients with a better experience and expanding its vision and strength.	service quality to provide patients with a better experience. Exchanges and cooperation with professionals at home and abroad also enable the hospital to continuously expand its vision and strength.

Interviewee 7	I have been a loyal member of this organization for over 40 years and have no intention of leaving. The organization's culture is excellent and provides me with a strong sense of stability. Despite some changes under different leaders, the core spirit of the organization remains the same. We are all committed to being lifelong colleagues and working together practically. Our main focus is on gynecology, obstetrics, and neonatology, with a strong emphasis on maternal and child health. The integration has strengthened our pediatric department, allowing us to	After our merger, we initially faced differences in philosophy and culture. However, with leadership's focus, we gradually integrated and accepted the new philosophy. We worked as one unit, eliminating divisions between departments. New arrivals rotated among sections to reduce division. Over time, old staff influence diminished and new staff integrated into the family. As the hospital expands and more employees join, the differences between us diminish.	As the leader, I recognize the importance of adapting to declining birth rates. Our Obstetrics and Gynecology Department and the hospital as a whole are focused on improving safety and quality to attract more patients. We provide comprehensive care from outpatient clinics to post-partum rehabilitation. To ensure sustainable growth, we must remain innovative and adaptable to market changes. I will lead my team to continue expanding our services and delivering high-quality healthcare to meet evolving patient needs.	The mission of our hospital is to care for the health of mothers and children, creating a better future. Our core value is people-oriented, pursuing excellence. We strive to provide kind, caring, and high-quality medical services to our patients. Our vision is to become first-class in the country. Our leaders expect us to prioritize safety, quality, and service. We will continue to learn, improve, and explore new technologies to enhance our diagnosis and treatment. We have the confidence and ability to meet these expectations and contribute to the long-term	Our hospital stays up-to-date with national and international advancements in midwifery and obstetrics. We actively participate in academic exchanges to introduce new concepts, guidelines, and services. For instance, we offer gentle childbirth, hypnobirthing, birthing balls, respiratory massage, and acupressure for increased comfort. We also promote guided delivery and implement imported techniques for comprehensive prenatal, intrapartum, and postnatal care. Our midwife clinic, established before 2010, provides various technical	The hospital actively pursues innovation and excellence in the field of midwifery and obstetrics, not only introducing advanced international concepts and services, but also providing more comfortable and humanized services to mothers through a variety of methods and techniques. The center not only focuses on services during labor and delivery, but also focuses on a full range of prenatal and postnatal services, and is committed to providing comprehensive and professional healthcare for mothers. The Center is constantly exploring and practicing new concepts and technologies, improving and innovating in order to enhance service quality and meet patient needs. We believe that

	provide better services and expanding our capabilities in treating high-risk pregnancies and newborns. The collaboration between departments is seamless, and I feel fortunate to be a part of it. Overall, the consolidation has been beneficial to our growth and has further increased my loyalty to the organization.		development of the hospital.	services like pregnancy healthcare and postpartum recovery. We are committed to enhancing our services and continuously exploring innovative approaches to offer a better experience for mothers.	through continuous efforts and innovations, we are able to provide a better service experience to our patients.

The research methodology found that	A successful healthcare organization needs to focus on a number of aspects: from fostering an active and dedicated workforce to creating a supportive and collaborative culture; from strengthening interdepartmental cooperation to implementing effective integration strategies; from caring for the development of employees to fostering their loyalty. Only in this way can healthcare organizations truly achieve sustainable development and stand out in a competitive marketplace.	In the healthcare field, maintaining team consistency is critical to providing quality services. Especially in obstetrics and gynecology clinics, individualized management plans need to be developed in the face of different cases and needs of pregnant mothers. Team members come from different regions and backgrounds with different clinical thinking and habits, and thus need to maintain consistency through continuous learning, communication, discussion and bonding. Core systems such as the Difficulty Discussion System and the Pre-operative Discussion System help the team to	The study found that the new crown epidemic and declining fertility rates have had a marked impact on hospitals. Hospitals need to demonstrate a high degree of adaptability and flexibility to respond to changes in the marketplace. During an epidemic, hospitals need to quickly adapt to the suddenness and contagiousness of the epidemic and take effective preventive and control measures to ensure the health and safety of patients and staff. At the same time, hospitals also need to pay attention to changes in market demand and provide specialty services and quality experiences to meet the needs of	Hospitals must prioritize the innovation and application of medical technology to achieve their mission and core values. By introducing new technologies and equipment, hospitals can enhance the level of diagnosis, treatment, and patient outcomes. Additionally, the implementation of information technology and a robust medical information system improve the efficiency and quality of medical services. Interdisciplinary cooperation with other medical and research institutions facilitates the exploration of new diagnostic and treatment methods,	These hospitals prioritize organizational learning, international concepts, and technology adoption to enhance professionalism and service quality. They actively participate in academic exchanges, explore new service models, and aim to improve the patient consultation experience. Services focus on smooth and low-risk healthcare, with personalized birthing experiences through techniques like gentle birthing, hypnobirthing, and birthing balls. They offer comprehensive prenatal, intra-natal, and post-	Key factors for the success of healthcare organizations include focusing on medical quality and innovation, developing talent and fostering organizational learning, promoting interdisciplinary cooperation and integration, prioritizing patient services and experience, and demonstrating market adaptability and flexibility. By attending to these aspects, organizations can improve their competitiveness and provide safer, more efficient, and professional medical services, while also providing guidance and inspiration to other medical institutions in China.

	maintain consistency in clinical work and achieve the best clinical outcomes. Over time, the integration and acculturation of old and new staff helps to minimize differences and improve the overall service outcome of the team.	different patients. With declining fertility rates, hospitals need to think about how they can gain a foothold and thrive in such an environment. Through continuous innovation, service improvement and market expansion, private hospitals have a big advantage over general hospitals but a smaller advantage over specialized hospitals.	leading to comprehensive and specialized patient care. Focusing on medical quality, technological innovation, talent cultivation, and social responsibility helps hospitals provide safer, more efficient, and specialized medical services.	natal services, including midwife services, massage, breastfeeding clinics, and maternal rehabilitation clinics. These hospitals continuously innovate to improve the patient experience, serving as a reference for other medical institutions in China.

Annex D: Relevant Tables of Statistical Results

Table d.1 Mediation Analysis Paths Using Main Data (H1-H3)

Independent Variable	Dependent Variable	Related Hypotheses	Standardized β	S.E.	p
OC	OP	H1	.80	.01	<.001
PC_OC	OP	H1a	.74	.02	<.001
CC_OC	OP	H1b	.77	.02	<.001
AC_OC	OP	H1c	.80	.02	<.001
MC_OC	OP	H1d	.81	.02	<.001
OC	OLC	H2	.88	.01	<.001
PC_OC	OLC	H2a	.79	.04	<.001
CC_OC	OLC	H2b	.85	.04	<.001
AC_OC	OLC	H2c	.88	.03	<.001
MC_OC	OLC	H2d	.87	.03	<.001
OLC	OP	H3	.85	.04	<.001

Note. Standardized β is standardized regression coefficient, S.E. is standard error.