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The Influence of Psychological Contract on Customer Loyalty in the Context of Medical Service: Evidence from Chongqing, China

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Doctor of Management

Supervisors:
PhD Maria Santos, Associate Professor,
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Signed: YuZheng Date: 2023.11.20

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作者申明

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Abstract

In medical services, the impact of the client's psychological contract on loyalty is particularly crucial but under-researched. This study aims to develop and validate a measurement scale for the client's psychological contract specific to medical services, as well as to analyze its direct or indirect influence on customer loyalty. The methodology follows two stages. First, a three-dimensional scale of 14 items is designed, adapted to the specific characteristics of healthcare services. A quantitative study is conducted through a survey with professionals from a medical center, followed by another survey administered to 250 clients. Second, another quantitative study gathers data from 747 clients from eight medical examination centers belonging to the Chongqing Meiyuan Healthcare Group.

The client's psychological contract is divided into transactional, relational, and developmental dimensions. The results from testing the hypotheses through PLS demonstrate a significant positive impact of these dimensions on customer orientation, perceived value, customer trust, and loyalty. Among these, customer orientation, perceived value, and trust play a crucial mediating role in the relationship between the psychological contract and loyalty.

The study highlights the importance of managing the client's psychological contract by companies, particularly in maintaining and strengthening customer loyalty. For service providers, understanding and fulfilling the psychological contract helps reduce conflicts, build trust and satisfaction, thus sustaining long-term relationships and loyalty. This research contributes to the development of effective customer relationship management and enhances the quality of medical service provision.

Keywords: psychological contract, customer orientation, perceived value, customer trust, customer loyalty, medical service

JEL: I12, M31

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Resumo

Nos serviços médicos, o impacto do contrato psicológico do cliente na fidelização é particularmente crucial, mas pouco estudado. Esta pesquisa propõe construir e validar uma escala de medida do contrato psicológico do cliente especifica os serviços médicos, assim como analisar a sua influência, directa ou indirecta, na fidelização do cliente. A metodologia segue duas etapas. Primeiro, é concebida uma escala tri-dimensional de 14 items adaptada às especificidades das características dos serviços de saúde. Um estudo quantitativo é conduzido com um inquérito dirigido a profissionais de um centro médico, seguido de outrosubmetido a 250 clientes. Segundo, outro estudo quantitativo recolhe dados de 747 clientes de oito centros de exames médicos pertencentes ao Grupo de Saude de Chongqing Meiyuan.

O contrato psicológico do cliente divide-se em dimensões transaccionais, relacionais e de desenvolvimento. Os resultados obtidos do teste das hipóteses, através de PLS, evidenciam o impacto positivo significativo destas dimensões na orientação para o cliente, no valor percebido, na confiança e na lealdade do cliente. Entre estas, a orientação para o cliente, o valor percebido e a confiança do cliente desempenham um papel mediador importante na relação entre o contrato psicológico e a lealdade.

O estudo evidencia a importância na gestão do contrato psicológico do cliente pelas empresas, particularmente na manutenção e reforço da lealdade do cliente. Para os prestadores, a compreensão e concretização do contrato psicológico do cliente ajuda a reduzir conflitos e desenvolve a confiança e satisfação, sustentando relações de longo prazo e de lealdade. Esta pesquisa contribui para desenvolver uma gestão de relação com o cliente eficaz e assim melhorar a qualidade da prestação dos serviços médicos.

Palavras-chave: contrato psicológico, orientação para o cliente, valor percebido, confiança do cliente, lealdade do cliente, serviço médico

JEL: I12, M31

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摘 要

在医疗服务中，客户心理契约对客户忠诚度的影响尤为重要，但研究较少。本文旨在构建并验证一套针对医疗服务的客户心理契约量表，并分析其对客户忠诚度的直接或间接影响。研究方法分为两个阶段。首先，设计了一套包含 14 个项目的三维量表，适应医疗服务特点的特殊性。随后，进行了一项定量研究，通过对一家医疗中心的专业人员进行调查，并对250名客户进行问卷调查。其次，另一项定量研究收集了来自重庆美年医疗集团旗下8家体检中心747名客户的数据。

客户心理契约分为交易性、关系性和发展性维度。通过PLS检验假设的结果表明，这些维度对客户导向、感知价值、客户信任和客户忠诚度具有显著的正向影响。其中，客户导向、感知价值和客户信任在心理契约与忠诚度之间起到了重要的中介作用。

本研究强调了企业在管理客户心理契约中的重要性，尤其是在维持和增强客户忠诚度方面。对于服务提供者而言，理解和履行客户心理契约有助于减少冲突，提升信任与满意度，从而支持长期的忠诚关系。本研究为开发有效的客户关系管理提供了贡献，并有助于提升医疗服务的质量。

关键词：心理契约，客户导向，感知价值，客户信任，客户忠诚度，医疗服务

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This doctoral thesis in management is the result of four years of hard work and perseverance, and it is finally completed. This journey has often been filled with challenges, but there have also been moments of joy, making it a precious chapter in my life.

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这篇管理学博士论文，是四年艰苦奋斗的产物，终于完成了。这段旅程常常充满艰辛，偶尔也会有欢乐的时刻，它已成为我生命中宝贵的一章。

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Chapter 1: Introduction

Despite the significant market potential of the medical service industry, the customer loyalty remains low. The lack of theoretical and practical research on customer loyalty in medical services warrants the inclusion of the customer psychological contract's influence on customer loyalty. This would serve as a useful reference for medical service institutions seeking long-term customer retention, profitability, and investment decision-making.

This research aims to propose a theoretical model illustrating the mechanism of the psychological contract, applied to medical services, on customer loyalty, mediated by perceived value, customer orientation, and customer trust. By using appropriate statistical analysis software, the model will be tested, hoping to provide a comprehensive explanation of the mechanism of customer psychological contract on customer loyalty.

1.1 The research industry background

The medical service industry has been garnering increased attention in China, reaching a national strategic level on 2017. This section delves into specific trends within this sector, such as:

(1) Increasing proportion of medical service expenditure

Foresight Industrial Research Institute (2021) revealed that in 2020, medical services constituted 8.7% of Chinese residents' expenditure, which represented a slight decrease from 2019, largely attributed to the reduced frequency of medical check-ups due to COVID-19 clustering prevention measures, and government-funded COVID-19 treatment. Despite this, it is still 1.5 percentage points higher than in 2014, indicating a growing trend in medical service expenditure, as in Annex Table 1.

(2) Evolving health consciousness and demand for health check-ups

Foresight Industrial Research Institute (2021) underscores a societal shift towards preventive health management and the importance of medical prevention. This shift is partly driven by the COVID-19 pandemic and the need for early detection of severe infectious diseases and chronic disease risk factors.

(3) Disparity in health check-up coverage

As shown in Annex Table 2, despite the growth in health check-ups (from 406 million in

2017 to 444 million in 2019, (CAGR of approximately 4.58%), China's coverage rate still lags behind that of developed countries. Projections based on this growth rate suggest an expected 464 million health check-ups in 2020.

(4) The expanding health check-up market

As depicted in Annex Table 3, in 2018, the health check-up market in China reached 151.1 billion yuan. With an average annual growth rate of about 10%, it is projected that by 2025, the market size may surpass 300 billion yuan (Foresight Industrial Research Institute, 2021).

(5) Challenges in customer loyalty

The "White Paper on China Sports Rehabilitation Industry" reveals a relatively low customer loyalty rate (Foresight Industrial Research Institute, 2021). For instance, the average repurchase rate for health examination products in 2020 was only 15.2%. The retention rate in Chongqing was even lower at 10.1%, as shown in Annex Table 4. With the health examination industry being a buyer's market, retaining customers and maintaining loyalty have proven challenging.

It is sparse the current theoretical exploration into the influence mechanism of customer psychological contract on customer loyalty within the medical service industry. This lack of understanding presents a challenge to medical service industry leaders who aim to foster effective customer management. Therefore, investigating the impact of psychological contracts on customer loyalty within this sector is of utmost importance.

Medical check-ups, a key service within this industry, are a form of credence goods, according to the classification of Nelson (1974) into three categories of experience products, search products, and credence goods. These categories are defined by different consumption behaviors, primarily driven by the level of information asymmetry. Credence goods, characterized by the customer's inability to evaluate the quality even after purchase, often demonstrate a direct price-demand relationship due to the information asymmetry.

Research on customer loyalty within the medical service sector has been conducted both internationally and within China. Neringa and Ilona (2020) posited that hospitals should focus on improving the quality of medical services and the service environment to enhance customer loyalty. In contrast, studies in China, such as Xie and Wang (2021), indicated that customer loyalty is fragile, often changing, and even ending over time due to various factors such as opportunism, diversification, and the need for autonomy.

The concept of the psychological contract, originating from social exchange theory, focuses on the perceived fulfillment of responsibilities and obligations between two parties (Rousseau, 1998). This has been broadly applied in enterprise management, and violations of these

psychological contracts have become an academic focal point. It has been found that these violations can lead to detrimental outcomes such as a decline in organizational citizenship behavior (Oliver, 2010), decreased work performance, and increased turnover intention (Shen et al., 2019).

Studies such as Fan (2019) and H. Y. Liu et al. (2020) have illustrated the impact of psychological contract violation on customer behavior, such as complaint, cessation of cooperation, and merchant switching. These studies suggest that customers place more emphasis on transactional contract satisfaction, and any violation of the psychological contract can drastically increase customers' shopping risks and reduce trust.

Therefore, establishing a dynamic and balanced psychological contract is pivotal in fostering customer loyalty. Hence, it is crucial to study the influence of customer psychological contract on customer loyalty in medical service scenarios.

1.2 The research problem and purpose

1.2.1 Research problem

Rousseau (1998) conceptualization shows that the concept of customer loyalty within medical services is fundamentally a psychological contract between the customer and the service provider. A violation of this contract significantly impacts the quality of their relationship. For a medical service organization to gain customer loyalty, it necessitates a customer-oriented approach from both the medical staff and the organization, an enhancement in perceived customer value, and building customer trust.

Despite extensive research on psychological contracts in the context of human resources, a marked gap is noticeable in the field of medical services. Considering the critical role of the doctor-patient relationship in shaping quality perception, this study underscores customer orientation and investigates the influence of customer psychological contracts on customer loyalty within the context of medical services. The research questions are:

How does a psychological contract directly influence customer loyalty in the context of medical service?

How does a psychological contract indirectly influence customer loyalty through customer orientation, perceived value, and customer trust within the medical service context?

1.2.2 Research purpose

The medical service field is unique due to its welfare attributes and the monopolistic nature of the technology involved. Therefore, simply replicating established marketing models is not feasible. This study aims to better understand related marketing theories, consider actual customer needs and the unique characteristics of the medical market, and leverage the concept of customer psychological contracts to enhance customer loyalty.

1.3 Research design and content

The technical route of this research is shown in Figure 1.1.

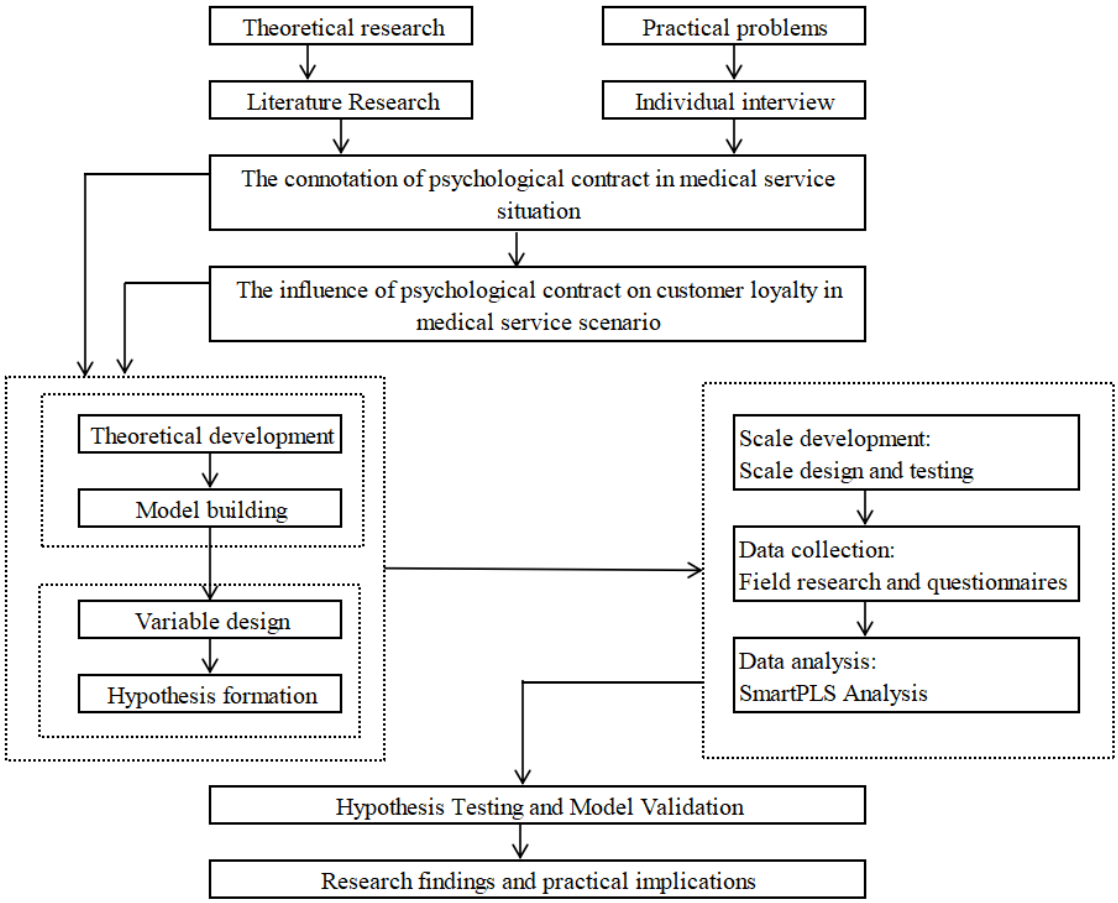

Figure 1.1 Technology roadmap

This research is designed to explore the impact of psychological contracts on customer loyalty within the context of medical services.

The ultimate goal of this research is to provide practical insights and recommendations to medical service providers, assisting them in fostering customer loyalty and achieving

sustainable growth.

1.4 Research methodology and innovation

1.4.1 Research methodology

(1) Literature review

The author has extensively consulted relevant domestic and international literature through databases such as CNKI (China Knowledge Resource Integrated Database), Google Scholar, Baidu Scholar, and PubMed. This process has provided an understanding of the latest research on psychological contracts and customer loyalty in the context of medical services. The theories of psychological contracts, customer orientation, perceived value, customer trust, and customer loyalty were thoroughly reviewed. Based on these literature summaries, a theoretical framework was constructed to align with our research theme. Essential factors influencing customer loyalty in the context of medical services were identified, forming a theoretical foundation for the impact of psychological contracts on customer loyalty. This led to the proposal of the hypothesis "Psychological contracts affect customer loyalty."

(2) Qualitative research

From the perspective of medical service, the influence of psychological contract on customer loyalty has unique characteristics, which is an area that has not been explored in the current research. Through the staff (customer service personnel) of 7 medical examination institutions in Chongqing region, on-site questionnaire survey was conducted on the customers who underwent physical examination, data was collected, and expert guidance was obtained in the field of medical services. Through these processes, the key factors influencing customer loyalty were refined and the questionnaire, which was originally compiled based on the literature, was revised to ensure its validity.

(3) Quantitative research

Quantitative research methods, such as scale development, questionnaire surveys, data analysis, and hypothesis testing, were employed. More specifically, exploratory and confirmatory factor analysis was conducted using SmartPLS software. A mechanism was developed to illustrate how psychological contracts influence customer loyalty in the context of medical services. Lastly, a structural equation model was used to test the hypothesis.

1.4.2 Research innovation

The study is among the first to investigate the impact of psychological contracts on customer loyalty in the context of medical services. It provides a fresh perspective on the importance of psychological contracts in medical service settings, an area that is largely unexplored in existing literature.

The research methodology combines qualitative and quantitative methods, providing a comprehensive understanding of the research problem. The in-depth discussions with medical service personnel and experts have enriched the data, while the use of sophisticated statistical analysis techniques has added rigor to the research findings.

The use of a case study approach in a real-world setting (Chongqing Meinian Health Company) adds to the practical relevance of the research. The findings derived from this context can be used to inform medical service practices, thus bridging the gap between theory and practice.

The development of a structural equation model to investigate the relationships among the variables is another innovative aspect. This model will not only contribute to the theoretical understanding of the topic but will also serve as a framework for future research in similar contexts.

Chapter 2: Literature Review

The aim of this study is to explore and clearly analyze the relevant theories and empirical studies concerning psychological contracts, customer orientation, perceived value, customer trust, and customer loyalty, specifically within the realm of medical services. The primary focus will be on the comprehension of fundamental concepts, understanding the connotations of these concepts, and establishing the connections between them.

2.1 Psychological contract theory

2.1.1 The application and evolution of psychological contracts in different disciplinary fields

1. Organizational behavior field

The concept of the psychological contract was initially introduced by Professor Argyris at Harvard University in his book "Understanding Organizational Behavior" (Argyris, 1960). He used the term "psychological work contract" to elucidate the complex relationship between employers and employees. Building on this concept, Schein and Bennis (1965) elaborated on how psychological contracts operate at both the individual and organizational levels. They defined the psychological contract as "persistent expectations that exist between the organization and the individual, which are undefined but widespread." Louis (1980) later refined this definition, suggesting that these implicit agreements or expectations among organizational members constitute the psychological contract.

In the 1990s, research on psychological contracts began to deepen. Although initially there was ambiguity in conceptual independence, it eventually deviated from traditional legal and economic contract theories, marking the beginning of an independent school of thought.

Cavanaugh and Noe (1999) proposed that the psychological contract is the perception of responsibilities and obligations that employees and organizations mutually assume, and this perception significantly influences employee behavior and organizational decisions. Paul (2005) further expanded on this concept, viewing the psychological contract as an informal contract manifested through mutual expectations between employees and organizations. These expectations are often unspoken or unwritten but exist implicitly in the minds of both parties.

For example, employees may expect the organization to provide salary increases, promotion opportunities, or more satisfying job positions, but these thoughts and expectations are often left unspoken.

Danilwan et al. (2020) conducted research confirming that the psychological contract comprises two levels: the employee level and the organizational level. As organizations evolve and change, the content of psychological contracts between employees and organizations also changes, imbuing them with new meanings. They argue that the psychological contract theory plays a crucial role in organizational behavior, providing a new perspective for understanding the psychological negotiations between employees and organizations. The psychological contract is defined as an unspoken agreement between organizational members and their managers, especially between employers and employees, involving mutual commitments and obligations.

Alzaid and Dukhaykh (2023) have made new advances in the study of psychological contracts. They propose that the psychological contract is the concrete manifestation of implicit exchange agreements between both parties. For example, once employees accept the conditions and beliefs that the organization promises in terms of compensation, working hours, job standards, development opportunities, and so on, a psychological contract is formed between the two parties. They argue that middle-level managers in organizations act as representatives of the organization, wielding significant managerial authority that has a crucial impact on fulfilling the psychological contract.

To better understand the concept of the psychological contract, Braganza et al. (2021) have provided various perspectives and contexts for its elucidation. They suggest that the psychological contract is the perception of responsibilities and obligations that employees and organizations should fulfill, based on the principles of reciprocity and fair exchange, and can be seen as a belief system. This is because it originates from the psychological activities of both employees and organizations, and each individual's perception of responsibilities and obligations may differ, leading to variations in the content of the psychological contract. In summary, Atrizka et al. (2020) argue that the psychological contract primarily reflects the personal perceptions of employees, and organizations need to strive to meet these expectations to achieve the fulfillment of the psychological contract.

In addition to foreign scholars in the field of organizational behavior extensively discussing the concept of the psychological contract and achieving significant results, with the acceleration of global economic integration and the rapid development of the Chinese economy, Chinese enterprises have continuously expanded in scale, diversified ownership forms, and ongoing

reforms in the corporate management system. These changes have raised a series of questions about how to effectively manage employees, such as how to balance conflicts between employees and organizations in the face of continuous waves of reform, how to maximize employee motivation, how to encourage employees to contribute to the organization and foster loyalty, and how to achieve a win-win situation between employees and organizations. These issues have garnered widespread attention in both academia and practice. Z. Q. Chen and Lu (2023) conducted in-depth research on these issues from the perspective of employees, exploring the role and impact of the psychological contract. They believe that the psychological contract is a pact between oneself and leaders, and therefore, when leaders representing the organization fail to fulfill the psychological contract, employees perceive them as also breaking the psychological contract.

Scholars such as Argyris (1960) and Z. Q. Chen and Lu (2023) proposed his perspective on psychological contracts in the field of organizational behavior to elucidate the implicit relationship between employers and employees. Rousseau (1998) further developed this concept, suggesting that the psychological contract reflects the implicit agreements between employees and organizations. Sandeepanie et al. (2023) acknowledged that the psychological contract is formed when employees accept the conditions and beliefs provided by the organization.

To delve deeper into the nature of the psychological contract, Yu et al. (2022) proposed that the psychological contract is based on the perceived obligations of employees and originates from the psychological activities of both parties. Therefore, individual perceptions of obligations may differ, leading to variations in the content of the psychological contract. Noble-Nkrumah et al. (2022) further argued that the psychological contract largely reflects employees' personal perceptions. Thus, organizations should strive to meet these expectations. This implies that organizations need to recognize the importance of the employee psychological contract and take corresponding measures to fulfill employee expectations, thereby maintaining healthy employment relationships.

Breach of the psychological contract and its subsequent consequences have always been a topic of great academic interest. Empirical research by Hydari et al. (2020) demonstrates that the interpretation of the effectiveness or level of compliance with the psychological contract varies depending on the party involved: the employee, the employer, or both.

It is crucial to distinguish between breach and violation of the psychological contract. While an analysis based on one's judgment triggers an assessment of compliance or violation behavior, violating the psychological contract implies significant emotional reactions, leading to

resentment and indignation (Pribadi et al., 2021).

Customers also enter into psychological contracts with brands and organizations. As shown by Zhou (2018), the customer-brand relationship is similar to the employee-organization relationship. Both types of relationships involve individuals and organizations, including implicit commitments or expectations.

Bari et al. (2020) conducted research on employees in Pakistani software companies, revealing a significant positive correlation between knowledge hiding behavior and employee silence, with psychological contract violation playing a crucial mediating role. Kutaula et al. (2020) conducted a systematic review of psychological contract research conducted in Asia from 1998 to 2019, focusing on marketing customer relationships from the perspectives of transactional contracts and relational contracts. Their work enhances understanding of psychological contract theory among Asians.

Y. Li et al. (2019) argued that normative contracts have a positive impact on organizational justice, indicating that a higher perception of normative contracts is associated with a greater sense of organizational justice. Additionally, normative contracts also moderate the relationship between violation behavior and organizational fairness. Qi et al. (2020) provided insights into how organizational leadership can maintain business intelligence in a dynamic environment. They discussed the overlap between the psychological contract and trust and information justice. Jin and Zhang (2021) conducted a study on the job satisfaction and happiness of Irish doctors, demonstrating that violation of the psychological contract leads to strong negative emotional responses. They used doctors' psychological contracts to further understand their job satisfaction and happiness.

In summary, the academic application of the concept of the psychological contract varies among scholars. Some emphasize its role in employer-employee relationships, while others consider it a one-way relationship from employees to organizations, representing employees' interpretations of responsibilities and obligations towards the organization. This variation has caused some degree of confusion in psychological contract research.

In conclusion, scholars do not have a particularly unified definition of the psychological contract, but most generally acknowledge Rousseau's definition.

This thesis summarizes the definitions of the psychological contract by different scholars as shown in Table 2.1.

Table 2.1 Evolution of psychological contracts

Research scholar	Definition
Argyris (1960)	Describe the relationship between boss and employee from a human resources perspective.
Levinson et al. (1962)	The psychological contract is an implicit and informal contract between the organization and its employees.
Schein and Bennis (1965)	An unwritten, implicit employee-employer expectation and requirement of mutual responsibilities and obligations.
Rousseau (1990)	The individual employee and the organization's subjective understanding of each other's obligations in the exchange relationship.
Robinson et al. (1994)	There are two types of customer psychological contracts: transactional and relational.
Morrison and Robinson (1997)	The perception of responsibilities and obligations in the relationship between employer and employee within the company.
J. Z. Chen et al. (2003)	From the perspective of marketing, the psychological contract of customers is described from the continuous transaction contract to the relationship contract of frequent customers.
Cullinane and Dundon (2006)	From the perspective of marketing, it describes the customer's psychological expectation in the transaction process with the organization, which is not clearly stipulated in the formal transaction contract, but can be perceived by the customer.
You et al. (2007)	Consumer perceptions and beliefs about obligations between themselves and the brand.
Y. D. Wang and Hsieh (2014)	From the perspective of marketing, the higher the degree of customer psychological contract violation, the lower the customer loyalty.
Soares and Mosquera (2019)	In the context of medical service, patients' psychological contract and trust in medical service consumption have mediating effects on the relationship between medical service quality and patients' consumer loyalty.
Herrera and De Las Heras-Rosas (2021)	Psychological contract is the implicit expectation and mutual obligation between the customer and the organization. Violating the contract will lead to strong negative emotional reaction.
Jin and Zhang (2021)	In the context of medical services, the consequences of the breach of the doctor-patient psychological contract are described. The breach of the psychological contract leads to the trust crisis of patients and inspires behavioral conflicts.
Santos et al. (2024)	In the context of medical services, service commitment can enhance patients' transactional and relational psychological contracts, and then have different effects on patients' structural and conscious semi-implicit needs.

In general, there is currently no unified consensus within the academic community regarding the concept of the psychological contract. Some scholars emphasize that the psychological contract is a relationship between both the organization and employees, while others believe it represents a one-way relationship from employees to the organization, involving employees' perceptions of the responsibilities and obligations that the organization should bear. This controversy has posed certain challenges to psychological contract research.

2. Marketing field

Although the psychological contract is a mature research topic in the field of organizational

behavior, it has begun to find applications in the marketing field, particularly in the context of relationships between buyers and sellers, i.e., businesses and consumers. Despite relatively limited research outcomes in the marketing field, Blancero and Ellram introduced the concept of the psychological contract to marketing in 1997, suggesting that there exists a psychological contract between suppliers and customers. They argued that gaining the ongoing trust of customers can lead to sustained performance improvement. Ismail (2022) pointed out that customers pay high attention to products and services during the shopping process, making transactional psychological contracts more likely to form.

Karani et al. (2022) were among the first scholars to conduct psychological contract research in the marketing field. They defined the concept of the psychological contract, developed measurement scales, and empirically tested the reliability and validity of these scales, laying the foundation for related research. Additionally, they explored the relationship between the psychological contract, customer trust, and customer loyalty. They constructed an empirical model and validated it using structural equation modeling, with all data results being reasonable, making their research highly influential for subsequent scholars. Ismail (2022) argued that there is also a psychological contract between online retailers and consumers. Due to the virtual nature of online platforms, face-to-face communication is not possible, which increases customers' shopping risks. Consumers often rely on their judgments of products and subjective perceptions of seller credibility when making decisions.

Gong and Wang (2022) suggested that the psychological contract represents customers' expectations and demands for brands based on communication and perception. It is an implicit agreement that, when fulfilled, contributes to brand development and the realization of economic benefits for companies. Qaiser and Abid (2022) viewed the psychological contract as a perception formed by customers in long-term interactions with companies, primarily focusing on product quality, service levels, and corporate operating philosophies. They regarded this as a sense of responsibility that companies should bear. With the development of multi-channel retail, researchers have shifted their focus from traditional marketing to online marketing. Deng et al. (2022) conducted research on the psychological contract in the context of online marketing, stating that the psychological contract represents customers' overall perception of online sellers' marketing activities and product services. It is characterized by being implicit, informal, broader than contract terms, harder to grasp, and less noticeable. These authors discussed the definition of the psychological contract and argued that even though online shopping is virtual, there is still a psychological contract between sellers and buyers. Customers form the psychological contract through actions such as browsing web pages, consulting customer

service, discussing return and exchange guarantee services, and perceiving the overall service level.

In the 21st century, the literature on psychological contracts has evolved to identify two types of customer psychological contracts: transactional and relational (Morrison & Robinson, 1997). Transactional psychological contracts focus on short-term benefits and rewards and are primarily based on specific and interactive economic relationships. In contrast, relational psychological contracts involve long-term emotional exchanges and often require high levels of emotional involvement. The relative importance of these contracts significantly affects the commitment levels of employees and their ability to fulfill contract obligations (Samson & Swink, 2023).

When customers perceive that a company has failed to fulfill its commitments, the concept of psychological contract violation becomes important. Tashfeen and Rizwan (2023) hypothesize that customers form beliefs about mutual obligations based on perceived commitments and expectations. As explored by Rifkin et al. (2023), violating these beliefs directly and indirectly affects customer trust and loyalty.

In their research, they identified different dimensions of citizen behavior influenced by the violation of relational contracts. However, it is important to distinguish between a product risk crisis and a psychological contract breach. The former involves objective product defects, while the latter is related to customers' subjective perceptions of unfulfilled commitments. A product risk crisis can serve as a precursor to a perceived breach.

Therefore, the psychological contract can be seen as customers' structured understanding of the exchange of resources between themselves and the organization. When customers form expectations from a brand's advertising or consumption norms, their experiences can either confirm or betray these expectations, affecting their satisfaction, trust, and even word-of-mouth promotion for the brand.

Chinese scholar Fan (2019) further developed the concept of the psychological contract from the perspective of internal employees within organizations. Huang et al. (2022) defined the psychological contract as dynamic, fuzzy, and ambiguous subjective assumptions about mutual rights and obligations in relationships. They supplemented this understanding by stating that healthcare workers' job satisfaction is influenced by the psychological contract.

Dowell et al. (2015) introduced a three-dimensional model of psychological contract, tools, relationships, and management, providing insights into the relationship between psychological contract breaches and customer loyalty. They found that certain factors can mitigate the negative impact of psychological contract breaches on customer loyalty.

C. H. Zhu (2019) investigated the impact of perceived value on behavioral loyalty to Chinese Super League clubs among fans and found a significant and direct effect. Importantly, they discovered that demographic characteristics might influence fans' behavioral loyalty, and transactional psychological contracts might negatively moderate the relationship between perceived value and behavioral loyalty. However, they found that relational psychological contracts did not have a significant moderating effect.

Rifkin et al. (2023) explored the application of the psychological contract in the field of e-commerce live streaming. Empirical analysis revealed that the practicality of live streaming content enhances transactional psychological contracts, while entertainment content promotes the formation of relational psychological contracts. They found that transactional psychological contracts influence audience attitudes and behavioral loyalty, while relational psychological contracts only affect behavioral loyalty.

In summary, the psychological contract theory plays a crucial role in understanding the relationship between businesses and customers. It provides insights into how expectations, commitments, and potential violations of these obligations affect customer behavior and loyalty. This study, through in-depth analysis of the psychological contract theory and related empirical research, contributes to a more comprehensive understanding of customer behavior, especially in the context of healthcare services. It highlights the relevance and implications of transactional and relational psychological contracts, customer trust, and the resulting loyalty. However, further research is needed to validate and refine these theories in different contexts and industries.

In conclusion, there is an increasing amount of research in the academic field on the concept of the psychological contract, especially as the economic environment and business developments continue to evolve, and customers' perceptions of responsibilities and obligations vary. Controversy is normal, and such controversies lead us to further understand the essence of the psychological contract. Moreover, the research scope of the psychological contract is extensive, involving employees, customers, sellers, suppliers, and more. It holds significant research value and promising prospects, deserving our attention.

3. Healthcare services sector

(1) Definition and importance of the psychological contract in healthcare services

The psychological contract in the healthcare services sector is seen as informal and unwritten expectations and commitments between patients and healthcare service providers (Heyns et al., 2022). This contract includes patients' expectations regarding healthcare service quality, communication, privacy protection, and treatment, as well as the inherent commitment

of healthcare service providers to providing high-quality, compassionate, and respectful care. The existence of this contract is based on mutual trust and respect, and its importance lies in its role in building and maintaining patient trust, ensuring service quality, and ultimately influencing patient satisfaction and loyalty. Recent research has shown that the quality of the psychological contract significantly impacts patients' overall experiences in the healthcare services sector.

(2) Core elements of the psychological contract

In the healthcare services sector, the core elements of the psychological contract include trust and communication, expectations and practices (Wibowo, 2022). Trust is the foundation of the psychological contract, requiring healthcare service providers to possess not only necessary professional skills but also to demonstrate care and understanding towards patients. Effective communication is key to establishing and maintaining this trust, including clear communication of medical information, listening to patients' needs and concerns, and providing timely feedback. Additionally, patients' expectations of services and the practices of healthcare institutions are also crucial components of the psychological contract. Patient expectations may include expectations of treatment outcomes, comfort during the service process, and the need for privacy protection, among others, and healthcare institutions must strive to meet these expectations to maintain a strong psychological contract.

(3) Impact of psychological contract violation

Psychological contract violations, such as poor service quality, inadequate communication, or neglect of patient privacy, directly affect patients' trust and loyalty towards healthcare institutions (Gong & Wang, 2022). When the psychological contract is violated, patients may feel disappointed and dissatisfied, which not only reduces the likelihood of them using the healthcare institution again but may also negatively affect the institution's reputation through word-of-mouth. Research indicates that psychological contract violations can even lead to psychological stress and discomfort among patients, further impacting their overall evaluation of the service.

(4) Fulfillment of the psychological contract and customer loyalty

When healthcare service providers can effectively fulfill the psychological contract, such as by providing high-quality medical services, good communication, and respecting patient privacy, patient satisfaction and loyalty significantly increase (Ismail, 2022). This satisfaction is reflected not only in patients' evaluations of the service but also spreads through positive word-of-mouth to potential new customers. The improvement of satisfaction and loyalty is crucial for healthcare institutions as it directly relates to the long-term success and sustainable

development of the institution.

Pribadi et al. (2021) conducted a pioneering study, surveying 580 participants from various healthcare service organizations in major cities in Pakistan, including Lahore, Islamabad, Peshawar, and Karachi. Their research, from the perspective of the psychological contract, revealed the positive and significant impact of brand image and customer trust on customer loyalty. These insights led some to suggest that hospitals in Pakistan should adopt a customer-centric approach by ensuring high standards of medical services and incorporating technological innovations into their practices, recognizing customers as the guiding contracts.

In a study by Y. Li et al. (2019), an analysis was conducted on 296 patients from private hospitals in Makassar, Indonesia. Their conclusion was that several factors influence the formation of the psychological contract between customers and hospitals, including perceptions of service quality, hospital image, customer value, and customer orientation of private hospitals. If customers perceive that the hospital provides valuable services and can be trusted, they are more likely to form a psychological contract. Y. Li et al. (2019) studied the role of nurse-patient relationships in the psychological contract between patients and hospitals. A survey of 1012 patients at tertiary hospitals showed that a high level of trust in nurse-patient relationships and nurses' professional competence had a positive impact on the psychological contract. In the face of challenges in improving patient loyalty through the psychological contract, Fan (2019) proposed a research approach. They analyzed the positive impact of service quality, patients' psychological contracts, consumers' trust, support, and loyalty on patients' attitudes and behaviors toward loyalty. The research also found that patients' perception of support, the psychological contract with doctors, and trust in healthcare service consumption mediated the relationship between service quality and patient loyalty.

Pribadi et al. (2021) conducted a cross-sectional survey in outpatient departments of six referral hospitals. They explored the role of pharmaceutical services, customer emotions, satisfaction, and trust in customer psychological contracts. Their research found that employees' positive emotions substantially influenced the formation of customer psychological contracts. They suggested that pharmacists can use practical approaches to encourage customer-centric communication, involve customers in treatment plans, and cultivate a respectful and interactive relationship to facilitate the management of treatment goals and challenges.

In the context of China, R. Y. Zhang et al. (2020) conducted a study on the psychological contract of customers in healthcare services. The survey results indicated that customers perceived the level of doctors' fulfillment of the psychological contract to be at a moderate level, and customers' trust in doctors was also moderate. There were invisible barriers between

doctors and customers that hindered the establishment of high trust. Importantly, the research revealed a significant positive correlation between the realization of the psychological contract and the dynamics of doctor-patient trust.

Furthermore, Qi et al. (2020) conducted an extensive study in 123 hospitals, with a focus on establishing a valuable insight into the psychological contract, including the concept of responsibilities in the healthcare field. They developed a psychological contract scale that includes responsibility concepts, providing valuable insights for hospital management.

Jin and Zhang (2021) conducted a recent study evaluating the factors influencing breaches of the doctor-patient psychological contract. This includes doctors' and patients' perceptions of their rights and obligations. The study found that breaches of the psychological contract lead to trust crises, stimulate clear behavioral conflicts, and result in doctor burnout.

K. Y. Zhu and Han (2023) offered a new perspective on executing these contracts in the medical field, providing valuable insights that contribute to building trust and reducing conflicts. Additionally, successful management of these contracts can lead to higher customer satisfaction and loyalty, supporting the success of healthcare institutions.

Hu et al. (2023) emphasize the crucial role of the psychological contract in the field of healthcare services. It serves as a key determinant of patient-provider relationships and loyalty. Effective management and fulfillment of the psychological contract are essential tasks for healthcare service providers, requiring continuous improvement in service quality, optimization of communication strategies, and a constant focus on patient needs and expectations. While research on the psychological contract has primarily focused on human resources and employee relations management within organizations, exploration of customer psychological contracts within the healthcare services field remains limited.

4. The influence and relevance of psychological contract

(1) Impact of psychological contract violations and their management:

When the psychological contract is violated, such as failing to meet patients' expectations in terms of service quality, communication, or privacy protection, it can lead to a crisis of trust and a decrease in patient loyalty (Topa et al., 2022). Therefore, healthcare institutions need to take proactive measures to manage and maintain the psychological contract, including improving service processes, enhancing staff training, and implementing effective communication strategies.

(2) Role of the psychological contract in promoting patient loyalty:

Maintaining a healthy psychological contract is crucial for enhancing patient loyalty. Studies have shown that when healthcare service providers can meet patients' expectations and

commitments, patients are more likely to remain loyal to the healthcare institution and may spread positive word-of-mouth experiences, attracting more patients (Z. D. Luo, 2022). This loyalty is reflected not only in repeated service utilization but also in overall evaluations and recommendations of the healthcare institution by patients.

(3) Association between the psychological contract and patient satisfaction:

The relationship between patient satisfaction and the psychological contract has received widespread attention. When healthcare service providers fulfill patients' expectations, such as providing high-quality healthcare services, effective communication, and respecting patient privacy, patient satisfaction significantly increases. This satisfaction impacts not only patients' immediate experiences but also their expectations and choices for future services (Ismail, 2022).

2.1.2 Structure of the psychological contract

The psychological contract is a product of social exchange primarily determined by expectations of reciprocation (X. Wang et al., 2023). Some scholars consider the psychological contract as unidimensional, focusing on the overall realization of the psychological contract. However, many scholars believe it is multidimensional. As research into the content of the psychological contract has deepened, scholars have started to explore its structure for a more comprehensive and intuitive understanding of the concept. Currently, widely accepted structural divisions include two-dimensional, three-dimensional, and five-dimensional structures.

1. Two-dimensional theory:

The psychological contract is viewed as a concept rooted in social exchange, primarily driven by individual expectations of reciprocity. In academia, there are differing viewpoints regarding the nature of the psychological contract. Some scholars consider it to be unidimensional, emphasizing the exploration of whether the overall psychological contract is fulfilled. However, as research has advanced, an increasing number of scholars have started to support the idea that the psychological contract possesses multidimensional characteristics. This deepened understanding has prompted scholars to focus on the structure of the psychological contract for a more comprehensive and intuitive comprehension of the concept. Currently, widely accepted structural divisions of the psychological contract primarily include two-dimensional, three-dimensional, and five-dimensional structures.

In the two-dimensional structural theory, Rousseau (1990) is one of the scholars who delved deeply into the study of the psychological contract. He conducted interviews with 129 college graduates transitioning into the workforce. The results of these interviews revealed that the

descriptions of responsibilities and obligations that employees believed organizations should fulfill could be categorized into two major classes: the first class pertained to economic benefits such as high salaries, additional bonuses, career development opportunities, and training for advancement. Employees expressed their willingness to exchange efforts through overtime and extra work for these benefits, termed as the "transactional psychological contract." The second class involved emotional and interpersonal aspects such as accepting job transfers, loyalty to the organization, and the desire for the organization to contribute to societal values, termed as the "relational psychological contract." In further research, Rousseau (2001) divided the psychological contract into two dimensions: the "transactional psychological contract," which pertains to individual efforts in exchange for material benefits like substantial rewards, career development prospects, training opportunities, and more; and the "relational psychological contract," which primarily relates to emotional aspects, such as the organization valuing employees' inner thoughts, concern for work-life balance, and maintaining emotional attachment to the organization.

Bari et al. (2023), in an empirical study on the psychological contract between employers and employees in organizations, found that employees' perceptions of the obligations and responsibilities that employers should fulfill could be divided into two major categories: material benefits and emotional feelings. Similarly, J. H. Wang et al. (2022) conducted empirical analyses involving employees in organizations and extracted two common factors termed "external contract" and "internal contract," where the external contract was primarily associated with work, material, and benefits, while the internal contract was primarily related to development, space, and emotions.

These studies indicate that the psychological contract in organizational settings is a complex and multidimensional concept, encompassing various aspects of material benefits and emotional relationships. This understanding holds significant importance for comprehending and managing interpersonal relationships and employee expectations within organizations.

Domestic and international scholars have conducted in-depth research on the content of the psychological contract as well. Deas and Coetzee (2022), combining psychological contract scales and their content from organizational behavior literature and considering specific marketing contexts, developed a new scale primarily for the service industry. Their research results showed that in marketing contexts, the psychological contract can also be divided into two dimensions: transactional and relational. Amani (2022), in exploring the content of the psychological contract in online marketing, conducted a survey of college students passionate about online shopping. Their data results demonstrated that in online marketing contexts, the

psychological contract similarly divides into transactional and relational dimensions.

J. Z. Chen et al. (2003), aiming for a clearer understanding of the structural content of the psychological contract, conducted a large-scale survey. Based on data gathered from over a thousand respondents, he conducted empirical research. Building upon Rousseau's questionnaires and scales, he designed a new survey questionnaire tailored to the actual context of Chinese enterprises. This questionnaire consisted of 24 measurement items. Data processing results revealed that due to cultural and interpretational differences between Eastern and Western cultures, there were variations in how employees understood and expected the content of the psychological contract. Chen Jiayang divided the structure of the psychological contract into two dimensions: "reality factors," which include factors such as wages, working environment, and bonuses, and "development factors," which include promotion opportunities, development prospects, organizational care, and employee loyalty.

2. Three-dimensional theory

As research into the structure of the psychological contract has continued to deepen, some scholars argue that categorizing the psychological contract into only two dimensions is overly simplistic and fails to fully reflect the genuine inner expectations of employees or customers. Therefore, the viewpoint of a three-dimensional structure has been proposed. Scholars like Tijorimala suggest that in addition to the existing "transactional" and "relational" dimensions, the psychological contract should also include a "team member" dimension, emphasizing the establishment of harmonious interpersonal relationships between employees and organizations and a congenial team atmosphere. Asante et al. (2023) conducted surveys among corporate employees, validating Tijorimala's research findings and sharing a similar perspective. Karani et al. (2022), in their empirical analysis, proposed three dimensions of the psychological contract: transactional, relational, and training contracts. Y. H. Li et al. (2022), through both theoretical and empirical research, divided the psychological contract into three dimensions: performance rewards, career development, and employee commitment.

Schreuder et al. (2023) argue that the responsibilities and obligations between organizations and employees can be divided into three dimensions: normative, developmental, and interpersonal. Cohen and Blecher (2022) suggest that the psychological contract can be divided into three dimensions: transactional, relational, and developmental contracts. Rice et al. (2023) discovered, through their research, that in addition to transactional and relational contracts, a "management contract" dimension should also be included, with a focus on how organizational managers should empower, trust, motivate employees, and ensure effective communication. (L. J. Wang & Liu, 2022), in their survey research involving knowledge workers, found that

employees believed organizations should fulfill responsibilities in dimensions such as material incentives, environmental support, and development opportunities.

In summary, research conducted by domestic scholars, both empirically and theoretically, has concluded that the psychological contract has a three-dimensional structure. However, from the perspective of the development of organizational behavior and marketing, there are still some practical issues with the three-dimensional structure that have not been theoretically explained, so this assertion may not comprehensively cover all real-world phenomena. Therefore, some scholars have adopted more advanced research methods, such as cluster analysis and longitudinal surveys, in hopes of obtaining a more complete and convincing dimensional structure. Further research is needed to delve deeper into the structure of the psychological contract.

3. Multidimensional theory

To more thoroughly utilize psychological contract theory in explaining various phenomena in real life, scholars have proposed the multidimensional theory of the psychological contract. This theory posits that the psychological contract encompasses multiple aspects and is not limited to simple two-dimensional or three-dimensional structures. Bari et al. (2022) have made significant contributions in this field, focusing on the relationship between customers and brands. Through the study of customers' psychological, emotional, and material needs, they collected comprehensive data through surveys. By summarizing and categorizing this data, they identified five aspects of the consumer's psychological contract: loyalty rewards, product quality and service, social and emotional benefits, communication, and price.

Megheirkouni (2022) believes that the responsibilities organizations should fulfill include five aspects: job content, development opportunities, interpersonal relationships, human resource management, and motivation. Van den Groenendaal et al. (2023) propose that the responsibilities organizations should assume include fair compensation and benefits, a comfortable work environment, job security, flexible working hours, and training, among others, but they do not explicitly delineate the dimensions of the psychological contract.

These studies illustrate that the multidimensional theory of the psychological contract provides a broader and more in-depth perspective for understanding and explaining complex relationships in real-life situations. The multidimensional theory emphasizes that the psychological contract is not limited to simple exchange relationships but encompasses multiple dimensions of content, aiding in a more comprehensive understanding and application of psychological contract theory.

In order to delve deeper into the dimensions of the psychological contract, Kanjanakan et

al. (2023) conducted field research and processed the collected data through both qualitative and quantitative analysis methods. Their research findings revealed the multidimensional nature of the psychological contract, which they divided into four aspects: job support, development opportunities, employee empowerment, and career planning. Their study provides a new perspective and approach to the psychological contract in marketing contexts and offers a robust analytical framework for building strong relationships between retailers and customers.

From the analysis above, it can be observed that there is no unified consensus in the academic community regarding the dimensions of the psychological contract. Although the two-dimensional structure has gained wide acceptance, and many scholars commonly use this structure to support their arguments, disputes regarding the division of psychological contract dimensions persist due to cultural, national, and organizational differences between scholars. In general, the two dimensions proposed by Rousseau (1990), namely the transactional contract and the relational contract, are relatively stable and widely recognized. Although subsequent scholars have proposed new dimensional factors such as development contracts, team member contracts, etc., these new dimensions have not received widespread acceptance and stability. As the external environment continues to change, research on the psychological contract is expected to become more in-depth and detailed. Further research on dimensional factors will contribute to explaining real-world phenomena and achieving theoretical and practical alignment.

2.1.3 Characteristics of the psychological contract

1. Subjective nature

In the fields of organizational behavior and marketing, the psychological contract primarily refers to individuals' subjective perceptions of organizational responsibilities and obligations. This perception is often complex and, in most cases, not explicitly documented. Therefore, employees or customers often form their psychological contracts based on personal understanding and judgment. This subjectivity can lead to discrepancies in the understanding of the psychological contract between employees or customers and the organization, as noted by Robinson et al. (1994).

2. Dynamic nature

Unlike formal written contracts with explicit terms, the psychological contract is based on subjective perception and is subject to change based on various factors, making it dynamic in nature. These factors include changes in the work environment, emotional states, and external factors. For example, changes in product offerings, shifts in service delivery methods,

improvements in the organizational environment, adjustments in economic rewards, and shifts in industry dynamics can all lead to changes in the psychological contract. Especially, changes in the psychological states of employees or customers can significantly impact the content and nature of the psychological contract, as described by Ishaq et al. (2022).

3. Implicit nature

In everyday life, formal contracts typically have clear written terms, visibility, and specificity. In contrast, as noted by Ngobeni et al. (2022), the psychological contract relies on the perceptions of individuals within the organization and does not have specific, explicit provisions. Instead, it consists of implicit mutual obligations that exist within the relationship between the parties. While this contract may not be overtly expressed, it is mutually understood by both parties and resides in their hearts. This presents a challenge for organizations in understanding employees' genuine thoughts and customers' true needs. The realization of the psychological contract is essentially a process of negotiation between the parties, and any slight oversight by the organization can result in the inability to fulfill the psychological contract, leading to dissatisfaction and, unwittingly, the deterioration of the relationship between both parties, ultimately leading to relationship breakdown.

4. Distinction between psychological contract and expectations

Initially, research on the psychological contract was seen as the expectations of both parties toward each other. However, as research progressed, the psychological contract came to be regarded as involving perceptions of responsibilities and obligations from the organization, extending beyond mere expectations. Lakisa et al. (2023) view the psychological contract as a sum of expectations and beliefs regarding the organization and the expectations are diverse in their sources. The psychological contract is seen as the rights that employees should obtain through their efforts. Expectations encompass belief components, while the psychological contract is one of the factors that prompts these expectations. However, not all expectations stem from perceptions of commitments by both parties. The psychological contract is essentially built on mutual understanding, trust, and exchange.

2.1.4 Short summary

The importance of the psychological contract in the field of healthcare services is evident. It not only impacts patient satisfaction and loyalty but is also a crucial component in assessing healthcare service quality. Future research can further explore the specific correlations between the psychological contract and patient behavior, as well as how effective management strategies can enhance the psychological contract, thereby improving healthcare service quality and

patient experiences.

2.2 Theory of customer orientation

2.2.1 Concept and evolution of customer orientation

The concept of customer orientation, first introduced by Jin and Zhang (2021), has become a prominent focus in the domain of marketing, bridging the gap between organizations and their customers. There are two predominant levels of customer orientation examined in current literature: organizational-level customer orientation and individual-level customer orientation. This study primarily emphasizes the individual level, specifically the perspective of employees towards customer orientation.

Employee customer orientation represents the application of marketing concepts at an individual level, with its essence lying in the effective fulfilment of customers' needs and interests to ensure sustained customer orientation. Empirical research commonly adopts two distinct perspectives on conceptualizing customer orientation: a behavioral perspective and a psychological perspective. The behavioral perspective concerns the actions that employees undertake to encourage customer orientation, whereas the psychological perspective refers to the underlying mental traits motivating employees to meet customer needs, such as their attitude, personality, and superficial characteristics. This research primarily investigates customer orientation from the behavioral perspective, considering its relevance to customer perceived value and trust, and the ease of observation for customers.

C. M. J. Lee et al. (2021) noted that relationship selling has evolved as a trend, intensifying the relationship between buyers and sellers. Customers perceive employees not merely as business associates but as acquaintances and even friends. Existing literature on customer orientation does not adequately capture this potent interpersonal relationship in today's business environment. C. M. J. Lee et al. (2021) further classified customer orientation into two categories: functional customer orientation and relational customer orientation. Functional customer orientation encompasses task-oriented behaviors such as accurate product descriptions and customer needs identification. In contrast, relational customer orientation concerns behaviors targeted at building interpersonal relationships with customers. While functional customer orientation is grounded in role expectations of businesses, relational customer orientation stems from the role expectations of friends or acquaintances.

The definition of customer orientation has been expanded from the classical version

proposed by Saxe and Weitz (1982). Numerous scholars have since introduced additional definitions, as shown in Table 2.2.

Table 2.2 Definition and evolution of customer orientation

Research scholar	Definition
Saxe and Weitz (1982)	Customer orientation at the organizational level and customer orientation at the individual employee level
Williams (1998)	Customer orientation focuses on meeting the needs of customers and achieving win-win results, so it is non-opportunistic and adopts a coordinated negotiation method, which helps customers and businesses to trust and commit to each other, thereby developing a positive relationship model. In addition, customer orientation combines information sharing, needs discovery, and adaptive coping in interpersonal behaviors, helping to improve satisfaction, trust, common goals and commitments, and mutual dependence.
Brown et al. (2002)	"The tendency or preference of employees to meet customer needs in the work environment," they also noted, "for most service organizations, the individual service worker is the direct participant in the execution of the marketing concept." They propose that customer orientation in service industries includes two factors: needs and enjoyment. Demand factors assess salespeople's perception of their ability to meet customer needs. They added a second factor: enjoyment. This factor assesses the level of enjoyment a salesperson brings to interacting with customers and serving customers.
Hennig (2004)	The concept of "Customer Mindset" (CMS) is proposed. The "customer mindset" is defined as "the individual's belief that understanding and meeting the needs of customers, whether external or internal, is critical to the proper performance of the job." They argue that "CMS comes from both the market concept and other traditional customer-based definitions (both internal and external)
Homburg et al. (2011)	Customer orientation is defined as a set of behavior patterns that are highly concerned with customer interests and needs and ensure the long-term interests of customers, which is consistent with previous research (Franke & Park 2006). While the basic definition is widely accepted, the conceptualization of the construct varies. In research on sales, researchers mainly focus on customer-oriented sales behavior determined by sales tasks, such as providing products that meet customer needs.
Han et al. (2018)	Employee burnout and work engagement are important factors in determining the quality of service provided to customers
A. Singh and Prasher (2019)	Hospital management needs to identify and match patients from the patient's perspective while understanding patient perceptions of service quality (SQ) and delivering better healthcare

Fidel et al. (2018) concluded that customer orientation significantly correlates with business

performance, advocating further examination of its unique contribution to organizational performance. The study also found a significant moderating effect of business and social network connections. Companies with more robust connections benefit more significantly from customer orientation in terms of performance. This conclusion was derived from 752 responses from service customers employed in various enterprises across three MENA countries.

T. W. Feng et al. (2019), through survey data from 264 Chinese companies, revealed that customer orientation is vital for customer loyalty and can effectively enhance an organization's market competitiveness and profitability.

Smirnova et al. (2018) assessed 210 Spanish SMEs and confirmed that customer orientation and customer knowledge management (CKM) positively impact SMEs' innovation capabilities and marketing outcomes. The results underscore the importance of customer orientation and CKM in promoting innovation and performance.

In the context of the emerging Russian market, Fidel et al. (2018) revisited customer orientation, demonstrating that in Russia, customer orientation encompasses two distinct dimensions: a customer-centric strategy and customer service delivery. Both dimensions contribute to a company's ability to serve customers, adapt to market conditions, and optimize growth and profitability.

Yeo et al. (2019) noted that customer orientation influences the adaptive sales behavior of salespeople, which in turn affects their organizational identification and sales performance. Their research suggests the necessity for educational programs that help salespeople understand a customer-oriented organizational culture.

J. K. Park et al. (2020), by collecting data from 308 small hotel owners from five tourist areas in Malaysia, studied the correlation between customer orientation and the performance of small hotels. The study demonstrated a direct link between customer orientation and corporate performance. It argued that a company's customer-oriented program influences the company's knowledge creation process, which, in turn, is dependent on the dynamic capabilities of its tourism entrepreneurs. The findings from this research are crucial for travel entrepreneurs striving to compete and achieve superior corporate performance through effective business practices and improved return on investment.

In another study, Mahmoud et al. (2022) concluded that customer orientation significantly correlates with job satisfaction among medical tourism facilitators. This result provides practical implications for organizations to develop effective internal marketing strategies (i.e., communication) aimed at enhancing the performance of medical tourism facilitators.

However, until now, there has been no validated scale to measure a company's perceived

level of customer-centricity. Addressing this gap, Habel et al. (2020) utilized previous literature, qualitative interviews, and customer surveys to develop and validate a measurement scale for perceived customer centrality. Their findings indicated that when the supplier exhibits customer orientation both at the firm and salesperson level, customers perceive the company to be customer-centric. Furthermore, perceived customer centrality closely correlates with customer loyalty intentions and objective sales revenue, especially when customers perceive a company to exhibit high prices.

In conclusion, the theory of customer orientation continues to evolve and develop, with an increasing emphasis on the role of the individual employee in fostering customer relationships and delivering value. Future research should continue to refine and extend these concepts to improve our understanding of customer orientation and its implications for organizational performance.

2.2.2 Customer orientation research in the medical field

In contemporary medical practice, adopting a customer-oriented approach is paramount. The customer orientation behavior of medical service professionals positively influences job satisfaction and customer repeat behavior, as evidenced by the research conducted by Shafaqat et al. (2021). In their comparative survey involving public and private hospitals, they underscored that customer orientation practices among medical professionals result in an enhancement of employee satisfaction and customer retention.

Delving further into the relationship between customer orientation and service level, Han et al. (2018) posited that both elements are significant determinants of a hospital's success. They are influenced by various factors, among which work performance and the role clarity of nurses stand out. Notably, job burnout and engagement play critical roles in determining the quality of customer-oriented service. The awareness of these variables underscores the need for nurturing an environment that mitigates burnout and fosters engagement, thus promoting high-quality service delivery.

Shafaqat et al. (2021) probed the effect of service quality on customer orientation at the Coimbatore specialty Hospital. Surveying 130 respondents, they concluded that improving customer orientation directly improves service quality, which ultimately impacts customer loyalty. Their study stresses the need to focus on service quality to ensure continued customer orientation and loyalty.

In a Chicago-based hospital, Chandrasekar and Thangaraj (2021) conducted a study that encourages oncologists and cancer specialists to co-create customer-oriented solutions. They

identified three opportunities to advance customer orientation: dismantling research boundaries, promoting intersectoral collaboration to improve patient wellbeing, adopting a customer-oriented approach at both the individual and organizational levels, and innovating through non-linear methods for co-creating solutions.

Focusing on Kuwait's burgeoning private hospital sector, Diab (2021) conducted research on AlSeef and RoyaleHayat private hospitals. Diab's study emphasized that customer orientation is critical for fostering customer loyalty in an intensely competitive market. Since private hospitals often offer similar services, hospitals must prioritize customer orientation to differentiate their services and improve their appeal to patients.

J. N. Wu (2022) recognized the crucial need to understand customers' expectations and needs to navigate the fiercely competitive market successfully. Their survey, involving four hospitals in the Punjab state of India, showed that rising per capita income triggered an increase in customer expectations, consequently fueling demand for better service quality. They emphasized the necessity for hospital management to perceive quality of service (SQ) from patients' perspectives, thus fostering an environment for improved medical services.

A. Singh and Prasher (2019) studied the influence of frontline employees' customer orientation on employee performance, organizational commitment, and customer orientation. They discovered that these factors are moderated by employee attributes, organizational strategies and training, supervisor and team traits, customer and product features, and job characteristics.

Analyzing prescription processes, Lan et al. (2019) compared traditional prescription-oriented thinking (Group A) and patient-oriented thinking (Group B) using false-positive and false-negative rates as indicators. Their analysis revealed that the patient-oriented thinking approach was significantly more reliable and accurate for rational prescription reviews. This patient-centric methodology reduces the likelihood of medication-related problems and enhances patient safety.

Focusing on the theme "Patients' demand guide, stimulating new life in public hospital medical services," Su et al. (2019) conducted a study across multiple hospitals. The findings revealed that customer-oriented medical services are instrumental in improving patient satisfaction and trust. This highlights the potential impact of customer orientation in transforming the landscape of healthcare delivery.

2.2.3 Short summary

The concept of customer orientation has evolved from being a core idea in marketing to being

widely applied in the medical service sector. It emphasizes the importance of understanding and meeting customer needs and the necessity of building long-term customer relationships. In medical services, customer orientation translates into providing high-quality, patient-centered care to increase patient satisfaction and loyalty. Research indicates that customer-oriented behaviors by medical professionals positively impact job satisfaction, promote patient return visits, and enhance the overall quality of medical services. As more studies focus on implementing and measuring customer orientation in the medical context, both theory and practice in this field continue to develop and deepen.

2.3 Theory of perceived value

2.3.1 The conceptual evolution of perceived value

For many years, customer perceived value (CPV) has been considered a crucial determinant of customer loyalty. Over five decades of research, scholars have presented varied definitions and understandings of CPV, reflecting a myriad of perspectives and interpretations. The evolving theories on CPV, both from domestic and international sources, have been summarized and organized chronologically in Table 2.3.

Table 2.3 Concept and evolution of perceived value

Research scholar	Definition
Porter and Millar (1985)	Connotation description of customer perceived value.
Mazumdar and Monroe (1990)	The trade-off between the quality benefits and costs that the customer derives from the transaction.
Sheth et al. (1991)	Products and services provide customers with five values: functional value, emotional value, situational value, cognitive value and social value.
Teas (1993)	Customer value includes four value forms: possession value, product value, use value and total evaluation value.
Woodruff (1997)	is a trade-off between the desired attribute (wanting to get) and the paying attribute (purchasing payout).
Gale et al. (1994)	is the market-perceived quality that customers receive relative to product price.
Butz Jr and Goodstein (1996)	The emotional connection a customer establishes with a business after using a product or service.
Shah et al. (1998)	The difference between the benefits received by the customer and the costs. Include product, service, technology and identity value.
Kotler (2003)	The customer perceived value should be analyzed from the total customer value and total customer cost. The total customer value includes four dimensions of product, service, personnel and image value.
Grönroos	It is proposed that customer relationship is also another important

(2000)	dimension of customer perceived value.
McDougall and Levesque (2000)	Perceives that the potential risk of a product or service is a new dimension of customer perceived value.
Sweeney and Soutar (2001)	According to the scale, empirical research shows that customer perceived value has four dimensions: emotional value, social value, functional price value and functional quality value.
C. F. Chen (2008)	Excellent customer perceived value is the basis for establishing a good psychological contract between customers and enterprises and winning customer loyalty. Customer loyalty is the excellent value provided by the enterprise, not a specific enterprise.
Pevec and Pisnik (2018)	Higher perceived service quality contributes to perceived service value, resulting in greater patient satisfaction, which in turn strengthens patient trust and loyalty.
Dubey and Sahu (2019)	Customer Perceived Value has a Positive Impact on Service Quality, Customer Satisfaction and Customer Loyalty in Healthcare Rely on Customer-Oriented Perceived Value.
Lin and Yin (2020)	Perceived value and patient satisfaction had significant effects on patient love. Perceived value Perceived quality and expected quality have a direct impact on patient satisfaction.
Grossoehme et al. (2022)	Nursing staff empathy and patient reassurance not only increase patient loyalty, but also improve patient ratings of their overall or cumulative satisfaction.

Notably, there has been some overlap and confusion between the terms ‘customer value’ and ‘customer perceived value’. Despite their distinctive connotations, many researchers tend to treat them interchangeably, leading to a situation where most literature labeled as ‘customer value’ is in fact examining ‘customer perceived value.

Prominent theories around CPV include Zeithaml (1988)’s empirical findings, which posit four facets of CPV: “low price”, “what customers want from products or services”, “quality that customers pay for”, and “all that customers can obtain with their efforts”. Other scholars have noted that for organizational customers, CPV encapsulates a range of economic, technological, service, and social benefits obtained in market transactions with suppliers.

Gale et al. (1994) suggested that CPV is a market’s perceived quality adjusted to an enterprise’s product price. Woodruff (1997) expounded on this, explaining CPV as the customer’s perceived preference for, and evaluation of, product attributes, as well as the attainment of customer goals resulting from product use.

Definitions from Kotler (2003), Porter and Millar (1985), and Kartajaya et al. (2016) revolved around the concept of CPV as the difference between the total customer value and total customer cost, with Kartajaya et al. emphasizing that the goal of marketing is to deliver superior customer value compared to competitors. They further asserted that CPV is contingent on product usage and is primarily about the customer’s feelings and perceptions, not those of the seller.

Keshavarz and Jamshidi (2018)’s research, based on 417 international tourists staying at

least one night in a four- or five-star hotel in Kuala Lumpur, found relationships between CPV and tourist satisfaction and between tourist loyalty, CPV, and tourist satisfaction.

Hanaysha (2018)'s study of 278 department store customers in east Malaysia demonstrated a significant positive impact of CPV on customer retention. Itani et al. (2019) and Samudro et al. (2020) all proposed and confirmed that perceived value positively impacts customer purchase motivation and loyalty, as well as customer orientation.

Coelho et al. (2020) asserted that both brand experience and personality are tied to perceived value and that brand personality and experience partially mediate the relationship between brand innovativeness and quality and perceived value.

While there are numerous definitions of CPV, a consensus among academia centers on these shared characteristics:

1. CPV is the value provided by enterprises to customers.

2. CPV is the value as perceived by the customer.

3. CPV is determined by the customer, not the enterprise, though the latter significantly influences it.

4. The medium of CPV is the products or services offered by an enterprise to its customers.

5. CPV is the outcome of a customer's trade-off between perceived gains and losses.

In conclusion, this paper defines customer perceived value as the comprehensive assessment of a product or service's utility, grounded in the trade-off between perceived benefits and perceived costs during the purchase, use, or consumption process.

2.3.2 Perceived value research in the medical field

Notable differences exist in the research trends on perceived value within the medical field across different countries. Particularly in China, studies focusing on the patients' perceived value are relatively sparse, as the attention is predominantly on hospital administration or medical management. This literature review seeks to analyze and synthesize findings on patients' perceived value in the medical field and the implications of these insights for healthcare policy and practice.

Some Chinese researchers have attempted to conceptualize patients' perceived value. For instance, Pevec and Pisnik (2018) introduced the theory of patient transfer value, positing that the customer value of hospital transfer services entails both over-value service and free service. Meesala and Paul (2018) theorized that customer value within a hospital setting is essentially a trade-off between the benefits patients receive and the costs incurred during medical consumption. Both Z. H. Zhang (2018) and Nguyen et al. (2021) described customer value in

terms of gains and losses, with the former defining perceived benefits as the total rewards derived from medical services and perceived loss as the total cost of medical care.

In a more recent study, Dubey and Sahu (2019) adopted a unique perspective in their analysis of patients' perceived value. They looked at the willingness of patients to acquire medical knowledge and discovered that patients' perceived value comprised functional value, skill value, and human value. Their findings indicated considerable variance in the evaluation of value indicators among different patient types, underscoring the significance of perceived value as a determinant of consumer loyalty in the medical field.

Internationally, research on perceived value in medical contexts has yielded insightful findings. R. Y. Zhang et al. (2020) surveyed 800 Slovenian patients and concluded that a higher perceived service quality enhances perceived service value, thereby heightening patient satisfaction and loyalty. Lin and Yin (2020), on the other hand, contended that competition could enhance hospitals' image. They advocated for a shift in governmental management strategies to focus on customer-centered services, recognizing that the service quality perceived by customers substantially influences hospitals' image.

In India, the healthcare industry acknowledges the role of superior service provision in the progress and development of healthcare units. In their survey of 400 inpatients and outpatients from ten hospitals in Chhattisgarh, Dubey and Sahu (2019) discovered that customer perceived value positively affects service quality. Their study also identified customer orientation and loyalty as reliant on customer-oriented perceived value, underlining the importance of perceived value in shaping service quality dimensions including assurance, tangibility, reliability, responsiveness, and empathy.

Several studies have examined the relationship between perceived value and service quality, brand image, customer orientation, and loyalty. A Chinese study by Lin and Yin (2020) found that perceived value and patient satisfaction greatly influenced patient trust and loyalty. On a similar note, C. M. J. Lee et al. (2021) emphasized infrastructure, personal quality, access, and the health service process as critical to healthcare service quality, patient preferences, needs, and expectations, ultimately impacting customer value and orientation.

Given the uneven distribution of medical resources between urban and rural areas in China, leveraging internet and information technologies to broaden medical services is a potential solution. Shafaqat et al. (2021) utilized the synergy theory, customer perception theory, and Maslow's hierarchy of needs to propose a model of remote patients' satisfaction with online specialist medical services. The empirical study showed a positive impact of patients' perceived value satisfaction on their trust in, and satisfaction with, these specialist online services.

Chandrasekar and Thangaraj (2021) explored the complex interplay among patients' perceived value, patient commitment, and patient loyalty in Taiwan. Their research revealed a significant mediating role of commitment in the doctor-patient relationship between perceived value and patient loyalty. Crucially, patient trust strengthened this mediating relationship, emphasizing the importance of cultivating trust for enhancing patient loyalty.

Azzahra and Kusumawati (2023) investigated the factors contributing to patient-perceived value and its role in the Chinese health system. They found that apart from functional medical values (e.g., treatment effect, accurate pricing), emotional values (e.g., reasonable waiting times, convenient accessibility) also held significance for patients. The patient's background characteristics influenced their perceived value, creating differentiated patient satisfaction. This finding underscores the importance of considering both emotional and functional values when providing care, particularly when formulating strategies such as patient scheduling.

Diab (2021) conducted a study in Vietnamese hospitals, identifying emotion, function, social influence, and trust as critical dimensions of service quality that significantly impact customer perceived value and satisfaction. Their results reaffirmed that customer orientation and perceived value significantly influence customer loyalty.

In a study conducted in South Sulawesi Province, Chandrasekar and Thangaraj (2021) found that service experiences based on customer perceived value affect patient satisfaction. They emphasized the need for management and staff to maintain excellent service dimensions and meet patients' expectations and desires.

The effectiveness of patient trust and satisfaction enhancement strategies depends on the medical staff's competence, efficiency, and "soft" skills. According to Grossoehme et al. (2022), the responsiveness of healthcare staff, their understanding of patient concerns, and their ability to provide personalized attention significantly impact perceived value. They suggest cultivating an assurance-based perception through empathetic staff-patient interactions at every point of the inpatient experience.

2.3.3 Short summary

Patient perceived value is a complex construct influenced by various factors, both functional and emotional. The existing literature suggests it plays a critical role in shaping patient satisfaction, loyalty, and overall healthcare experiences. Further research is needed to elucidate this relationship and its potential applications in healthcare practice and policy, particularly in regions like China where medical resources are unevenly distributed. As medical service providers strive to improve their offerings, an understanding of patients' perceived value will

remain crucial to ensuring the satisfaction and trust of their customers.

2.4 Customer trust

2.4.1 The concept and evolution of trust

Trust is the belief that someone or something is reliable, good, honest, and safe. This concept has roots in sociology and psychology, and its application spans multiple fields, including management and marketing. Notably, trust plays a pivotal role in the relationship between businesses and their customers. It significantly influences other variables and is key to fostering a solid and enduring relationship with consumers, a principle widely recognized by industry professionals (Fornell et al., 1996).

The interpretation of trust as a concept, however, differs among scholars. Dowell et al. (2015), for instance, regard trust as one party's positive expectation of another's goodwill and integrity. They believe that trust is the confidence that one will not be betrayed by the other party, and they are willing to bear the costs if this trust is betrayed. Robinson (1996), on the other hand, asserts that trust fortifies the foundation of relationships. The fundamental premise of trust, according to Robinson, is the belief that the other party will not act against the trust placed in them.

This belief, trust, provides various benefits to businesses, such as reducing transaction costs, enhancing flexibility and efficiency, and guiding the design of future marketing plans or strategies. Furthermore, trust indicates one party's willingness to rely on another in a given situation (Mcknight et al., 2002).

Five critical components of the intent to trust have been detailed by Mcknight et al. (2002):

1. The potential for negative consequences or risks that underline the importance of trust.

2. Dependence, also considered as the power of reliance, is a factor that propels the intent to trust.

3. Security makes people more likely to trust. People's trust depends on their perception of security and the specific situation at hand.

4. The lack of reliance on control mechanisms suggests that when people trust, they must "trust trust" or "rely on trust" (Seligman, 2021).

In the field of marketing, various definitions of trust exist. Wingen et al. (2020), on the other hand, interpret trust as the subjective cognition of maintaining trust and goodwill towards another party, where trust is the expectation and belief that the other party's behavior will

consistently align with their benefit.

A. Kumar et al. (2020) divides trust into two primary types: direct trust and third-party trust. Direct trust refers to a trust relationship established directly between parties, while third-party trust involves a trust developed between two subjects who may not know each other but are willing to trust each other.

The concept of trust continues to evolve with ongoing research. M. Y. Wang et al. (2019) proposed a unique understanding of trust, viewing it as a measure of recognition of the quality and brand of health products, more so than customer satisfaction. In their study on WeChat users' purchasing intent for health products, they found that trust was the mediator between emotional price and purchase intention. Privacy invasion was negatively correlated with trust, while expectation confirmation positively correlated with it. Their research highlighted that trust can be split into process trust, characteristic trust, and institutional trust. They identified ability, goodwill, and integrity as key factors affecting the relationship between the trustee and trustor.

The exact definition of trust varies among scholars, but most seem to agree on three fundamental elements: subjective perception, willingness, and behavior. Table 2.4 below provides an overview of scholars' definitions of trust.

Table 2.4 The concept and evolution of trust

Research scholar	Definition
Kotter (1973)	That is belief, the level of trust depends on how each person reacts in different situations
Niehoff and Moorman (1993)	Trust is the reassurance of the recipient and will fulfill its responsibilities as scheduled
Dick and Basu (1994)	Customers face many risks in the selection process. In order to reduce the losses caused by the risks, customers will rely on the brand, and the strength of the dependence depends on the size of the risk.
Cowles (1997)	The expectation of one party to the other party to fulfill its responsibilities and obligations as agreed, and the psychological reaction that the other party believes that the other party will be able to do it
Pavlou and Gefen (2005)	Trust is the trust and expectation of the trustee to the trustee. It is the self-evident emotion and mechanism of each other. We believe that the other party will be able to fulfill the promise.
Wetsch (2006)	Trust is the interaction between two parties, it is the expectation and trust level of the other party, and it is believed that the other party can complete the agreed content as expected
Johnson (2007)	Consumer confidence in a brand, underscoring the cognitive nature of attitudes
Eisingerich and Bell	Trust is the expectation of a partner's ability to fulfill various commitments, and believes that the other party is restrained,

(2008)	trustworthy, reliable, and will not betray oneself under any circumstances
Yuan (2007)	Consumers' willingness to recognize a brand based on positive expectations about the brand's quality, behavioral intentions, and its ability to fulfill its promises.
Rizan et al. (2014)	Full of expectations and confidence in the trusted party, believing that the other party will not do anything detrimental to their own interests regardless of any risk
Paparoidamis et al. (2019)	The stronger the consumers' trust and recommendation intention of the brand, the more likely they are to pay a premium.
Alotaibi et al. (2019)	Trust can be understood as a person's willingness, hope and belief in others that others can provide important actions to the giver, regardless of their abilities
Iglesias et al. (2020)	End product differentiation perception and end product quality perception have a significant impact on consumers' repurchase intention.
Hui et al. (2021)	From the perspective of both parties in the trust relationship, doctor-patient trust refers to the confidence of both doctors and patients in the other party during the medical interaction process, and the expectation that the other party will fully consider their own interests.
Hui et al. (2021)	Trust between doctors and patients is very important, trust is a belief or hope that the doctor will take action to help the patient

After a comprehensive review of various scholarly interpretations of trust, for the purpose of this study, we propose a definition of trust as a psychological state in which customers, within a particular group, hold positive expectations, believe in each other's reliability, and are confident that the other party will prioritize their interests, even in the face of risk. This psychological reaction is not spontaneous but gradually accumulates through long-term cooperation. It is a recognition of the trusty party's honesty, trustworthiness, integrity, and goodwill.

Therefore, trust is not merely a feeling of safety; it is a complex construct that involves a myriad of cognitive processes, emotional experiences, and behavioral implications. To achieve long-term success, businesses must understand the multifaceted nature of trust and strive to build this vital element in their relationship with customers. An honest and transparent approach, combined with consistent high-quality service or product delivery, can help foster trust and cultivate loyal and satisfied customers, thereby contributing to the sustainability and growth of the business.

Through this discussion on trust, it is evident that trust is not a stagnant concept but rather one that evolves over time and varies across different contexts and relationships. It is a critical factor that shapes business strategy, customer relationships, and ultimately, business success. Given its profound importance and complexity, more research is needed to explore the nature, dynamics, and implications of trust in various business contexts, particularly in the digital era where customer trust has become more elusive and critical than ever before.

2.4.2 Customer trust research in the medical field

This research aims to explore customer trust within the medical field, focusing on doctor-patient trust relationships in foreign countries and how trust impacts medical service quality. Trust is fundamental to all interpersonal relationships, and its significance is particularly evident in the doctor-patient relationships due to inherent imbalances in these relationships (Y. L. Wang, 2019).

1. Research on customer trust in foreign countries

(1) Examination of doctor-patient trust

Alotaibi et al. (2019) initiated the analysis of doctor-patient trust by dissecting the subjects of this relationship, focusing on the patient and the medical service provider. Notably, there is a relatively weaker party in this relationship, which, in most cases, is the patient. Therefore, most research about doctor-patient trust concentrates on patients and analyzes their trust in doctors and other medical service providers.

Sun and Wang (2019) defined doctor-patient trust as the patient's confidence in the medical expertise of doctors, emphasizing the patient's perspective. Z. H. Wang et al. (2019) proposed a bilateral influence in trust relationships, suggesting that the trust patients extend towards doctors should be reciprocated. Thus, doctors must trust the information provided by patients and their commitment to treatment.

Kamal et al. (2020) identified trust as a crucial factor for users of telemedicine, as it reinforces patient expectations of receiving help. Meanwhile, Lee emphasized the importance of trust in medical services, underscoring the vital belief that doctors will take actions to aid patients.

J. R. Feng et al. (2020) utilized the McKnight Trust model to examine physician and patient perceptions of trust in using technology systems for self-management, focusing on aspects such as functionality, usability, and reliability.

(2) Patient-centered approach as the core of customer trust

Many studies have highlighted the importance of a patient-centered approach in the medical field, underscoring that hospital services should be designed with patient needs and comfort at the forefront (Meng et al., 2020).

(3) The interplay between doctor-patient trust and medical service quality

The relationship between doctor-patient trust and the quality of medical services has been extensively studied, with several researchers pointing out that a robust doctor-patient relationship significantly influences the quality of medical services (C. D. Tang et al., 2020).

Notably, trust is the bedrock of the doctor-patient relationship and plays a crucial role in enhancing the quality of medical services W. I. Lee et al. (2021) also noted the direct impact of the doctor-patient relationship on the quality of medical services, with doctor-patient trust acting as a vital intermediary in this equation. Other research further affirms the role of patient trust in improving the quality of medical services. Hui et al. (2021) noted that low trust between doctors and patients can adversely impact medical service outcomes.

In conclusion, understanding and fostering doctor-patient trust is crucial in the medical field. This relationship can significantly influence the quality of medical services, with higher levels of trust leading to improved outcomes. Therefore, a patient-centered approach is fundamental, prioritizing the patient's needs and preferences in all aspects of medical service delivery.

(4) Dimensions of trust in medical services

Trust in medical interactions goes beyond patients' faith in the medical competence of healthcare providers. It also encompasses the belief that healthcare professionals will always prioritize their patients' interests (D. Wu et al., 2021). Hui et al. (2021) emphasized the necessity of reciprocity in this trust relationship, advocating that doctors should trust their patients' commitment to treatment.

This multi-faceted trust is also pivotal in the uptake and use of telemedicine, with studies by Tötterman (2021) demonstrating that trust reinforces patients' willingness to engage with digital health services. The role of trust extends beyond mere confidence in the doctor's medical expertise and incorporates elements of functionality, usability, and reliability (Griffith et al., 2021).

Trust-building in the medical field also involves emotional factors. For instance, Huang et al. (2022) posited that trust-building involves an emotional investment, particularly in medical settings where claims of expertise are harder to verify. This emotional factor thus represents a significant component of trust, shaping patients' interactions with healthcare providers.

Moreover, patient vulnerability can contribute to trust-building. R. Jiang et al. (2022) found that patients might be more inclined to trust healthcare providers due to their vulnerability arising from their health conditions. This vulnerability may precipitate an emotional trust that can influence the doctor-patient relationship significantly.

(5) Trust as a cornerstone in medical services

Huang et al. (2022) advocated for the adoption of a patient-centered perspective in hospital services, suggesting that hospital design evaluation indicators should be tailored towards the needs and comfort of patients. This perspective recognizes that patients are the heart of healthcare services and seeks to prioritize their needs, promoting a higher level of trust and

satisfaction.

Research indicates a close correlation between doctor-patient trust and the quality of medical services. Positive trust relations can significantly enhance service quality, with patients' trust in their doctors contributing to better service provision. Z. H. Wang et al. (2019) demonstrated that the quality of medical services could be significantly impacted by the quality of the doctor-patient relationship, with doctor-patient trust acting as a crucial intermediary variable.

In conclusion, trust, especially in the medical field, is a multifaceted construct, going beyond professional competence to include emotional factors and patient vulnerability. Its critical role in shaping the doctor-patient relationship and influencing the quality of medical services highlights the necessity of cultivating and maintaining high levels of trust in healthcare settings.

(6) Trust in the context of telemedicine

As technology continues to revolutionize healthcare services, the role of trust in fostering telemedicine acceptance cannot be overstated. Sullivan (2020), Nooteboom (1996), and McEvily et al. (2021) have all conducted research demonstrating that trust significantly impacts patients' decisions to use telemedicine services.

Here, trust goes beyond the mere belief in the medical competence of the healthcare provider, extending to the functionality, usability, and reliability of the telemedicine systems (Alotaibi et al., 2019). This form of trust is essential, given the inherent vulnerabilities that come with remote healthcare delivery, such as privacy concerns and technological glitches.

To build trust in telemedicine services, healthcare providers must show consistent expertise and reliability while ensuring their services are easy to use and functionally efficient. They must also prioritize the privacy and confidentiality of patient data to enhance patients' trust and confidence in these remote services. Additionally, providing proof of their medical credentials and qualifications, coupled with a good reputation, can significantly enhance trust levels in telemedicine services (W. I. Lee et al., 2021).

(7) The future of trust in the medical field

In the future, trust in the medical field will likely continue to evolve as advancements in medical technology alter the dynamics of healthcare delivery. However, regardless of the changes, the fundamental principles of trust—confidence in professional competence, patient-centered approach, emotional connection, and acknowledgement of patient vulnerability—will continue to form the bedrock of healthcare services.

Efforts to cultivate trust should thus focus on these essential principles while also

incorporating aspects unique to new healthcare delivery methods. For example, in telemedicine, trust-building efforts should prioritize ensuring data security and patient privacy while maintaining high standards of professional competence and reliability.

In sum, trust plays a crucial role in the medical field, influencing patient behavior and satisfaction, service quality, and overall healthcare outcomes. Its importance underscores the need for continuous efforts to cultivate and maintain high levels of trust in healthcare relationships, as it can significantly influence the success of healthcare delivery and patient outcomes.

2. Research on customer trust in China

This research focuses on customer trust in China, specifically the trust between doctors and patients. The nature of trust, as proposed by Dowell et al. (2015), occurs between two or more actors or social organizations and is a relationship characterized by social members' dependence on the object in an increasingly uncertain and complex social environment. Another perspective proposed by H. Jiang et al. (2018) suggests that trust involves the transfer of resources and power to the trustee, under the expectation of beneficial results driven by friendly motives.

Trust can be examined through four principal aspects:

Trust as a psychological response triggered by environmental stimuli;

Trust as a personality trait formed through social learning;

Trust as an interpersonal attitude of rational calculation and emotional connection in interpersonal relationships;

Trust as a social system and cultural norm founded on legal or theoretical principles.

Research on doctor-patient trust in China began in the 1980s, and so far, there have been relatively few studies conducted on this subject. Most researchers emphasize the significance of doctor-patient trust, patient and doctor cognition, information asymmetry between patients, communication between doctors, and ethical matters concerning doctor-patient trust.

The critical elements and influencing factors of medical trust are typically studied from various angles, such as ethics, sociology, economics, law, and health communication. For instance, Z. R. Zhang and Lv (2020) analyzed the negotiation and balance of doctor-patient interest conflicts in the social transition period within an ethical framework and explored the ethical dimension and legal support of a harmonious doctor-patient relationship.

Z. H. Wang et al. (2019) developed a "medical service perception - doctor-patient trust vulnerability analysis framework", using doctor-patient trust as their research entry point to scrutinize the internal disturbance factors of doctor-patient trust vulnerability.

Multiple factors such as socio-economic disparities, institutional trust deficiency, and information asymmetry are believed to contribute to the erosion of trust between doctors and patients. For example, researchers like J. R. Feng et al. (2020) pointed to the decline of doctors' social reputation and the information asymmetry in patients' pre-established distrust of doctors as significant factors. They further discussed countermeasures to rebuild mutual trust.

Concerning the influence of online platforms, Meng et al. (2020) found that Internet users' trust in doctors was significantly lower than non-Internet users, thereby partially verifying the "media depression theory". They further established that there are significant differences in the factors influencing doctor trust between Internet users and non-Internet users.

Factors impacting doctor-patient trust extend to societal, governmental, doctor-related, patient-related, and hospital management aspects. The deficiency of social trust, imperfect public financial investment, medical security system inadequacies, skewed distribution of medical resources, weak medical supervision systems, and imperfect legal systems were identified as the main social and governmental aspects affecting trust (C. D. Tang et al., 2020).

On the medical side, limitations in medical technology, deficiency in doctor-patient dispute resolution capabilities, lack of humanistic care, and doctors' low income and legal awareness have all been identified as trust influencers. For patients, a lack of necessary medical knowledge, inadequate understanding of medical work, ineffective communication skills with doctors, and weak legal awareness have all been found to be significant factors.

Improving the quality of medical services can significantly enhance doctor-patient trust (Sullivan, 2020). Multiple studies highlight the importance of improving the quality of medical services and trust-building services in fostering a harmonious doctor-patient relationship (A. Kumar et al., 2020).

In conclusion, the trust relationship between doctors and patients is a complex construct influenced by multiple socio-economic, governmental, individual, and institutional factors. Therefore, a comprehensive approach involving the government, healthcare institutions, and society is necessary to bridge the gap of trust and promote a harmonious doctor-patient relationship.

The role of the healthcare system and hospital management in shaping trust cannot be overlooked. The quality and efficiency of hospital management can significantly influence the level of trust patients have towards doctors and the healthcare system at large. In an increasingly digital age, where patients have access to a wealth of information and can easily communicate their experiences online, hospitals must strive to provide superior patient experiences to earn their trust.

Moreover, government policies and the legal framework can significantly impact doctor-patient trust. A robust, fair, and transparent legal system that holds healthcare providers accountable and protects patients' rights can foster an environment conducive to trust-building. Furthermore, government investment in public health, ensuring equitable distribution of healthcare resources, and the establishment of a comprehensive and effective medical security system are critical measures that need to be implemented to foster trust.

The role of the media in shaping public perceptions about the healthcare system is another factor that warrants further exploration. As the gatekeepers of information, the media can help build or erode trust in the healthcare system. For instance, Nooteboom (1996) found that the internet has a negative moderating effect on the influence of medical and nursing attitude satisfaction on a doctor's trust. This implies that online platforms and media have the power to shape trust in doctors and healthcare institutions.

Furthermore, the patient-doctor communication has been found to significantly influence the level of trust in the doctor-patient relationship. Effective communication entails more than just sharing accurate and comprehensive information about the patient's health condition and treatment options. It also involves empathy, understanding, and respect for the patient's concerns, values, and preferences.

Another factor impacting doctor-patient trust is the doctor's professional conduct and ethical behavior. When doctors demonstrate competence, integrity, reliability, and empathy, patients are more likely to trust them. However, when doctors fail to uphold these values, it can erode trust and damage the doctor-patient relationship.

Patients themselves also play a role in shaping their level of trust in their doctors. A patient's level of health literacy, their previous experiences with the healthcare system, their personal beliefs and attitudes towards healthcare, and their ability to communicate effectively with doctors can all influence their level of trust in their doctors.

2.4.3 Short summary

Trust between doctors and patients is influenced by a myriad of factors and is an intricate relationship that must be nurtured carefully. It requires the concerted efforts of various stakeholders, including the government, healthcare institutions, doctors, patients, and the media. By improving the quality of medical services, enhancing patient-doctor communication, implementing effective healthcare policies and legal frameworks, and promoting positive portrayals of the healthcare system in the media, a stronger and more resilient trust relationship between doctors and patients can be established in China.

2.5 Customer loyalty theory

2.5.1 The concept and evolution of customer loyalty

The notion of customer loyalty, often mistakenly conflated with repetitive buying behavior, is more complex than mere repetition of purchases. Such behavior can often result from limited market options or prohibitive costs associated with changing suppliers. This is a significant departure from genuine customer loyalty, which is characterized by emotional attachment and enthusiastic advocacy for a product or service.

Dick and Basu (1994) introduced the idea of relative attitude, described as a more favorable disposition towards a brand compared to other alternatives, indicating loyalty. An absence of this attitude, combined with low repeated purchases, signifies a lack of loyalty, while high repeat purchases with low relative attitudes suggest 'false' loyalty. Hence, satisfaction with a service provider is deemed a prerequisite for relative attitude, leading to the establishment of customer loyalty, which has increasingly become vital for businesses.

However, the loyalty concept lacks universal consensus among researchers. Some proposed formation mechanisms for loyalty include behavioral theory, emotion theory, cognitive-emotion-behavior theory, and cognitive-emotion-intentional-behavior theory. Behaviorists, such as Oliver (2010), argue that loyalty primarily manifests in repeated brand-specific purchasing behavior. Table 2.5 is the evolution of customer loyalty from 1971 to 2021.

Table 2.5 The concept and evolution of customer loyalty theory

Research scholar	Definition
Jacoby (1971)	A behavioral preference caused by customer psychology or attitude.
Jeuland (1979)	The likelihood that customers will choose certain products and services in the long term.
Churchill and Surprenant (1982)	A customer's preferred response to a product's personal and behavioral attitudes.
Raju et al. (1990)	Customers have minimal marginal demand for firm switching behavior
Moorman et al. (1992)	Customers perceive the relationship between themselves and the business as worth investing in to ensure lasting stability.
Dick and Basu (1994)	It is believed that true customer loyalty can only arise when repeat buying behavior is accompanied by high attitudes. Attitude orientation represents the degree of customer's positive inclination towards the organization, and also reflects the willingness to recommend the brand to other customers and the commitment to repurchase the preferred brand.
Duffy (1998)	Customers have long-term purchase behavior for a product due to factors such as treatment, price, etc.
Heskett (2002)	The unity of customer's intrinsic positive attitude, emotion and extrinsic repetitive review behavior.

Lee and Murphy (2008)	Trust is the expectation of a partner's ability to fulfill various commitments, believing that the other party is reliable and will not betray oneself under any circumstances.
Magatef and Tomalieh (2015)	Customer loyalty is the long-term interactive relationship between enterprises and customers and the psychological factors that affect customer loyalty.
Bricci et al. (2016)	Believe that the other party will not do anything that harms their own interests no matter what risk they face.
Leninkumar (2017)	Customer Loyalty in the Internet Background is a High Unity of Psychology and Behavior.
Nobar and Rostamzadeh (2018)	The WOM model of customer loyalty includes two aspects: 1. Repeat purchase intention loyalty 2. Word-of-mouth loyalty. Perceived value significantly affects two aspects of customer loyalty.
Korry and Utami (2019)	Customer loyalty is a very important thing for hospitals, and hospitals certainly have to take this into consideration in order to maintain existing customers. Hospitals can maintain customer loyalty by improving brand image, customer experience and reliability.
Susanti et al. (2020)	Service quality has a significant impact on patient satisfaction, patient satisfaction has a significant impact on patient loyalty, and customer trust has a significant impact on patient loyalty.
Afifi and Amini (2021)	(1) Interaction quality, physical environment quality and outcome quality have a positive impact on customer trust; (2) Customer trust positively affects customer value; (3) Customer value positively affects customer loyalty; (4) Customer trust has a positive impact on customer Loyalty has a negative impact.

The cognitive-emotion-intentional-behavior theory posits that customer loyalty comprises cognitive, affective, intentional, and behavioral loyalty. Here, cognition refers to the individual's understanding and evaluation of objects, emotion signifies the emotional response towards the cognitive object, and intention points to the individual's preparation to act, influenced by cognitive evaluation and emotional experiences. Thus, cognitive, emotional, and intentional loyalties represent customer's attitudinal loyalty.

The importance of customer relationship crisis management is increasingly recognized by tourism enterprises, with customer psychological contract viewed as a foundation for customer relationship management. According to Karunaratna and Kumara (2018), product defects and service failures, coupled with violation of the psychological contract, intensify the customer loyalty crisis. This highlights the need for tourism businesses to enhance customer trust and establish a good psychological contract to preserve customer loyalty.

Furthermore, empirical studies such as Iglesias et al. (2020) demonstrate how customer trust mediates customers' perception of value and loyalty, with potential intervention mechanisms between corporate social responsibility (CSR) and customer loyalty. Outcomes of CSR programs, such as customer-firm identification and customer trust, significantly influence customer loyalty.

Vilkaite-Vaitone and Skackauskiene (2020) proposed an inclusive framework comprising

seven key determinants of customer loyalty: customer orientation, perceived value, trust, corporate image, service quality, loyalty program, and switching cost. This framework elucidates the nature of relationships among these factors, thereby advancing our understanding of customer loyalty.

Gonçalves et al. (2020) utilized the psychological contract theory to explore the exchange relationship between e-retailers and customers through online customer communities. Bi's model integrated elements of gratitude and personal reciprocity, unveiling psychological processes involved in relationship development and loyalty. The study further disclosed that violation of the brand's psychological contract negatively impacted customers' attitudinal and behavioral loyalty.

Technological advancements have prompted the banking sector to adopt cognitive computing to enhance products and services. Clement et al. (2020) examined how customer orientation, brand preferences, and customer loyalty influenced profitability. Their study exceeded prior research by considering dynamic customer orientation, brand preference, and loyalty, providing critical insights for banks aiming for sustainable profitability.

Lastly, Clement et al. (2020)'s analysis of 5,894 diners indicated a significant positive impact of experiential marketing and service quality on customer loyalty. These findings further emphasize the importance of providing high-quality service and meaningful experiences to foster customer loyalty.

2.5.2 Dimensional division of customer loyalty

Customer loyalty, a critical driver of enterprise longevity and sustainable development, has evolved through the exploration, development, and empirical research stages. Traditionally viewed through a product marketing lens, it has now grown into a multidimensional concept—cognitive, emotional, intentional, and behavioral—widely acknowledged in academia. Unal et al. (2018) encapsulated the first three dimensions into "attitudinal loyalty," implying the customers' inclination and desire to maintain relationships with their service providers. In contrast, "behavioral loyalty" reflects customers' repeated purchase patterns.

In this perspective, the conceptualization of loyalty in medical services merits exploration. Studies from around the globe have employed different metrics to measure patients' loyalty to healthcare institutions. Agyapong et al. (2018), through a study conducted in South Korea, assessed loyalty based on patient's intention to recommend, return for check-ups, and praise the institution. Fatima et al. (2018) gauged patient loyalty by exploring their willingness to recommend, praise, prioritize, and repeat health examinations. Rusmana et al. (2018) also

delved into the role of patient loyalty in medical services, gauging it from three perspectives: willingness to praise, re-examine, and suggest others to the institution for physical examination.

Insights from domestic scholars contribute significantly to this discourse. For instance, Korry and Utami (2019) outlined the dimensions of customer loyalty in general hospitals: cognitive loyalty—indicating customers' focus on a service or product without spending excessive time and energy seeking alternatives; emotional loyalty—displaying a preference for an organization's products or services; intentionality loyalty—suggesting a future inclination to purchase an organization's products or services; and behavioral loyalty—representing repeated patronage of an organization's products or services.

These researchers also detailed how these facets of loyalty manifest in a medical context. Cognitive loyalty refers to patients' predilection for a specific medical service institution, even at a higher price. Emotional loyalty is the preference for a particular institution. Intentionality loyalty represents the patient's commitment to an institution, while behavioral loyalty is evident in the patient's repeat examinations at the institution.

When investigating the link between patient satisfaction and loyalty, Pratama and Hartini (2020) asserted that patient loyalty encompasses word-of-mouth communication (recommendation intention) and a willingness to return for physical examinations. On a similar note, Liu et al. (2019) explored patients' perceived value, satisfaction, and loyalty, evaluating patient loyalty through word-of-mouth publicity, recommendation intention, repeat purchase intention, brand preference, and resistance to alternative products.

Susanti et al. (2020) evaluated patient loyalty in general hospitals in Changzhou and its influencing factors based on recommendation intention, reexamination intention, and praise intention. Concurrently, Elizar et al. (2020) explored patient loyalty's influencing factors in Hangzhou public hospitals and community health service institutions, respectively. They evaluated patient loyalty in both attitudinal (initial choice tendency, exclusivity, repurchase, derivative attitude) and behavioral aspects (ratio of physical examination, frequency of physical examination, derivative behavior).

Lastly, Wulur et al. (2020) examined patient loyalty in a tertiary hospital in Bengbu City, suggesting loyalty is characterized by both attitude and behavior. Attitudinal loyalty encompassed the patients' willingness to promote and recommend the hospital actively, while behavioral loyalty reflected their inclination to return for physical examinations.

To conclude, the examination of patient loyalty in medical and health services, as evidenced in past literature, primarily revolves around the measurement of behavioral intention. This multi-dimensional approach to customer loyalty is central to understanding patients' interaction

with healthcare institutions and subsequently shaping optimal strategies for patient engagement and retention.

2.5.3 Customer loyalty research in the medical field

While the study of customer loyalty is widely explored in various fields, its specific application in the healthcare sector is not as extensively covered. However, the research that does exist aligns on the idea that loyalty in the healthcare field, much like in other industries, stems from a combination of attitudinal, behavioral factors, and their interplay.

Investigations conducted by international scholars into healthcare customer loyalty have provided substantial insights. D. A. Fitriani et al. (2020) defined patient loyalty as patients' intention to recommend a specific medical institution to others and actively advocate for its services, particularly in the context of the influence of service quality on patient loyalty. In a similar vein, B. S. Park and Choi (2020) and Indrawati et al. (2021) recognized patient loyalty as patients' trust in, and patronage of, specific medical institutions, as well as their psychological propensity to continually avail themselves of their services.

These definitions underscore the importance of trust and satisfaction in fostering loyalty. For instance, a German study found that 87.41% of patients who expressed high trust in a hospital expressed willingness to return for future examinations (Aladwan et al., 2021). In studying doctor-patient communication's influence on patient loyalty, Afifi and Amini (2021) defined patient loyalty as the inclination to select the same institution for future medical needs based on satisfactory past experiences and trust in service providers.

This trend is not limited to developed countries. Research involving 178 patients across 35 health institutions in Ghana's Ashanti region discovered a significant positive correlation between the relational psychological contract and patient loyalty (Osok et al., 2022). Furthermore, a Pakistani study involving 611 patients from six private hospitals in Islamabad revealed that improved healthcare offerings, customer-oriented services, and service quality significantly stimulated patients' loyalty intention to private service providers (Karunaratna & Kumara, 2018).

Customer loyalty remains an essential aspect for hospitals to consider, as maintaining existing customers requires considerable focus on brand image, customer experience, and reliability. Studies show that customer-oriented experience and reliability, along with customer perceived value, significantly influence customer loyalty (Iglesias et al., 2020).

The survival of hospitals heavily depends on patient loyalty, as loyal patients not only return for repeated check-ups but also act as brand advocates. A decline in inpatient numbers at the

RSU Bandung Medan District General Hospital in Indonesia triggered research into the factors influencing patient loyalty. The results showed a significant impact of service quality on patient satisfaction, and that both patient satisfaction and customer trust significantly influenced patient loyalty (Vilkaite-Vaitone & Skackauskiene, 2020).

Customer loyalty, often viewed as crucial to a hospital's success and profitability, is a serious concern for private hospitals experiencing a decrease in elderly patient visits or subscription-based patients. Research examining the impact of service quality on customer loyalty concluded that customer trust significantly moderated the influence of service quality on customer loyalty (Gonçalves et al., 2020).

In summary, studies across the globe demonstrate that customer loyalty in the healthcare field depends on several factors, including service quality, patient satisfaction, and customer trust. Understanding these influences will help healthcare providers improve their service delivery and foster stronger relationships with their patients, ultimately enhancing patient loyalty. Thus, while there may be fewer studies specifically focused on customer loyalty within the healthcare industry, the existing research provides valuable insights for improving customer experiences and outcomes.

The significant role of customer value, orientation, and loyalty in the healthcare industry has been amply established through various empirical studies. Strengthening the patient-hospital relationship through customer orientation and value has been found to yield greater loyalty, leading to an increase in positive attitudes, trust, commitment, and customer behavioral intentions.

For instance, a study conducted by Iglesias et al. (2020) involving 427 samples selected through random sampling, elucidated that customer value positively impacts both customer orientation and loyalty. Further, moral reputation, customer trust, and customer orientation all showed a positive correlation with customer loyalty.

Similarly, another study by Clement et al. (2020) investigating the effects of service quality and brand trust on customer orientation and loyalty included a relatively smaller sample of 110 respondents. The results delineated the significant positive impact of service quality and brand trust on both customer orientation and loyalty.

Furthermore, an exploratory study by Korry and Utami (2019) collected data from 187 patients in Hasanuddin University Hospital to understand the influence of patient satisfaction and perceived value on patient loyalty. Their findings suggested that in order to improve loyalty, it is necessary to satisfy patients and enhance customer loyalty, especially in aspects related to physician customer-oriented services.

Expanding on this theme, Pratama and Hartini (2020) delved into the mediating effects of customer trust and value on how service quality of specialized hospitals influences customer loyalty. With a sample of 209 respondents, they found that both perceived customer value and trust have a pivotal role in customer loyalty. They recommended increased customer orientation, better time management for appointments, skill improvement for employees, and enhanced communication skills.

Korry and Utami (2019), with their focus on service quality and price, conducted a study involving 250 patients in PremiereBintaro Hospital. The results depicted a positive correlation between service quality and price and its substantial impact on customer orientation and loyalty.

Susanti et al. (2020) pursued a similar vein of research with 296 respondents from private hospitals in Makassar, Indonesia. Their objective was to analyze the factors affecting the formation of patient loyalty, including service quality factor (Servqual), hospital image, patient value, and satisfaction. Their research underscored that achieving patient satisfaction can foster patient loyalty, and satisfaction can be attained if the patient perceives customer value. It was also noted that a hospital's image should be commensurate with its quality of service, and trust was identified as the crucial element influencing the customer's decision for repeat patronage.

Lastly, the study by Indrawati, Elizar et al. (2020) on 190 respondents highlighted that customer trust significantly moderates the impact of service quality on customer loyalty. They suggested maintaining customer trust by providing services based on accreditation standards and continuous evaluation, as customer loyalty tends to increase with repeated visits.

In conclusion, the above-mentioned studies reinforce the significance of customer value, orientation, loyalty, and service quality in the healthcare sector. They underline the importance of satisfying patients, enhancing customer value, maintaining trust, and improving service quality to secure patient loyalty. These findings have critical implications for healthcare organizations and practitioners in their pursuit of better patient relationships and improved services.

The influence of service quality, customer trust, value, and loyalty in the healthcare sector has been substantiated through numerous empirical studies. In this vein, a study conducted by Wulur et al. (2020), with a sample of 209 patients, explored the interrelationships between these constructs. The study deduced that interaction quality, physical environment quality, and outcome quality positively impact customer trust, which, in turn, has a positive influence on customer value. Consequently, customer value positively affects customer loyalty. However, interestingly, customer trust was found to have a negative impact on customer loyalty. The study also established that customer value played a comprehensive mediating role between

customer trust and loyalty, highlighting its pivotal influence in this relationship. This study is of paramount importance as it is among the few empirical investigations of service quality based on customer trust, value, and loyalty in the medical service industry.

The Islamic Hospital (RSI) JemursariSurabaya is a distinctive example of a healthcare provider that services both Muslim and non-Muslim communities in Surabaya, Indonesia. This hospital works in collaboration with BPJS, a social security agency, to provide better and affordable healthcare services to the lower-middle-class community, including high-cost services such as hemodialysis, surgery, and treatment for heart diseases. D. A. Fitriani et al. (2020) utilized snowball sampling on 220 respondents to understand the factors impacting customer orientation and loyalty. The study concluded that factors such as compliance, assurance, reliability, tangibility, empathy, responsiveness, insurance system, and sincerity had a positive impact on both customer orientation and loyalty in Indonesian hospitals.

The definition of patient loyalty has been the subject of significant academic inquiry, given its critical role in attracting and retaining patients, improving economic benefits, and enhancing market competitiveness. B. S. Park and Choi (2020) defined patient loyalty as patients' continuous preference for a particular medical service institution for physical examinations, at least three times, in the absence of restrictions on their choice of healthcare providers. In a subsequent study, Afifi and Amini (2021) attributed patients' loyalty to their trust and emotional commitment towards a specific medical service institution, influenced by factors such as medical service price and quality.

Osok et al. (2022), while investigating patient loyalty in urban general hospitals, highlighted the discontinuous nature of medical services, and argued that repeated physical examination behavior could only represent the behavioral loyalty of patients in continuous situations. The study suggested that measuring behavioral loyalty requires substantial time, energy, and resources, which makes it challenging to measure over long periods.

Building on this, Pratama and Hartini (2020) referred to patient behavioral intention as patient loyalty, defining it as patients' tendency to recommend the services of a specific medical service institution and choose the services of that institution again after receiving its services. Meanwhile, Aladwan et al. (2021) viewed patient loyalty as the patients' willingness to accept the medical services provided by the hospital in the future and the resultant repeated medical treatment behavior caused by this willingness.

In conclusion, patient loyalty, driven by factors such as service quality, price, and other elements, is defined as the patients' emotional preference towards a specific medical service, coupled with a psychological tendency to repurchase the medical services when in need. The

role of service quality, customer trust, and value in shaping this loyalty cannot be underestimated, as these factors collectively contribute to the long-term success and sustainability of healthcare institutions.

2.5.4 Short summary

Customer loyalty is a critically important concept in the healthcare services sector, and it is influenced by the interplay of factors such as psychological contract, perceived value, customer orientation, and customer trust. Here is a brief summary of these relationships:

Firstly, the psychological contract plays a pivotal role in the healthcare services domain. The psychological contract represents the informal set of commitments and expectations between patients and healthcare service providers, encompassing trust, expectations, and commitments. Patients' expectations regarding whether healthcare service providers fulfill their psychological contract directly impact their satisfaction and loyalty. Therefore, effectively managing and delivering on the psychological contract is crucial for healthcare service providers, necessitating a continuous improvement in service quality, enhanced communication strategies, and a focus on meeting patient needs and expectations.

Secondly, perceived value is another key factor in customer loyalty. Patients' perceptions of receiving high-quality service, care, and having their needs met during healthcare services directly influence their satisfaction and loyalty towards healthcare institutions. The delivery of perceived value can strengthen patient loyalty, making them more likely to choose the same healthcare institution again and recommend it to others.

Thirdly, customer orientation is critical for achieving customer loyalty in the healthcare services sector. Healthcare service providers need to prioritize customer needs and interests, actively listen to their feedback, and meet their expectations. Healthcare institutions with a customer-oriented approach are generally better equipped to build stronger customer relationships, enhance patient satisfaction, and increase loyalty.

Lastly, customer trust serves as the foundation of customer loyalty. Patients need to trust that healthcare service providers can deliver high-quality healthcare services while safeguarding their privacy and interests. Building trust is fundamental to long-term relationships and helps reinforce customer loyalty.

In summary, customer loyalty in the healthcare services sector is influenced by complex interrelationships between the psychological contract, perceived value, customer orientation, and customer trust. Effectively managing these factors, meeting patient expectations, and

delivering high-quality services are essential for enhancing customer loyalty, ultimately promoting the long-term success and sustainability of healthcare service institutions.

Chapter 3: Research Methods and Design

3.1 Theoretical model

In the research field of healthcare services, exploring the impact of customer psychological contracts on loyalty exhibits several key characteristics:

1. The current academic focus is primarily within the contexts of human resources and marketing (Jenneboer et al., 2022). Given the uniqueness of healthcare services and their significant impact on patients' quality of life, in-depth research in this area becomes particularly crucial.

2. Current research predominantly emphasizes qualitative theoretical analyses while lacking quantitative empirical studies, which limits the practical applicability of the theories.

3. Although there is a general consensus regarding the relationship between customer psychological contracts and loyalty, empirical studies investigating the underlying mechanisms of this relationship are still relatively scarce. Additionally, there are differences in the understanding of the various dimensions of psychological contracts.

Therefore, the objective of this study is to delve into the relationship between customer psychological contracts and loyalty within the healthcare services context and propose the following improvements:

Firstly, a thorough analysis of the content and dimensions of customer psychological contracts in the healthcare services environment will be conducted. While marketing research has focused on psychological contracts for decades, most studies have centered on B2B relationships or general B2C service sectors. There is limited research specific to the healthcare services domain. Considering the differences between healthcare service brands and general consumer brands in terms of functionality, emotional connection, and cognition, an in-depth examination of psychological contracts in the healthcare services context is crucial for understanding and enhancing patient loyalty, which is the central focus of this study.

Secondly, this study aims to comprehensively explore the relationship between psychological contracts and customer loyalty. Current research trends primarily focus on directly examining the connection between these two factors, with limited attention to mediating variables. This limited focus has resulted in an incomplete understanding of the

mechanisms at play. Based on the literature review, key mediating variables influencing customer loyalty include customer orientation, perceived value, trust, and more. Therefore, this study will not only analyze the direct impact of psychological contracts on loyalty but also deepen the understanding of this causal mechanism model.

3.1.1 Direct effect of psychological contract

1. The influence of psychological contracts on customer orientation

In healthcare services, psychological contracts have a significant impact on customer orientation (Karani et al., 2023). Customer orientation, as reflected by patient expectations and attitudes towards healthcare services, encompasses expectations regarding service effectiveness, the comfort of the medical environment, and the professionalism and human care provided by healthcare personnel. When psychological contracts meet these expectations, patients become more reliant on the healthcare institution, leading to loyalty. For instance, if patients expect thorough medical care and these expectations are met, they are more likely to remain loyal to the institution providing such services.

2. The influence of psychological contracts on perceived value

Psychological contracts in healthcare services also significantly affect patients' perceived value (Gan et al., 2023). Perceived value is the result of patients evaluating the value of the services received in comparison to the costs incurred. In healthcare services, this includes the effectiveness of treatment, service quality, and medical expenses. When the promised service level within the psychological contract is met, patients perceive an increase in value, which enhances their loyalty to the healthcare service provider. For example, if patients believe that the medical expenses they pay provide reasonable treatment results, their trust and loyalty to the healthcare service provider will be strengthened.

3. The impact of psychological contracts on customer loyalty

Psychological contracts have a direct impact on customer loyalty within healthcare services. This loyalty is reflected not only in patients' continued use of specific medical services but also in their recommendations to others and positive evaluations of the services. According to Salameh et al. (2023), the fulfillment of psychological contracts, such as expected medical outcomes, high-quality care, and satisfactory medical experiences, can enhance patients' trust and reliance on healthcare service providers. Conversely, if psychological contracts are not met, such as when expected treatment outcomes are not achieved or service quality falls below expectations, patient loyalty may be negatively affected.

In summary, within the healthcare services field, psychological contracts have a significant

impact on customer loyalty and directly influence customer orientation, perceived value, and loyalty. Firstly, psychological contracts affect customer orientation, as evidenced by patients' expectations regarding service quality and medical outcomes. When these expectations are met, patients' trust and reliance on the healthcare institution are strengthened, leading to increased loyalty to that institution. Secondly, psychological contracts play a critical role in shaping perceived value. Patients evaluate perceived value by comparing the value of the service to the cost incurred. The quality and effectiveness of medical services, compared to their costs, determine patients' overall evaluations of the service. High perceived value can enhance patient loyalty to healthcare providers. Lastly, psychological contracts directly impact customer loyalty. When healthcare service providers fulfill their commitments within the psychological contract, such as providing effective treatment and high-quality care, patient loyalty is strengthened. Conversely, if services fail to meet patient expectations, it may lead to decreased loyalty. Therefore, maintaining and fulfilling psychological contracts in healthcare services are crucial for establishing and maintaining long-term patient loyalty.

3.1.2 Mediating variables and their interaction

1. Customer orientation and its impact on customer perceived value

In the field of healthcare services, the influence of customer orientation on customer perceived value is of significant importance, as noted by Akter et al. (2022). This mechanism can be analyzed in two crucial aspects: the formation and satisfaction of patient expectations, and how these expectations affect patients' perception of service value.

Firstly, patient expectations for healthcare services typically include anticipated treatment outcomes, requirements for the quality of the medical environment, and expectations regarding the professionalism and attitude of healthcare personnel. These expectations often stem from individuals' health needs, past medical experiences, word-of-mouth recommendations, or public healthcare information. Customer orientation mainly manifests as patients' specific needs and expectations for healthcare services.

Cham et al. (2022) suggest that when these expectations are effectively addressed and met by healthcare service providers, patients' perceived value increases accordingly. For instance, if a patient has high expectations for the effectiveness of a certain treatment, when the actual treatment outcome meets or exceeds expectations, their perceived value significantly rises. Similarly, if patients expect a comfortable medical environment and friendly, professional healthcare staff, the fulfillment of these factors also enhances patients' overall perception of the value of the service.

Furthermore, Chakraborty and Paul (2023) argue that patients' perceived value goes beyond the direct effects of treatment and encompasses the overall medical experience. This includes comfort during the treatment process, communication with healthcare personnel, reasonable waiting times, and transparency in the treatment process. All these factors collectively constitute patients' overall perceived value. When these factors align with patients' customer orientation, their perceived value is further enhanced.

Additionally, Mrabet et al. (2022) suggest that the improvement in patients' perceived value is also related to their perception of service costs. For example, if patients believe that the fees they pay correspond to high-quality service and treatment outcomes, they will perceive higher value. Conversely, if patients feel that the costs are too high and the service quality does not meet their expectations, their perceived value will decrease.

In summary, customer orientation has a significant impact on perceived value in the healthcare services field. Patients' specific needs and expectations directly influence their perception of service value. Therefore, healthcare service providers should fully understand and respond to patient expectations and needs to enhance patients' perceived value of the service, subsequently increasing their satisfaction and loyalty.

2. Customer orientation and its impact on customer trust

In the healthcare services field, the influence of customer orientation on customer (patient) trust is a complex and profound process involving multiple aspects of interaction and influence. Customer orientation in this context refers to the sensitivity, responsiveness, and degree of personalization of healthcare service providers to patient needs and expectations.

Firstly, Cham et al. (2022) posit that the foundation of patient trust lies in their belief in the competence, reliability, and goodwill of healthcare service providers. When healthcare service providers exhibit a strong customer orientation, which involves understanding and meeting patients' specific needs and expectations, they effectively build trust in their capabilities. For example, when a doctor accurately diagnoses and provides an effective treatment plan, patients are more likely to trust the doctor's expertise.

Secondly, Elbaz et al. (2023) suggest that customer orientation is also reflected in healthcare service providers' responsiveness and empathy towards patient concerns. The care and empathy displayed by healthcare personnel during interactions with patients can significantly enhance patients' trust in the healthcare institution. This trust is based not only on trust in medical knowledge but also on trust in healthcare personnel caring for the patient's well-being.

Additionally, Alshurideh (2022) asserts that customer orientation in healthcare services

also involves transparency of information and clarity of communication. When healthcare service providers can offer comprehensive, transparent information and communicate treatment plans, potential risks, and every step of the treatment process clearly, patients' trust is strengthened. Clear and transparent communication helps reduce patients' uncertainty and anxiety, thereby fostering a deeper level of trust.

Gómez-Carmona et al. (2022) suggest that patient trust in healthcare services is also influenced by the respect and professionalism experienced in the healthcare environment and processes. Customer orientation is manifested in providing respectful, thorough, and personalized service, and these factors collectively work to enhance patients' trust. When patients feel they are treated as unique individuals, with respect and professionalism, they are more inclined to trust these service providers.

In conclusion, the customer orientation of healthcare service providers directly influences the establishment of patient trust. By demonstrating an understanding of patient needs, providing transparent and personalized communication, and showing genuine care and professionalism, healthcare service providers can significantly enhance patient trust. This trust is crucial for building and maintaining long-term doctor-patient relationships and has a direct positive impact on patient satisfaction and loyalty.

3. The impact of customer perceived value on customer trust

In the field of healthcare services, the influence of customer perceived value on customer trust is a critical consideration. This influence is reflected in how patients assess the value of the medical services they receive and how this assessment translates into trust in healthcare service providers.

Firstly, Peng et al. (2022) suggest that customer perceived value in healthcare services typically involves several core aspects: the effectiveness of treatment, service quality, the professionalism and attitude of healthcare personnel, and the value relative to the cost. When patients feel that the value they receive from healthcare services exceeds their investment (including time, money, and emotional investment), they are more inclined to trust healthcare service providers. For example, if patients believe that the fees they pay correspond to high-quality service and satisfactory treatment outcomes, their trust is typically enhanced.

Secondly, Alraja (2022) argues that perceived value also includes the overall evaluation of the healthcare process, such as the reasonableness of waiting times, the comfort of the clinic, and the modernity of medical equipment. When these aspects meet or exceed patient expectations, their trust in the healthcare institution also increases correspondingly. This trust is based not only on specific aspects of the service but also on trust in the overall capability and

intentions of healthcare service providers.

Furthermore, Yun et al. (2022) argue that the influence of customer perceived value on trust is also evident in patients' perception of the transparency of the treatment process and their involvement in medical decisions. When patients feel adequately informed and engaged in treatment decisions, they perceive higher value, thereby enhancing trust in healthcare service providers. This sense of involvement not only boosts patients' confidence in treatment outcomes but also strengthens their overall trust in the healthcare institution.

Akbolat et al. (2023) suggest that patient trust is closely related to their personal experiences. If patients experience high service consistency during the treatment process, and if medical outcomes align with or exceed their expectations, their trust in healthcare service providers significantly increases. Conversely, if the service experience and treatment outcomes deviate significantly from patient expectations, it may lead to a weakening of trust.

In summary, customer perceived value is crucial in the healthcare services field for establishing and maintaining customer trust. High perceived value can facilitate patient trust in healthcare service providers, which is based not only on specific aspects of the service but also on the overall evaluation of the healthcare institution. Therefore, enhancing patients' perceived value is a key pathway to strengthening their trust in healthcare service providers.

4. The relationship between customer orientation, customer perceived value, customer trust, and customer loyalty in healthcare services

In the field of healthcare services, the relationship between customer orientation, customer perceived value, customer trust, and customer loyalty forms a complex network of interactions. These factors collectively influence patients' long-term loyalty to healthcare service providers.

Firstly, Ilma and Sugiarto (2023) define customer orientation in healthcare services as how healthcare service providers understand and meet the specific needs and expectations of patients. When healthcare service providers demonstrate a high degree of customer orientation, such as providing personalized treatment plans, addressing emotional needs, and delivering high-quality communication, patients are more likely to feel valued and respected, leading to stronger loyalty to the service provider.

Secondly, P. Singh et al. (2023) suggest that customer perceived value in healthcare services is reflected in patients' overall evaluation of the services received, including treatment effectiveness, service quality, healthcare personnel's professionalism, and cost-effectiveness. High perceived value can significantly enhance patient satisfaction, which then translates into long-term loyalty to the healthcare institution. For example, if patients believe that the fees they pay result in high-quality treatment and service, they are more inclined to choose the same

healthcare service provider again.

Customer trust plays a crucial role in healthcare services. Wisitnorapatt and Sirirat (2023) argue that this trust is based on beliefs in the competence, goodwill, and consistency of healthcare service providers. When healthcare institutions consistently deliver high-quality services and demonstrate sincere concern for patient well-being, patient trust deepens over time. Trust building is a key factor in the formation of patient loyalty, as trust reduces the likelihood of seeking alternative service providers.

The interactions among these factors further strengthen their impact on patient loyalty. Meeprom and Chancharat (2022) suggest that the practice of customer orientation enhances patients' perceived value while also strengthening their trust in healthcare service providers by meeting patients' specific needs and expectations. Similarly, high perceived value enhances patients' trust because it indicates that healthcare service providers can effectively meet patients' needs. Ultimately, this relationship built on customer orientation, perceived value, and trust promotes long-term loyalty to healthcare service providers.

In the field of healthcare services, Elizar et al. (2020) argue that customer orientation, perceived value, and trust collectively contribute to the formation of patient loyalty. High levels of customer orientation can enhance perceived value and build trust, and the combined effect of these factors ultimately leads to long-term loyalty to healthcare service providers. Therefore, healthcare service providers should pay attention to these key factors to promote patient loyalty and satisfaction.

In summary, this study, based on a detailed analysis of theoretical concepts and variable relationships, has constructed a conceptual model that serves as the foundation for proposing research hypotheses. In the context of healthcare services, this model posits the influence of customer psychological contracts on customer orientation, perceived value, trust, and loyalty. Customer orientation, perceived value, and trust play pivotal roles as mediating variables, significantly affecting customer loyalty to healthcare service providers. Among all these variables, customer psychological contracts are at the core of the research, encompassing three key dimensions: transactional, relational, and developmental. Detailed explanations and analyses of these dimensions will be further elaborated in the subsequent chapters.

In sum, the theoretical model in Figure 3.1 illuminates the direct and mediated effects of the customer psychological contract on customer loyalty in the context of medical services. The model underscores the roles of customer orientation, perceived value, and customer trust as key mediators of this relationship.

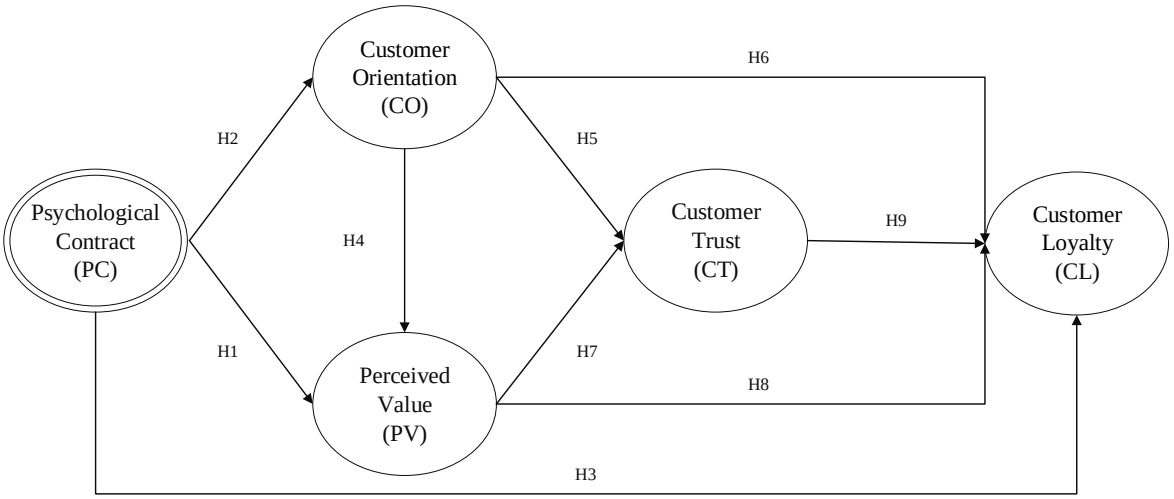

Figure 3.1 Theorectical conceptual model-2022

3.2 Research hypothesis

3.2.1 The interplay of variables

In the healthcare domain, the relationship between psychological contracts and perceived value, as explored by Kutaula et al. (2020), is a complex and mutually influential dynamic process. Psychological contracts, informal agreements based on mutual expectations, encompass various patient expectations regarding medical services. These expectations might include demands for service quality, professionalism and attitude of medical staff, effective communication, and the overall care process experience. These form the foundation of the psychological contract between patients and healthcare service providers.

Perceived value is the patient's subjective evaluation of the value of medical services, covering a comprehensive judgment of service costs, quality, benefits, and the extent to which it meets personal needs, as described by Alzoubi et al. (2020). In a healthcare setting, perceived value is not just an assessment of specific medical services but also reflects the patient's overall experience of care, including perceptions of the medical environment, the attitudes of the care staff, the effectiveness of communication, and overall satisfaction.

1. Realization of psychological contracts and its impact

When patients' psychological contracts are realized, that is, when their informal expectations are met, the perceived value of services typically increases, as noted by Miao et al. (2020). For example, when healthcare providers meet patients' expectations with high-quality treatment, effective communication, and a compassionate and understanding approach, patients tend to have a more positive perception of the value of services. This positive perceived

value affects not only their evaluation of the current treatment but may also influence their future choices and recommendations regarding medical services.

2. Multidimensional impact of psychological contracts

The fulfillment of psychological contracts affects not only patients' direct evaluations of services but also their trust in, loyalty to, and future behavioral intentions towards healthcare providers, as outlined by Commodari and La Rosa (2020). For instance, when patients feel that their needs and expectations are fully understood and met, they are more likely to trust their healthcare providers. This trust forms the basis of an ongoing relationship between patients and providers and can influence their future healthcare choices and recommendation behaviors.

According to the research by Gómez-Carmona et al. (2022), perceived value is a multidimensional concept that involves not only the assessment of service quality but also comparisons of cost and benefits. In the healthcare field, the perceived value of patients is significantly influenced by the extent to which psychological contracts are fulfilled. Additionally, a series of studies, such as those by D. Y. Fitriani et al. (2019), highlight the crucial importance of how healthcare providers manage and meet patient expectations in terms of patient satisfaction, loyalty, and overall health outcomes.

3. Psychological contracts and perceived value

In the healthcare sector, psychological contracts often involve patients' expectations regarding service quality, medical staff's attitude, communication level, and the overall care experience. Perceived value, on the other hand, is the patient's overall assessment of medical services, including their views on service costs, quality, and benefits, as noted by Cham et al. (2021). When psychological contracts are fulfilled, i.e., when these informal expectations of patients are met, their perceived value of the services typically increases.

Breach of Psychological Contract and Decrease in Perceived Value: Research by Wilkins et al. (2023) indicates that breaching psychological contracts leads to a loss of trust and a decrease in perceived value of the service, which, in turn, supports the view that fulfillment of psychological contracts enhances perceived value.

4. Theoretical support and logical reasoning

Based on the literature support, we can reasonably infer that the fulfillment of psychological contracts in healthcare services can increase overall patient satisfaction, enhance trust in service providers, and positively affect their perceived value. The basis of this hypothesis is that elements of psychological contracts—such as expectations of service, trust, and commitment—directly impact patients' subjective evaluation of service quality.

5. Importance of hypothesis H1

Proposing Hypothesis H1 is crucial for this study as it provides a theoretical foundation for exploring the relationship between psychological contracts and perceived value in healthcare services. Validating this hypothesis can offer strategic recommendations to healthcare institutions for improving patient care and enhancing service quality.

In summary, in the context of healthcare services, when we consider the concept of customer psychological contracts, it essentially reflects the psychological expectations of the customers. As noted by Coyle-Shapiro et al. (2019), these psychological contracts represent the fulfillment of customer expectations. The greater the degree to which these expectations are met, the more benefits the customers receive. Thus, their perceived value is greater. Therefore, the authors propose:

H1: The fulfillment of psychological contracts has a positive impact on customers' perceived value.

The role of psychological contracts in healthcare services is significant. These contracts, though intangible and informal, greatly influence the attitudes and behaviors of customers (patients). Against this backdrop, Hypothesis H2 suggests that the fulfillment of psychological contracts positively affects customer orientation.

In healthcare, the relationship between the realization of psychological contracts and customer orientation is particularly crucial. Psychological contracts, as informal agreements between healthcare providers and patients, are primarily based on mutual expectations and promises, as mentioned by Mahmoud et al. (2022). When these informal promises and expectations are met, they directly impact patients' perceptions and attitudes towards medical services, thereby strengthening customer orientation.

The importance of customer orientation in healthcare is undeniable. According to Kutaula et al. (2022), it is manifested in healthcare providers' attention to patient needs, understanding of patient expectations, and the ability to provide personalized, high-quality medical services. The fulfillment of psychological contracts can significantly enhance patient satisfaction as it demonstrates that healthcare providers are attentive not only to the medical needs of patients but also to their psychological and emotional needs.

The key to fulfilling psychological contracts lies in the ability of healthcare providers, as pointed out by Gong and Wang (2022). They must be able to identify and meet specific patient expectations, which may include high-quality treatment, effective communication, empathy, and attention to patients' unique situations. When these expectations are met, patients' trust and satisfaction with medical services significantly increase, laying the foundation for long-term customer relationships.

Moreover, the fulfillment of psychological contracts can also promote positive evaluations and word-of-mouth recommendations for healthcare services, as indicated by Zhao et al. (2020). When patients experience services that meet their expectations, they are more likely to recommend these services to others, which is crucial for the reputation and long-term success of healthcare institutions.

When psychological contracts are fulfilled, patients feel that their needs are fully understood and valued by healthcare providers, as noted by Y. Liu et al. (2020). This not only enhances their satisfaction with the services but also strengthens their loyalty to the healthcare institution. A medical environment filled with trust and loyalty encourages more positive interactions, such as patients' proactive response to medical advice and adherence to treatment plans.

In practice, the key to fulfilling psychological contracts lies in the ability of healthcare providers to identify and understand patients' specific expectations. This usually requires medical personnel to have good communication skills, empathy, and a deep insight into patients' needs. For instance, through effective communication, healthcare providers can better understand patients' concerns and expectations, thereby providing services that more closely align with patient needs.

Research shows a positive correlation between the fulfillment of psychological contracts and customer orientation, as indicated by Shahbaz et al. (2020). Their research in healthcare institutions found that when healthcare providers demonstrate a deep understanding and care for patients' needs during treatment, patients' satisfaction significantly increases, and they are more willing to maintain a long-term relationship with the institution.

Further analysis suggests that the fulfillment of psychological contracts may have varying impacts on different patient groups. For instance, continuous fulfillment of psychological contracts may significantly influence the treatment loyalty and overall health outcomes for patients with chronic or long-term conditions. For patients with acute conditions, rapid fulfillment of psychological contracts may be more crucial to ensure timely and effective treatment.

H. M. Chen et al. (2020) point out that customer orientation is built on customers' subjective perceptions, which are affected by the degree of congruence between customer expectations and the actual experience of the product or service. This includes expectations generated from explicit economic contracts as well as various implicit or vague agreements, referred to as customers' psychological contracts. Therefore, the authors propose:

H2: The fulfillment of psychological contracts has a positive impact on customer

orientation.

This hypothesis is based on an analysis of the relationship between psychological contract theory and customer loyalty. As Nguyen et al. (2021) point out, the essence of psychological contracts in healthcare services is an informal agreement between healthcare providers and patients, covering mutual expectations and promises. These may include expectations of healthcare service quality, professionalism and attitudes of healthcare personnel, effective communication, and attention to the individualized needs of patients. This contract transcends traditional service and treatment transactions, involving deeper emotional and psychological dimensions.

The fulfillment of psychological contracts is essential for establishing and maintaining long-term customer relationships. In healthcare, the relationship between patients and service providers goes beyond traditional transactional nature and is more reflected in care and trust, as suggested by Afifi and Amini (2021). When healthcare providers meet the expectations and promises of patients' psychological contracts, patients' satisfaction and loyalty are enhanced.

Customer loyalty is a key indicator of success in healthcare services. Loyal customers are more likely to maintain long-term relationships with healthcare institutions, undergo regular health checkups, follow medical advice, and choose the same healthcare provider when needed, as Gonçalves et al. (2020) observe. Moreover, loyal customers might also recommend the healthcare institution to others through word-of-mouth, bringing new customers to the institution.

Elizar et al. (2020) highlight that the fulfillment of psychological contracts is crucial for fostering patient loyalty. Loyalty is not only manifested in patients repeatedly choosing the same healthcare provider but also in actively recommending and positively advocating for the institution. This loyalty stems from satisfaction with and trust in the healthcare services, both of which are closely related to the fulfillment of psychological contracts.

Research shows a close connection between the fulfillment of psychological contracts and customer loyalty. For example, Akbar et al. (2020) found that healthcare providers, by meeting the psychological contracts of patients, can significantly enhance patients' loyalty. This includes attention to patients' health conditions, detailed explanations of treatment plans, and a deep understanding of individual patient situations.

In practice, fulfilling psychological contracts requires healthcare providers to deeply understand patients' needs and expectations and to take appropriate actions to meet these needs, as Ratnasari et al. (2020) suggest. This may include providing customized treatment plans, establishing effective communication channels, showing empathy and care, and ensuring

continuous improvement in service quality.

In the long term, the fulfillment of psychological contracts aids in building robust doctor-patient relationships. Such relationships are crucial not only for patients' experiences during current treatments but also for establishing a good reputation for healthcare institutions, enhancing their market competitiveness, and achieving sustainable development, as noted by Lakicevic et al. (2023).

In the context of healthcare services, customer loyalty is a psychological phenomenon characterized by customers developing an emotional dependency or identification with a specific product or service, leading them to commit to continuing to purchase that product or service in the future. Cui and Fan (2019) argue that customer loyalty exhibits characteristics of commitment, representing a self-imposed psychological obligation of customers to fulfill their duties to a specific brand. It is a response to healthcare providers fulfilling customers' psychological contracts and has a significant positive impact on the relationship between customer psychological contracts. Therefore, the authors propose:

H3: The fulfillment of psychological contracts positively influences customer loyalty.

Customer orientation is defined and implemented as the ability and attitude of healthcare providers to focus on and meet patient needs. This includes a deep understanding of patients' health conditions, personal needs, expectations, and preferences, as noted by Jouha (2019). In practice, customer orientation manifests as providing personalized treatment plans, ensuring effective communication, showing care and empathy, and actively responding to patient feedback and suggestions.

Customer perceived value refers to patients' comprehensive assessment of the quality, effectiveness, and cost of medical services, as defined by Suleiman (2019). It encompasses not only the actual effects of services but also patients' subjective experiences, such as satisfaction, sense of security, and trust.

The relationship between customer orientation and perceived value is that customer orientation enhances patient satisfaction and trust by meeting specific needs and expectations, thereby increasing their perceived value of services, as stated by Butkus et al. (2023). When healthcare providers demonstrate deep care and understanding for patients, patients are more likely to feel satisfied and consider the services to be of higher value.

Studies such as those by J. H. Wang et al. (2022) show a significant positive correlation between healthcare providers' customer-oriented behaviors and patients' perceived value. When healthcare institutions focus on individualized treatment and patient-centered services, patients' perceived value of services significantly increases. J. H. Wang et al. (2022)

specifically analyzed how customer-oriented behaviors of healthcare providers enhance patients' perceived value, finding that patient satisfaction and perceived value of services significantly increase when providers focus on individualized treatment and patient-centered services. This phenomenon is particularly evident in the provision of customized medical plans and active communication.

Racela and Thoumrungroje (2020) noted that the practice of customer orientation, especially in patient education and participation in decision-making processes, has a significant impact on enhancing patients' perceived value of medical services. They emphasized the importance of making patients feel respected and heard in enhancing perceived value.

C. M. J. Lee et al. (2021) found in a study covering multiple healthcare institutions that those adopting patient-centered service models had higher patient perceived value. The study showed that the quality of medical services, patient involvement, and transparency of information are key factors influencing perceived value.

Thoumrungroje and Racela (2022) focused on how healthcare providers could enhance patients' perceived value through customer-oriented strategies, particularly in chronic disease management. Their study showed that long-term care, continuous communication, and personalized health management plans significantly increase the perceived value for patients with chronic diseases.

Ismail (2022) explored how the emotional labor of healthcare providers impacts patients' perceived value. Their findings revealed that the emotional engagement of medical personnel and understanding of patients' emotional needs are vital for enhancing patients' perceived value of services.

In terms of specific practices for customer orientation, healthcare providers need to take concrete actions such as improving customer service skills of staff, adopting advanced treatment technologies, optimizing service processes, and providing timely and effective communication.

In the long term, the practice of customer orientation not only enhances patients' perceived value of individual services but also fosters their overall evaluation and loyalty towards the healthcare institution, as Reulink (2021) suggests. This is crucial for maintaining the institution's position and reputation in a highly competitive market.

In summary, customer orientation significantly positively impacts customer perceived value. In the healthcare services field, by implementing patient-centered services and focusing on patient needs, healthcare providers can not only increase patient satisfaction and perceived value but also strengthen patient loyalty and positive evaluation of the healthcare institution.

Therefore, the authors propose:

H4: Customer orientation has a significant positive impact on customer perceived value.

The core elements of customer orientation involve the patient-centered service philosophy and practices of healthcare providers, as highlighted by Baharun et al. (2019). This includes sensitivity to patient needs, the ability to provide personalized services, and the willingness to actively participate in patient health management. This orientation is reflected in the communication methods of healthcare providers, their responses to patient concerns, and their anticipation and fulfillment of patient needs.

The importance of customer trust in the healthcare sector is a cornerstone for establishing effective doctor-patient relationships, as noted by P. Kumar et al. (2023). It encompasses patients' trust in the professional competence of healthcare providers, the treatment process, and the healthcare institution itself. Customer trust significantly affects patients' adherence to treatment, satisfaction, and long-term loyalty.

The connection between customer orientation and trust is established by enhancing service quality, improving communication efficiency, and demonstrating care for patients, as stated by Abdullah et al. (2023). When patients feel that their needs are understood and met, they are more likely to develop trust in healthcare providers. This trust is based not only on the quality of service but also on the emotional connection established between healthcare providers and patients.

Research indicates a positive correlation between customer orientation and customer trust. For example, a study by Kang et al. (2021) showed that as healthcare institutions improved customer orientation, patients' trust in medical services also significantly increased. Another study by Jafari et al. (2023) found that patients demonstrated higher levels of trust in medical institutions that provided personalized services and deep care.

In practice, to enhance customer trust, healthcare providers need to adopt measures such as improving communication skills, paying attention to patient feedback, providing transparent treatment information and options, and maintaining consistency and reliability throughout the treatment process.

In the long term, the implementation of customer orientation not only enhances patients' trust in medical services in the short term but also helps establish solid doctor-patient relationships, which are crucial for the reputation and long-term success of medical institutions.

Overall, customer orientation significantly positively impacts enhancing customer trust. In the healthcare services field, by implementing patient-centered services, healthcare providers can not only improve patients' treatment experiences but also strengthen patients' trust in

medical services, thereby fostering long-term doctor-patient relationships and the overall success of medical institutions. Therefore, the authors propose:

H5: Customer orientation has a significant positive impact on customer trust.

Customer Orientation Meaning: Customer orientation involves healthcare providers prioritizing patient needs and satisfaction in their service philosophy and practices, as defined by Aburayya et al. (2020). This approach encompasses not only attention to patients' medical needs but also care for their emotional and psychological needs. The implementation of customer orientation requires healthcare providers to have sensitivity, empathy, and a deep understanding of patients' individualized needs.

The Importance of Customer Loyalty: Customer loyalty is a key indicator of success for healthcare institutions. Loyal patients not only repeatedly use the same medical services but also recommend the healthcare institution to others through word-of-mouth, thus attracting new patients. The enhancement of loyalty contributes to strengthening the market position and reputation of healthcare institutions, as noted by Nguyen et al. (2021).

The Relationship Between Customer Orientation and Loyalty: Customer orientation enhances patient loyalty by providing high-quality medical services and personalized patient experiences, as stated by Alawamreh et al. (2023). When patients feel that healthcare providers genuinely care about their health and well-being, they are more likely to become loyal customers.

Several studies support the positive relationship between customer orientation and customer loyalty. For instance, research by Lakisa et al. (2023) found that medical institutions implementing patient-centered service strategies possess higher patient loyalty. Additionally, Halimatussakdiah et al. (2023) demonstrated that when healthcare providers show a deep understanding and care for patient needs, patient loyalty significantly increases.

In the long term, the practice of customer orientation not only enhances satisfaction with individual services but also strengthens overall patient loyalty towards the healthcare institution. This long-term loyalty aids in the stable development and market competitiveness of healthcare institutions, as highlighted by Suleiman (2019). Despite challenges like staff training, service quality monitoring, and cultural change, healthcare institutions must actively take measures to overcome these obstacles to ensure the successful implementation of customer orientation.

In summary, customer orientation significantly positively influences customer loyalty. In the healthcare services field, by providing patient-centered services and focusing on patients' comprehensive needs, healthcare providers can not only improve patient satisfaction but also strengthen their loyalty to the healthcare institution, thereby promoting the institution's long-

term success and market competitiveness. Therefore, the authors propose:

H6: Customer orientation has a significant positive impact on customer loyalty.

In the healthcare services field, patients' perceived value of services is considered an important factor in enhancing their trust in healthcare providers.

Definition of Perceived Value: Perceived value refers to patients' subjective assessment of the value of medical services, including evaluations of service quality, cost-effectiveness, and meeting needs. It involves not only the objective effects of services but also patients' overall experiences, such as the convenience, personalization, and satisfaction level of the services, as mentioned by Dhagarra et al. (2020).

Meaning of Customer Trust: Customer trust is the trust that patients place in the professional competence, integrity, and reliability of healthcare providers. This trust is based on patients' assessments of the providers' professional levels, communication methods, and responsiveness to patient needs, as described by Chakraborty and Paul (2023).

Relationship Between Perceived Value and Trust: When patients have a high perceived value of medical services, they are more likely to trust the providers. High perceived value typically means that patients believe they have received high-quality services, are satisfied, and have achieved good treatment outcomes, all of which contribute to building trust in the service providers, according to M. Y. Wang et al. (2019).

Several studies support the positive relationship between perceived value and customer trust. For instance, research by Mahmood and Khan (2023) shows that in medical institutions where patients perceive higher value, their trust in healthcare providers is also higher. Another study conducted by Mintz et al. (2023) found that the higher the patients' perceived value of services, the greater their trust in the medical institutions.

Practical Application: To enhance patient trust, healthcare providers need to focus on improving the overall value of services, including enhancing service quality, ensuring accessibility and transparency of services, and providing personalized medical solutions.

In the long term, enhancing patient trust through increased perceived value helps establish solid doctor-patient relationships and enhance the reputation of medical institutions, as noted by Alraja et al. (2019). This trust is key to the sustainable success of medical institutions. Elevating perceived value and thereby enhancing trust can face challenges such as maintaining service consistency, accurately understanding patient expectations, and implementing service innovations. Healthcare institutions need to continuously improve and innovate their services to meet the evolving needs of patients.

In conclusion, perceived value significantly positively influences customer (patient) trust.

In the healthcare services field, by enhancing the overall value of services, healthcare providers can strengthen patients' trust, thereby promoting the long-term success and market competitiveness of medical institutions. Therefore, the authors propose:

H7: Perceived value has a significant positive impact on customer trust.

In the healthcare services field, patients' perceived value of services is widely regarded as a key factor in shaping their loyalty, as highlighted by Zaid et al. (2020).

Meaning of Perceived Value: Perceived value refers to patients' subjective evaluation of the quality, cost-effectiveness, and degree to which medical services meet their needs. Chakraborty and Paul (2023) note that high perceived value is often closely associated with the effectiveness, accessibility, and personalization of services. Patients' perceived value of services is based not only on objective treatment outcomes but also on their overall experience, such as satisfaction, comfort, and the level of care provided by the service provider.

Definition of Customer Loyalty: Customer loyalty refers to patients' continuous preference and repeated utilization of a particular healthcare provider. This loyalty is not only reflected in the continued choice of the same healthcare provider but may also be expressed through word-of-mouth recommendations to others, as described by Afifi and Amini (2021).

Relationship Between Perceived Value and Loyalty: When patients perceive a high value in services, they are more likely to show loyalty to the provider. High perceived value typically leads to increased patient satisfaction with the provider, a key factor in establishing and maintaining loyalty.

Several studies support the positive impact of perceived value on customer loyalty. For example, research by H. Zhang and Aumeboonsuke (2023) shows that patients exhibit stronger loyalty in medical services where they perceive high value. Additionally, Gómez-Carmona et al. (2022) found that enhancing patients' perceived value effectively boosts their loyalty.

Practical Application: Healthcare providers need to focus on improving patients' perceived value of services, including enhancing service quality, strengthening personalization, and optimizing service processes, to enhance patient loyalty.

In the long term, enhancing patient loyalty through increased perceived value has a significant impact on the competitive edge and reputation of healthcare institutions. This sustained loyalty not only generates a stable revenue stream but also attracts new patients through word-of-mouth marketing, as indicated by Elizar et al. (2020).

Challenges such as maintaining service quality consistency, accurately understanding patient needs, and adapting to market changes may arise when enhancing perceived value and loyalty. Healthcare institutions need to continuously innovate and improve their services to

meet the growing needs of patients, as stated by Ali and Anwar (2021).

In conclusion, perceived value has a significant positive impact on enhancing patients' loyalty. In the healthcare services sector, by increasing the perceived value of services, healthcare providers can strengthen patient loyalty, thereby promoting the long-term success and market competitiveness of medical institutions. Therefore, the authors propose:

H8: Perceived value significantly positively influences customer loyalty.

In the field of healthcare services, the trust that customers (patients) have in healthcare providers is seen as a vital factor in enhancing customer loyalty, as noted by Baashar et al. (2020).

Definition of Customer Trust: Customer trust refers to patients' reliance on healthcare providers, encompassing trust in their professional competence, integrity, and service quality. Iglesias et al. (2020) highlight that this trust is based on past experiences, the provider's reputation, and interactions between patients and providers.

Importance of Customer Loyalty: Customer loyalty is crucial for the long-term success of healthcare institutions. Loyal patients are inclined to continuously use the same medical services and recommend them to others, thus bringing stable income and new clients to the institution, as Sitio and Ali (2019) mention.

Relationship Between Trust and Loyalty: When patients have a high level of trust in their healthcare providers, they are more likely to demonstrate loyalty. Vilkaite-Vaitone and Skackauskiene (2020) state that trust reduces the likelihood of patients seeking alternative providers and encourages them to reselect the same medical services when needed.

Research Supporting the Positive Relationship: Several studies validate the positive correlation between trust and loyalty. For instance, Ilyas et al. (2021) found that medical institutions that earn high trust have significantly higher patient loyalty. Özkan et al. (2020) emphasize trust as a key factor influencing long-term patient loyalty, particularly in chronic disease management and long-term treatment plans. Nguyen et al. (2021) show that patients' trust in healthcare providers significantly strengthens their loyalty to the medical institutions. Devi and Yasa (2021) indicate that transparency and honesty of healthcare providers are crucial in establishing patient trust, thereby enhancing loyalty. Furthermore, providing personalized and high-quality medical services also plays a significant role in enhancing trust and loyalty. Khasbulloh and Suparna (2022) reveal that healthcare institutions can significantly boost patient trust and loyalty by providing high-quality medical services and maintaining effective communication with patients.

Practical Application: To enhance patient trust and loyalty, healthcare providers need to

offer consistent, high-quality services, ensure transparent communication, and actively respond to patients' needs and feedback.

Long-term Impact: Enhancing patient loyalty through increased trust in service providers is crucial for the market position and sustainability of healthcare institutions, as suggested by Anabila et al. (2019). This enduring loyalty can bring repeat business and strengthen the competitive position in the market. Healthcare institutions may face challenges such as maintaining high service quality standards, effectively managing patient expectations, and continuously providing innovative services. Strategic measures, such as improving service quality, strengthening patient relationship management, and increasing service transparency, are necessary.

In summary, customer trust significantly positively impacts customer loyalty. In healthcare services, establishing and maintaining trust in healthcare providers can significantly enhance patient loyalty, thereby supporting the long-term success and market position of healthcare institutions. Therefore, the authors propose:

H9: Customer trust significantly positively influences customer loyalty.

3.2.2 Short summary

As in Table 3.1, building upon the research framework and theoretical foundation, this study introduces 9 research hypotheses: In the context of healthcare services, it is hypothesized that psychological contracts have a direct impact on customer orientation, perceived value, and customer loyalty. Simultaneously, it is proposed that customer orientation, perceived value, and customer trust serve as partial mediators between psychological contracts and customer loyalty, and that these mediator variables also exhibit mutual interactions.

Table 3.1 Research hypotheses

ID	Hypothesis description
H1	The fulfillment of psychological contracts has a significant positive effect on customers' perceived value.
H2	The fulfillment of psychological contracts has a significant positive effect on customer orientation.
H3	The fulfillment of psychological contracts has a significant positive effect on customer loyalty.
H4	Customer orientation has a significant positive effect on customers' perceived value.
H5	Customer orientation has a significant positive effect on customer trust.
H6	Customer orientation has a significant positive effect on customer loyalty.
H7	Perceived value has a significant positive effect on customer trust.
H8	Perceived value has a significant positive effect on customer loyalty.
H9	Customer trust has a significant positive effect on customer loyalty.

3.3 Questionnaire design

Since the variables involved in this study primarily fall within the realm of psychology, using questionnaires for data collection is the most appropriate approach. During the questionnaire development process, a crucial step was the establishment of measurement tools for the research variables. In this study, aside from developing our own measurement tool for customer psychological contracts, the measurement tools for other relevant variables were adapted and modified based on previous related research.

The initial questionnaire comprises three main sections: (1) demographic information of the survey respondents; (2) variables related to the purchasing behavior of the respondents; (3) measurement tools for the five primary variables in the theoretical model. The demographic information and purchasing behavior questions amount to a total of 6 items. The measurement tools for customer psychological contracts, perceived value, customer orientation, customer trust, and customer loyalty include 49 items in total. All these measurement tools use a 5-point Likert scale, offering 5 response options ranging from "1 Strongly Disagree" to "5 Strongly Agree."

Detailed content can be found in Annex Table 5 and Annex Table 6.

1. Measurement of psychological contracts

One of the core objectives of this study is to develop a psychological contract scale suitable for the healthcare service environment, aiming to comprehensively understand consumer behavioral characteristics within this specific context. In this process, we adopted a combined approach of theory-driven and data-driven methods to ensure the accuracy and effectiveness of the scale.

Firstly, we conducted an in-depth examination of the widely used psychological contract theory proposed by Rousseau (1995). This classic theory outlines the core concepts of implicit contracts between individuals and organizations. However, we found that existing psychological contract scales primarily focus on transactional and relational contracts, without adequately considering the unique needs and behaviors of consumers in the healthcare service domain.

To meet the requirements of the healthcare service domain, we drew insights from the five-dimensional psychological contract measurement scale introduced by You et al. (2007). However, we also recognized the need for a more comprehensive consideration of consumer behavior in healthcare service scenarios. Therefore, we employed a methodological approach combining theory-driven and data-driven elements, as advocated by Agarwal et al. (2012) and

Sheehan et al. (2019), to design a psychological contract scale suitable for the healthcare service context.

This novel psychological contract scale comprises three core dimensions, each containing multiple items, totaling 18 items in all. These dimensions and items have been thoughtfully designed to comprehensively cover the psychological contract characteristics of consumers within the healthcare service environment. Here is a brief description of these three core dimensions:

(1) Transactional Contract Dimension: This dimension focuses on the fundamental transactional relationship between patients and healthcare service providers. The items within this dimension encompass patients' expectations and perceptions regarding service effectiveness, treatment outcomes, and medical costs.

(2) Relational Contract Dimension: This dimension underscores the long-term relationship and interactions between patients and healthcare service providers. It includes items related to trust in healthcare personnel, continuity of medical services, and the perception of healthcare providers' concern for patient well-being.

(3) Developmental Contract Dimension: This dimension concentrates on patients' expectations that healthcare service providers will offer information and support related to health management, disease prevention, and other aspects. Items include expectations regarding health education, preventive care, and personalized treatment plans.

Through these three dimensions and 18 items, our psychological contract scale aims to comprehensively capture patients' expectations, needs, and perceptions within the healthcare service context. This will facilitate a deeper understanding of the relationship between patients and healthcare service providers and how this relationship influences patient loyalty and satisfaction. The measurement of psychological contract is in Table 3.2.

Table 3.2 Measurement of psychological contract

Name	Project		Measuring project
Transactional	TPC1	1	Health care facilities provide a beautiful, clean and welcoming environment
	TPC2	2	Medical service institutions can provide me with reliable quality medical products
	TPC3	3	Medical services can provide timely and patient answers to my diagnosis
	TPC4	4	The price should be consistent with the brand of the medical institution
	TPC5	5	The price and quality of medical service products are open and transparent
	TPC6	6	Medical service products should take the initiative once there is a problem
	TPC7	7	The health service values my privacy

Relational	RPC1	8	I should be given a price discount for frequent purchases
	RPC2	9	I buy it often and should be offered something for free
	RPC3	10	I should not be offered expensive medical products that are unsuitable for me in order to make money
	RPC4	11	Medical staff should genuinely value their personal relationship with me in their service
	RPC5	12	Medical staff should value my feedback on products and services
	RPC6	13	The medical staff should respond to my comments and suggestions about the brand in a timely manner
Developmental	DPC1	14	This medical product can continuously increase my confidence
	DPC2	15	This medical product can continuously increase the joy of my life
	DPC3	16	This medical product will continue to enhance my personal image
	DPC4	17	The medical organization continues to offer better services and products
	DPC5	18	The medical organization should continue to improve its brand reputation

In conclusion, the design of our psychological contract scale is rooted in the unique requirements and consumer behavior characteristics of the healthcare service domain. By comprehensively considering the three key dimensions of transactional, relational, and developmental contracts, our scale provides a more comprehensive and accurate measurement of consumers' psychological contracts in the healthcare service context. This will serve as a powerful tool for future research to further explore the interaction and relationships between patients and healthcare service providers. Specific details of the research process are outlined in the following chapter.

2. Measurement of customer orientation

In this study, the MKTOR scale by Narver and Slater (1990) was used to measure customer orientation. The rationale for using this scale is provided earlier in the text. The questionnaire includes customer orientation, competitor awareness, and interdepartmental cooperation, as in Table 3.3.

Table 3.3 Customer orientation scale

Dimension	Measurement item
1	Whether I am satisfied with the medical service is the primary concern of the medical service
2	The health care provider is always trying to accommodate my needs
3	The health service's competitive strategy is based on an understanding of my needs
4	Providing me with quality medical care is the foundation of the institution's rules and regulations
5	Every once in a while, the health care provider evaluates my satisfaction with the service I provide
6	After I leave the hospitalthe health care provider will follow up with me after my discharge

3. Measurement of customer perceived value

In the field of medical services, there are mainly three models for measuring customer perceived value. First, the Donabedian (1988)'s model, which measures patient perception of medical quality based on "structure-process-outcome"; second, the IOM model by Cooper et al. (2002), a widely used model for measuring the perception of medical service quality in the 21st century; and third, the OECD model by Arah (2006), an international medical service quality evaluation indicator initiated by 23 member countries of the "Organisation for Economic Co-operation and Development", as in Table 3.4.

Table 3.4 Perceived value scale

Dimension	Measurement item
Based on the quality	1. Image value: The medical service institution has clean and beautiful environment and leading equipment
	2. Staff value: The quality and allocation of staff in this medical service institution are adequate
Process quality	3. Time cost: I think the waiting time of this medical service institution is short
	4. Service value: provide detailed answers and psychological guidance, personal privacy protection, examination escort, regular follow-up
	5. Employee value: I get respect and care, and when I need help, I get timely response and accurate treatment
The results of quality	6. Time cost: I think the diagnosis results of this medical service institution are efficient
	7. Technical value: I think the diagnosis conclusion of this medical service institution is accurate
	8. Technical value: I feel that the treatment results of this medical service are satisfactory
	9. Monetary cost: I think the fee charged by the medical service institution is reasonable

According to a comparison of the advantages and disadvantages of these three theories, Chinese medical institutions commonly use the Donabedian model. This model is relatively simple, flexible, and easy to operate. However, the basic quality indicators and process quality indicators involved in the system are relatively few. Therefore, in this study, we propose to add specific indicators of the medical service industry (physical examination center) to measure from the three aspects of basic quality, process quality, and outcome quality.

4. Measurement of customer trust

Customer trust in medical service organizations is typically measured by three dimensions: ability, benevolence, and honesty. Yuan (2007) also suggest trust includes two dimensions: reliability and benevolence. In the context of medical services, patients' trust is their belief that the other party will act in their best interests. Trust is a subjective measure and an expectation of positive outcomes, not a rational behavior. Therefore, in this study, we drew from the research on trust by Mcknight et al. (2002) to develop the customer trust scale, as in Table 3.5.

Table 3.5 Customer trust scale

Dimension	Measurement item
1	I have confidence in this medical organization and medical product
2	I think this medical product is reliable
3	This medical organization will fully consider my interests
4	I feel that the medical organization is honest
5	The information provided by this medical organization is accurate
6	This medical product is very professional in its class
7	The quality of this medical product has always been guaranteed

5. Measurement of customer loyalty

Measurement of customer loyalty initially focused on a behavioral perspective in the early research conducted by McMullan and Gilmore (2003). It measured customer loyalty through indicators such as purchase frequency and purchase proportion. However, this measurement approach had notable shortcomings. Repetitive purchase behavior by customers does not always reflect an attitude of preference or trust in the company or product. It might be due to factors like switching costs, resulting in false loyalty. Therefore, McMullan and Gilmore (2008) advocated the use of subjective psychological attitudes to measure the emotional connection between businesses and customers. Measurements in this regard often include indicators such as repeat purchase intention, likelihood of recommending to others, and attitudes towards competing products.

Torres et al. (2020) proposed a comprehensive measurement approach where a customer is highly inclined toward a particular product or service and actively recommends it to friends and family, combining both behavioral and attitudinal loyalty aspects.

In the healthcare industry, Chahal and Kumari (2011) summarized and empirically studied a set of loyalty measurement indicators. They identified six indicators for measuring customer loyalty:

(1) Frequency of customer repeat purchases.

(2) Timing of customer purchases.

(3) Frequency of customer recommendations and referrals to others.

(4) Sensitivity of customers to value.

(5) Customer attitudes towards competing products or services.

(6) Customer tolerance for product quality incidents.

In this study, the measurement of customer brand loyalty will consider both behavioral loyalty and attitudinal loyalty as two essential aspects, as shown in Table 3.6.

Table 3.6 Customer loyalty scale

Dimension	Measurement item
Behavioural Loyalty	1. I will continue to buy this medical product 2. I will try the new medical products launched by the medical organization 3. I will recommend this brand to my relatives and friends 4. I will reduce purchases of this medical product in the future 5. This medical product is my best choice
Attitude loyalty	6. As long as the medical product maintains the current comprehensive level, I will not replace it 7. Even if someone recommends me a similar medical product, I still choose the existing one 8. Even if the price of the medical product is slightly higher, I will still choose the existing one 9. The next time I buy other medical products, I don't think it matters

The scales in this study are designed and adapted from previous works, keeping in mind the specific context of medical services. The decision to adapt or change existing scales has been made after careful evaluation of their applicability in the context of our study.

3.4 Data Collection and Data Analysis

3.4.1 Data collection

This study collected data through the following methods:

(1) Data collection approach: Surveys were distributed to collect data.

(2) Questionnaire method: The surveys were administered by in-house customer service personnel at various medical examination centers.

(3) Questionnaire target group: The survey was conducted among customers of eight medical examination centers under the Meiyuan Health Group in Chongqing. This choice was based on two factors: first, these centers had a customer retention rate of over 30%, which exceeded the regional average and made them suitable for studying customer loyalty data. Second, these selected centers had a stable number of customers each month, representing a diverse group of customers from various industries, making the sample group diverse and valuable for empirical research.

The data collection for this study was conducted in three phases:

1. Pretesting

Held in Chongqing, China, in January 2022. A total of 100 questionnaires were distributed, and 77 valid questionnaires were returned, resulting in an effective response rate of 77%. The data was processed using smartPLS software, and each measurement item in the questionnaire

was coded.

2. Optimization testing:

Conducted from June 18, 2022, to August 10, 2022, as a final study before finalizing the scale design. A total of 250 survey questionnaires were distributed, with 233 questionnaires collected. After screening and eliminating invalid questionnaires, 207 valid questionnaires were obtained, with an effective rate of 82%, as shown in Annex Table 7.

3. Formal survey

Conducted from November 1, 2022, to January 1, 2023, and lasted for two months. A total of 800 questionnaires were distributed, and 747 valid questionnaires were collected, resulting in an effective rate of 93%. The principles and criteria for questionnaire screening were as follows: if there were discrepancies in responses, nearly all questionnaire items and options were consistent. Among the valid questionnaires, 247 respondents were male, accounting for 33%, and 500 were female.

3.4.2 Pre-test data analysis

The data analysis method employed in this study's pre-testing primarily includes three key steps: the utilization of Corrected-Item Total Correlation (CITC) to refine measurement items, the assessment of item reliability using Cronbach's α coefficient, and a refinement of measurement items through exploratory factor analysis. Two criteria are used for item reliability assessment based on CITC: (1) an item's adjusted overall correlation coefficient should be less than 0.3, and (2) the removal of this item should enhance the α value, thereby improving the overall reliability. In addition, statisticians Nunnally and Bernstein (1994) suggest that items with factor loadings below 0.4 can adversely affect the scale's validity, and therefore, such items are removed. In this study, items with factor loadings below 0.4 were eliminated.

3.4.3 Pre-test data results

The objective of the pre-test analysis is to eliminate measurement items with low factor loadings and those negatively impacting Cronbach's α values. The results of the pre-test analysis are presented below. While the construction of the Customer Psychological Contract Scale in this study is a more complex process, detailed analysis is available in Chapter 5. The pre-test results analysis for measurement items related to other variables is as follows.

1. Customer orientation

(1) Overall coefficients and reliability

As shown in Annex Table 8, it can be concluded that all measurement items of the Customer Orientation Scale have overall correlation coefficients exceeding 0.7, and the removal of any item does not increase Cronbach's α value. Therefore, all measurement items for customer orientation are retained.

(2) Factor analysis results

As shown in Annex Table 9, it can be concluded that all measurement items of the Customer Orientation Scale exhibit factor loading coefficients exceeding 0.5 on a single factor. This suggests that the scale used in this study demonstrates a strong one-dimensional construct validity.

2. Perceived value

(1) Overall coefficients and reliability

As shown in Annex Table 10, it can be concluded that all measurement items of the Perceived Value Scale have overall correlation coefficients exceeding 0.7, and the removal of any item does not increase Cronbach's α value. Therefore, all measurement items for perceived value are retained.

(2) Factor analysis results

As shown in Annex Table 11, it can be concluded that all measurement items of the Perceived Value Scale exhibit factor loading coefficients exceeding 0.5 on a single factor. This indicates that the scale used in this study demonstrates a strong one-dimensional construct validity.

3. Customer trust

(1) Overall coefficients and reliability

As shown in Annex Table 12, it can be concluded that all measurement items of the Customer Trust Scale have overall correlation coefficients exceeding 0.7, and the removal of any item does not increase Cronbach's α value. Therefore, all measurement items for customer trust are retained.

(2) Factor analysis results

As shown in Annex Table 13, it can be concluded that all measurement items of the Customer Trust Scale exhibit factor loading coefficients exceeding 0.5 on a single factor. This suggests that the scale used in this study demonstrates a strong one-dimensional construct validity.

4. Customer loyalty

(1) Overall Coefficients and Reliability

As shown in Annex Table 14, it can be concluded that all measurement items of the

Customer Loyalty Scale have overall correlation coefficients exceeding 0.7, and the removal of any item does not increase Cronbach's α value. Therefore, all measurement items for customer loyalty are retained.

(2) Factor analysis results

As shown in Annex Table 15, it can be concluded that all measurement items of the Customer Loyalty Scale exhibit factor loading coefficients exceeding 0.5 on a single factor. This indicates that the scale used in this study demonstrates a strong one-dimensional construct validity.

3.4.4 Data analysis

After completing the analysis of the pre-test, I made improvements based on the issues identified. The formal survey took place from November 1, 2022, to January 1, 2023, lasting for two months. During this period, a total of 800 questionnaires were distributed, and 747 valid questionnaires were collected, resulting in an effective response rate of 93%. The main criteria for screening questionnaires were that if the answers were inconsistent across most of the questionnaire items and options, the questionnaire was considered invalid. Among these valid questionnaires, 33% were completed by males (247 responses), and 67% were completed by females (500 responses).

In terms of data processing, we used smartPLS software and assigned numbers to each measurement in the questionnaire. Since the questionnaire survey is based on subjective evaluations of respondents, according to Fowler and Cosenza (2009), respondents may provide incorrect answers for four reasons: 1) they do not know the answer to the question; 2) they cannot recall the answer to the question; 3) even though they know the answer, they are unwilling to answer; 4) they do not understand the question. While it is impossible to completely eliminate the biases introduced by these four factors, in order to minimize them, I arranged for staff from the company's customer service department to conduct one-on-one questionnaire completion with health checkup customers, allowing them to answer questions regarding the health checkup services they were currently using.

For data analysis, this study will use SmartPLS statistical software, including the following:

Descriptive statistical analysis: Analyzing demographic information of respondents and calculating variables' means and variances, among other statistics.

Reliability analysis: Evaluating the reliability of the scales using Cronbach's alpha coefficient, where an alpha coefficient greater than 0.7 indicates good reliability.

Validity analysis: Focusing on content validity and structural validity.

Correlation analysis: Determining the relationships between variables through bivariate correlation analysis.

Regression analysis: Conducting regression analysis after establishing relationships between variables.

Structural Equation Modeling (SEM) analysis: Performing an overall structural equation modeling analysis based on the previous analyses.

3.5 Short summary

Firstly, this study provides a systematic explanation of the measurement methods for the main variables and constructs a research framework based on psychological contract, customer orientation, perceived value, customer trust, and customer loyalty. Within this framework, we proposed 9 research hypotheses. We have also provided detailed insights into the data collection methods, questionnaire distribution, and the target population, ensuring the questionnaire's validity through pretesting. Subsequently, we conducted a large-scale formal survey, successfully collecting 747 valid questionnaires, while implementing a series of measures to reduce potential biases. This research framework and data collection process establish a robust foundation for subsequent data analysis and research outcomes.

Chapter 4: Development and Testing of Psychological Contract Scale

To create a psychological contract scale suitable for the healthcare services sector, this study referenced the psychological contract questionnaire by H. C. Luo and Fan (2005), the five-dimensional customer psychological contract scale by You et al. (2007), and the medical prescription questionnaire by X. Y. Tang (2016). After consulting with experts in the healthcare services field, the items from these scales were integrated and simplified, resulting in a new scale comprising 18 items. This scale uses a 5-point Likert scale, with values ranging from 1 to 5, representing "strongly disagree" to "strongly agree." This scoring method aids in precisely measuring consumers' perception of service providers' fulfillment of their responsibilities.

To validate the scale's effectiveness and reliability, this study conducted field tests in multiple healthcare institutions. Test subjects included patients and healthcare personnel, ensuring data diversity and comprehensiveness. Through statistical methods such as factor analysis, reliability testing, and validity testing, this study comprehensively validated the scale. Preliminary results indicate that the scale exhibits good internal consistency and predictive validity, effectively reflecting the relationship between customer loyalty and the psychological contract in the healthcare services sector.

4.1 Existing psychological contract scale

Research on customer psychological contracts in the healthcare services sector is still in its infancy, and existing scales do not fully encompass the uniqueness of this field. The study of psychological contracts originated in organizational behavior and primarily focused on informal agreements between employees and employers. However, the healthcare services environment has its own distinct characteristics, such as highly personalized services, patient sensitivity to healthcare quality, and trust and dependence on service providers. These factors influence the formation and fulfillment of psychological contracts.

Currently, research on psychological contract violations in healthcare services primarily relies on direct measurement methods proposed by Pavlou and Gefen (2005). This method assesses three dimensions: differences of opinion with healthcare providers, the severity of

transactional issues, and the seriousness of psychological contract breaches. However, this approach may not comprehensively capture the multidimensional nature of psychological contracts in the healthcare services field.

To more accurately measure psychological contracts in the healthcare services sector, this study proposes the development of a new scale. Firstly, considering the personalized and emotionally invested nature of healthcare services, the scale should encompass dimensions related to patient expectations, satisfaction, and trust. Secondly, considering the professionalism and technical complexity of healthcare services, the scale should cover the assessment of healthcare service provider competence and communication skills. Finally, given the continuity and long-term nature of healthcare services, the scale should also include measurements of service continuity and long-term commitment.

In summary, a psychological contract scale for the healthcare services sector should not only reflect direct interaction experiences between patients and healthcare providers but also encompass patients' perceptions of the overall quality and continuity of healthcare services. Through such a scale, a deeper understanding of how psychological contracts in healthcare services affect patient satisfaction and loyalty can be achieved.

4.1.1 Two-dimensional structure scale

According to Rousseau (1998)'s classic psychological contract scale, H. C. Luo and Fan (2005) made corresponding adjustments to consumption situations and developed two two-dimensional structural scales: transaction psychological contract and relationship psychological contract. In the psychological contract scale, six questions are designed for the psychological contract of transaction and the psychological contract of relationship. Details can be found in Annex Table 16.

4.1.2 Five-dimensional structure scale

You et al. (2007) developed a further study on customer psychological contract and put forward different conclusions, believing that customer psychological contract mainly includes five aspects :(1) "frequent customer reward" mainly refers to the brand to provide consumers with additional benefits (discounts, gifts, additional services, etc.) brought by frequent purchase; (2) "Quality and service" mainly refers to the brand's guarantee of quality and service; (3) "social and emotional benefits" mainly reflect the social and emotional feelings and benefits brought by the brand to consumers; (4) "Communication" mainly refers to the connection between the

brand and consumers; (5) The "price" factor is the rationality of the brand price. Details can be found in Annex Table 17.

4.1.3 Doctor-patient psychological contract scale

H. C. Luo and Fan (2005) primarily emphasizes the measurement of transactional psychological contracts and relational psychological contracts. This reflects that customers, during the purchasing process, primarily focus on gaining instrumental benefits and affective benefits. Instrumental benefits typically manifest as explicit, short-term transactional gains, while affective benefits are often implicit and associated with long-term relational gains. However, from an overall perspective, Two-dimensional structure may oversimplify customer psychological contracts within the context of healthcare services and lacks an in-depth exploration of their content and dimensions.

Research by You et al. (2007), revealed that among the five key indicators of consumer psychological contracts, "quality and service" as well as "price" are the two factors that customers particularly value. These factors align with what Coyle-Shapiro et al. (2019) proposed as transactional psychological contracts. On the other hand, elements like "loyalty rewards," "social and emotional benefits," and "communication" reflect a stronger emotional connection between consumer brands and their customers.

In summary, the existing two-dimensional and five-dimensional psychological contract scales are mainly focused on the field of marketing. However, within the healthcare services sector, there is a noticeable gap in the research regarding the content and dimensions of customer psychological contracts.

To address this research gap, the present study takes into consideration the practical realities of the healthcare services sector. On the one hand, we have drawn from the relevant dimensions and indicators of two-dimensional and five-dimensional psychological contract scales. Simultaneously, we have also incorporated a psychological contract measurement tool specifically designed for the hospital environment involving doctors and patients (X. Y. Tang, 2016). This comprehensive approach aims to provide a more comprehensive understanding of customer psychological contracts within the context of healthcare services. This chapter will conduct in-depth research and exploration on this problem.

4.2 Development of customer psychological contract scale

4.2.1 The idea of scale development and design

Through an analysis of the existing customer psychological contract scales, it becomes clear that there is currently no mature and unified scale to measure the concept of a customer's psychological contract. This is primarily due to significant disputes regarding the concept, meaning, and content of a customer's psychological contract. The primary objective of this section is to conduct exploratory research to examine the content and structural dimensions of the customer psychological contract within the context of healthcare services and, based on this, develop a new customer psychological contract scale. Our basic approach is as follows:

1. we will clearly define the content of the customer psychological contract through a theory-driven approach.

2. we will compile measurement items related to the customer psychological contract through a literature review method.

3. we will conduct preliminary measurements of the scale's reliability and validity through exploratory factor analysis.

Before formally developing the scale, we conducted theoretical exploratory research by using a literature review approach, combining it with the research literature on psychological contracts in the healthcare services field, as outlined by X. Y. Tang (2016). This led us to categorize the customer psychological contract into the following three dimensions:

1. Transactional psychological contract (TPC)

This dimension refers to the fundamental responsibilities that healthcare service providers must fulfill. It includes addressing customers' practical issues, providing reliable service quality, reasonable pricing, and after-sales support, all aimed at meeting customers' basic needs.

2. Relational psychological contract (RPC)

In Chinese culture, personal relationships between customers and businesses can yield additional emotional benefits, such as prestige, respect, and reduced psychological risk costs. To maintain these positive interpersonal relationships, customers believe that businesses should fulfill relational responsibilities, including being customer-oriented, getting to know customers, showing care, valuing customer feedback, and providing incentives for loyal customers. These responsibilities go beyond purely transactional relationships.

3. Developmental psychological contract (DPC)

To sustain ongoing relationships with customers, businesses need to continually evolve,

update, and assimilate competitive advantages to provide reasons for long-term customers to keep buying. Developmental responsibilities include ongoing technological innovation, enhancing the business's reputation, and meeting customers' higher-level needs, which has been an area of limited attention in previous research.

By categorizing the psychological contract into these dimensions, we can gain a more comprehensive understanding of the customer psychological contract within the healthcare service context and lay the theoretical groundwork for the development of a new scale.

4.2.2 Design of measurement items and scales

After conducting exploratory research on the dimensions of customer psychological contracts in the healthcare services sector, the author proceeded with the formal development of measurement items. Firstly, the researcher confirmed measurement items through an extensive literature review. The purpose of this step was to establish a solid theoretical foundation, providing necessary background and references for subsequent research. By carefully reviewing existing literature, the researcher could identify and integrate key factors related to customer psychological contracts in the healthcare services field.

Next, the process entered the item selection stage. In this step, the researcher's primary goal was to select items from numerous candidates that could best represent the concept of customer psychological contracts. To ensure the effectiveness and reliability of the selected items, the researcher employed various statistical methods, including overall correlation analysis, reliability analysis, and exploratory factor analysis. These methods helped the researcher assess the applicability of each item from a more scientific perspective, ensuring that the final selected items accurately reflected various dimensions of customer psychological contracts.

The final step was the confirmation of measurement items and the formation of the scale. In this stage, under the guidance of advisors and experts, the researcher synthesized the results of the previous two steps, finalizing the determination of measurement items and the initial construction of the scale. During this process, the researcher conducted a meticulous review and adjustment of measurement items to ensure their accurate measurement of various aspects of customer psychological contracts in the healthcare services field.

Through these steps, the researcher ultimately identified 18 measurement items, constituting a specialized scale for customer psychological contracts in the healthcare services sector, as shown in Table 4.1. These items took into account the uniqueness of healthcare services and customer psychological expectations, aiming to more accurately assess and understand the impact and role of customer psychological contracts in the healthcare services

field. Through the evaluation of these items, the researcher could gain deeper insights into customer expectations and perceptions of healthcare services and their effects on customer loyalty and satisfaction. This series of work not only provides new tools and perspectives for research in the healthcare services field but also offers valuable insights for service improvement and customer relationship management in practice.

Table 4.1 Psychological contract survey questionnaire

Name		Measuring project
Transactional psychological contract (TPC)	1	Health care facilities provide a beautiful, clean and welcoming environment
	2	Medical service institutions can provide me with reliable quality medical products
	3	Medical services can provide timely and patient answers to my diagnosis
	4	The price should be consistent with the brand of the medical institution
	5	The price and quality of medical service products are open and transparent
	6	Medical service products should take the initiative once there is a problem
	7	The health service values my privacy
Relational psychological contract (RPC)	8	I should be given a price discount for frequent purchases
	9	I buy it often and should be offered something for free
	10	I should not be offered expensive medical products that are unsuitable for me in order to make money
	11	Medical staff should genuinely value their personal relationship with me in their service
	12	Medical staff should value my feedback on products and services
	13	The medical staff should respond to my comments and suggestions about the brand in a timely manner
Developmental psychological contract (DPC)	14	This medical product can continuously increase my confidence
	15	This medical product can continuously increase the joy of my life
	16	This medical product will continue to enhance my personal image
	17	The medical organization continues to offer better services and products
	18	The medical organization should continue to improve its brand reputation

4.2.3 Purification of measuring item

This survey is aimed at on-site customers of 7 medical examination centers in Chongqing.The questionnaire survey was conducted from June 18, 2022, to August 10, 2022, as the final phase of the research before finalizing the scale design. A total of 250 survey questionnaires were distributed, and 233 questionnaires were collected. After screening and removing invalid questionnaires, 207 valid questionnaires were obtained, resulting in an effective response rate of 82%.

1. Measurement population correlation analysis and results

There are two standards for project purification: (1) After modification, the overall

correlation coefficient of the project is less than 0.3; (2) After deleting this item, Cronbach'α can be added to improve the overall reliability. Because this study is an exploratory study, any of the above conditions will be deleted.

2. Customer psychological contract

(1) Analysis of transactional dimension

Using the above analysis method, the transaction-type dimension is analyzed with the analysis results shown in Annex Table 18.

The analysis results show that the initial Cronbach'α value of the transactional subscale is 0.827, and the Cronbach'α coefficient rises to 0.831 after JY4 is deleted. In the same analysis, the Cronbach'α coefficient cannot be improved when any item is deleted. In this way, there are 6 items left in the transactional subscale, and the specific results are shown in the Annex Table 19.

(2) Analysis of relational dimension

The reliability analysis of relational dimensions was carried out with the same method, and the analysis results were shown in Annex Table 20.

The analysis results show that the initial Cronbach'α value of the relational subscale is 0.829, and the Cronbach'α coefficient rises to 0.841 after GX2 and GX4 is deleted. In the same analysis, the Cronbach'α coefficient cannot be improved when any item is deleted. In this way, there are 4 items left in the relational sublist. See Annex Table 21 for specific results:

(3) Analysis of developmental dimension

The same method was used to conduct reliability analysis for the developmental dimension, and the analysis results were shown in the Annex Table 22.

The analysis results show that the initial Cronbach'α value of the developmental subscale is 0.857, and the Cronbach'α coefficient rises to 0.877 after the deletion of DPC3, as shown in Annex Table 23.

After analyzing the preliminary questionnaire, the research has ultimately identified the measurement items for the customer psychological contract scale. The scale comprises a total of 14 items, distributed across three dimensions: transaction dimension (consisting of 6 items), relationship dimension (comprising 4 items), and development dimension (comprising 4 items). Following the determination of the measurement items and the internal structure of the scale, further discussions were held with relevant experts to gather their input and recommendations. The experts largely affirmed the measurement items in the scale, with only a few suggestions for specific wording. In response to these suggestions, the study made revisions to the scale and finalized its content. Please refer to Table 4.2 below for details.

Table 4.2 Formal scale of new customer psychological contract

Name	Project		Measuring project
Transactional psychological contract (TPC)	TPC1	1	Health care facilities provide a beautiful, clean and welcoming environment
	TPC2	2	Medical service institutions can provide me with reliable quality medical products
	TPC3	3	Medical services can provide timely and patient answers to my diagnosis
	TPC4	4	The price and quality of medical service products are open and transparent
	TPC5	5	Medical service products should take the initiative once there is a problem
	TPC6	6	The health service values my privacy
Relational psychological contract (RPC)	RPC1	7	I should be given a price discount for frequent purchases
	RPC2	8	I should not be offered expensive medical products that are unsuitable for me in order to make money
	RPC3	9	Medical staff should value my feedback on products and services
	RPC4	10	The medical staff should respond to my comments and suggestions about the brand in a timely manner
Developmental psychological contract (DPC)	DPC1	11	This medical product can continuously increase my confidence
	DPC2	12	This medical product can continuously increase the joy of my life
	DPC3	13	The medical organization continues to offer better services and products
	DPC4	14	The medical organization should continue to improve its brand reputation

4.3 Formal examination of the psychological contract scale

Following the above analysis, an official questionnaire for psychological contracts in the context of healthcare services was developed and an official survey was conducted. The study took place from June 18, 2022, to August 10, 2022, as the final research before finalizing the questionnaire design. A total of 250 survey questionnaires were distributed, and 233 were collected. After screening and eliminating invalid questionnaires, 207 valid responses were obtained, resulting in an effectiveness rate of 82%.

The survey distribution was conducted onsite at various medical centers by customer service personnel from within the company. The target population for the survey was clients of the eight medical centers under the Chongqing Mei Nian Group. This choice was based on two main reasons: first, the client retention rate in these eight medical centers in Chongqing exceeds 30%, surpassing the regional average for medical centers, making the loyalty data of these clients particularly valuable for this study. Second, these selected medical centers have a consistent and stable number of clients each month, representing diverse backgrounds and

professions, thereby making the sample population highly diversified and important for empirical research.

Based on a large-scale formal testing, the author conducted an examination of the customer psychological contract scale. The examination of the scale focused primarily on two aspects: reliability testing and validity testing.

Reliability testing aims to assess the stability and consistency of the scale when measuring related latent variables. Specifically, it involves examining the degree to which the items within the scale are consistent with each other and whether the results of two measurements are in agreement. Reliability testing is a crucial indicator of data quality (Y. M. Wang et al., 2008). Various methods are employed for reliability testing, including test-retest reliability, split-half reliability, and internal consistency reliability. In empirical research, it is common in the academic community to use split-half reliability and Cronbach's α coefficient to examine the reliability of a scale.

According to Hair et al. (1998), a higher Cronbach's α value indicates greater interrelatedness among the items of the latent variable, implying higher internal consistency. Generally, when the Cronbach's α of each latent variable and its constituent factors is greater than 0.7, it suggests high data reliability. In this study, Cronbach's α and split-half reliability were used to assess the reliability of the scale.

For validity testing, content validity and structural validity were employed to examine the scale's validity.

4.3.1 Reliability assessment

While this study has already conducted reliability and validity tests for the Psychological Contract Scale in the context of healthcare services, it is essential to reevaluate the reliability and validity of the scale before the formal testing, primarily due to changes in the time, location, and subjects involved in the questionnaire data collection.

Reliability testing primarily aims to measure the consistency in how each item reflects the underlying content of the measured subject, helping us assess the stability and consistency of the measurement data. As shown in Annex Table 24, the analysis of the data shows that in the context of healthcare services, the reliability analysis values for the three dimensions of the psychological contract are 0.927, 0.918, and 0.902, all exceeding 0.8, indicating excellent reliability for each dimension.

The corrected item-total correlations (CITC) values are all greater than 0.5, and the items removed exhibit Cronbach's Alpha values lower than the corresponding overall Cronbach's

Alpha, indicating that the scale demonstrates strong reliability.

4.3.2 Validity test

Validating a measurement tool or method primarily concerns its effectiveness in reflecting the degree of the subject being measured. The higher the alignment between the collected data results and the subject's characteristics, the greater the validity, and conversely, lower alignment indicates lower validity.Campbell and Fiske (1959) propose two indicators to assess validity: Convergent Validity and Discriminant Validity. In this study, the scale's validity was evaluated using exploratory factor analysis, a widely accepted method across various fields.

(1) Content validity

Content validity mainly examines how well measurement items sample the range of content or behaviors they are intended to predict. Typically, content validity is determined by experts through qualitative analysis, with items that do not perform well requiring modification or removal. The items in the scale developed for this study were initially drawn from a review of existing literature. Extensive efforts were made to revise, supplement, and enhance these items through focus group interviews and in-depth group discussions, resulting in an initial version of the scale. Subsequently, a pre-test was conducted, and based on the pre-test results, further refinements were made. Finally, the feedback and recommendations of experts from the academic community were considered to arrive at the final version of the scale.

(2) Construct validity

Construct validity is employed to assess the scale's ability to capture the relationships between relevant variables. When construct validity is strong, it indicates that the measurement results accurately reflect the true characteristics of the subject being measured. Testing construct validity typically involves the use of both exploratory factor analysis and confirmatory factor analysis.

(3) KMO and Bartlett tests

According to the results in Annex Table 25, KMO value is 0.887, Bartlett approximate Chi-square value is 3274.255, and significance probability is P&lt, respectively. 0.05 indicates that the correlation between the data is strong, and factor analysis is suitable.

4.3.3 Short summary

In view of the disputes and inconsistencies on the dimension division of psychological contract in medical service context in domestic and foreign academic research fields, this study

developed an initial scale of psychological contract in medical service context. This was achieved through literature review and expert discussion. Then, empirical analysis was carried out by issuing questionnaires to collect data.

The results show that all indexes of psychological contract scale developed in the background of medical service have passed the test successfully. These three dimensions and 14 items accurately and comprehensively reflect and measure the concept of psychological contract, which provides a scientific and reasonable research basis for subsequent research.

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Chapter 5: Data analysis and hypothesis testing

5.1 Descriptive statistical analysis

5.1.1 Sample descriptive statistical analysis

The formal survey questionnaire, conducted from November 1, 2022, to January 1, 2023, targeted customers of eight medical examination centers within the Chongqing Meiyuan Health Group. Selection criteria were twofold: firstly, centers boasting a customer retention rate exceeding 30%, surpassing the regional average, were chosen for investigating customer loyalty. Secondly, these selected centers maintained stable monthly customer numbers, ensuring a diverse sample population for empirical research. The internal customer service staff at each center facilitated the distribution of the survey questionnaire.

This large-scale survey spanned two months. A total of 800 questionnaires were distributed, with 747 valid responses collected, resulting in a response rate of 93%. The screening criteria applied to the questionnaire were formulated to systematically eliminate respondents who provided same responses for the majority of items and options.

We conducted the following statistical description of the collected samples, as shown in Table 5.1. As can be seen from the table, in terms of the gender of the samples, the number of female interviewees is slightly higher than the number of male interviewees, with a total of 247 male interviewees, accounting for 33.07% of the valid sample, and a total of 500 female interviewees, accounting for 66.93% of the valid sample. In terms of the age of the samples, the number of people under 35 years old totaled 179, accounting for 23.96% of the valid sample; the number of people over 35 years old totaled 568, accounting for 76.04% of the valid sample. In terms of the educational level of the samples, the number of junior college and below totaled 359, accounting for 48.06% of the valid sample; the number of undergraduates totaled 164, accounting for 21.95% of the valid sample; the number of masters totaled 217, accounting for 29.05% of the valid sample; and the number of PhD totaled 7, accounting for 0.94% of the valid sample. In terms of sample professional distribution, the number of the administrative management majors totaled 120, accounting for 16.06% of the effective sample; the number of marketing majors totaled 22, accounting for 2.95% of the effective sample; the number of teachers totaled 60, accounting for 8.03% of the effective sample; the number of scientific

research and development majors totaled 45, accounting for 6.02% of the valid sample; individual businesses totaled 299, accounting for 40.03% of the valid sample; and the number of students totaled 157, accounting for 21.02% of the valid sample; other majors totaled 37 or 4.95% of the valid sample. In terms of the sample's payment method of physical examination fee, the number of people paying out-of-pocket totaled 269, accounting for 36.01% of the valid sample; the number of people paid by health care totaled 157, accounting for 21.02% of the valid sample; and the number of people paid by companies totaled 321, accounting for 42.97% of the valid sample. In terms of the samples when to go to the physical examination center, the number of people who go to the physical examination center when physical pain is evident totals 52 people, accounting for 6.96% of the valid samples; the number of people who go to the physical examination center when regular physical examination totals 433 people, accounting for 57.97% of the valid sample; with symptoms of chronic disease when going to the physical examination center totaled 202 people, accounting for 27.04% of the valid sample; and other conditions when going to the physical examination center totaled 60 people, accounting for 8.03% of the valid sample.

Table 5.1 Information for the interviewees

Variables	Contents	Number of respondents	Percentage (%)
Gender status	Male	247	33.07%
	Female	500	66.93%
Age	Under the age of 35	179	23.96%
	More than 35 years old	568	76.04%
Level of education	Junior College and below	359	48.06%
	Undergraduate course	164	21.95%
	A master's degree	217	29.05%
	Dr.	7	0.94%
Professional distribution	The administrative management	120	16.06%
	Marketing	22	2.95%
	Teachers'	60	8.03%
	Scientific research and development	45	6.02%
	Individual businesses	299	40.03%
	Students	157	21.02%
	Other	37	4.95%
Payment method of physical examination fee	At his own expense	269	36.01%
	Health care	157	21.02%
	The company	321	42.97%
When to go to the physical examination center	Physical pain is evident	52	6.96%
	Regular physical examination	433	57.97%
	With symptoms of chronic disease	202	27.04%
	Other	60	8.03%
	Total	747	100.00%

5.1.2 Descriptive statistical analysis of measurement items

The descriptive statistical analysis of the psychological contract (transactional psychological contract, relational psychological contract and developmental psychological contract), customer orientation, perceived value, customer trust and customer loyalty by giving the maximum-minimum, mean, standard deviation, skewness and kurtosis provides a preliminary understanding of the level of presence of each variable. The results are shown in Table 5.2. The variables were all Likert 5-point scales with a minimum value of 1 and a maximum value of 5. From the results, it can be seen that the mean values of Likert 5-point scale type multiple-choice questions ranged from 3.86-4.38. The standard deviation ranged from 0.591-1.060, the absolute value of skewness ranged from 0.307-1.260, and the absolute value of kurtosis ranged from 0.032-3.655. The absolute value of skewness and the absolute value of kurtosis of the data are less than 2 and 4, respectively, and the data can be considered acceptable. The results indicate a satisfactory quality of the questionnaires retrieved from this formal research endeavor, laying a robust foundation for subsequent data analyses.

Table 5.2 Descriptive statistical analysis

Variables	MI	Smallest	Largest	Mean	Std. dev.	Skewness	Kurtosis
Transactional psychological contract (TPC)	TPC1	1	5	3.91	1.06	-0.702	-0.413
	TPC2	1	5	3.96	0.965	-0.669	-0.267
	TPC3	1	5	3.93	0.996	-0.601	-0.59
	TPC4	1	5	4.13	0.925	-0.821	-0.161
	TPC5	1	5	4.07	0.918	-0.776	-0.123
	TPC6	1	5	4.03	0.994	-0.846	0.032
Relational psychological contract (RPC)	RPC1	1	5	4.12	0.904	-0.867	0.148
	RPC2	1	5	4.13	0.894	-0.886	0.22
	RPC3	1	5	4.19	0.85	-0.883	0.218
	RPC4	1	5	4.14	0.879	-0.98	0.728
Developmental psychological contract (DPC)	DPC1	1	5	3.86	0.979	-0.568	-0.501
	DPC2	1	5	3.86	0.937	-0.546	-0.231
	DPC3	1	5	3.87	0.948	-0.563	-0.382
	DPC4	1	5	3.9	0.966	-0.659	-0.248
Customer orientation (CO)	CO1	1	5	4.32	0.74	-1.067	1.376
	CO2	1	5	4.34	0.672	-1.049	2.227
	CO3	1	5	4.32	0.729	-0.823	0.193
	CO4	1	5	4.26	0.745	-0.745	0.214
	CO5	1	5	4.23	0.692	-0.418	-0.59
	CO6	1	5	4.15	0.73	-0.525	0.16
Perceived value (PV)	PV1	1	5	4.15	0.895	-0.735	-0.224
	PV2	1	5	4.2	0.862	-0.752	-0.266
	PV3	1	5	4.23	0.881	-0.811	-0.354
	PV4	1	5	4.29	0.852	-0.969	0.226
	PV5	1	5	4.22	0.879	-0.87	0.042
	PV6	1	5	4.27	0.858	-0.869	-0.15
	PV7	1	5	4.15	0.919	-0.846	0.063

	PV8	1	5	4.38	0.832	-1.028	-0.123
	PV9	1	5	4.27	0.851	-0.908	0.108
	CT1	1	5	4.1	0.705	-0.86	2.001
	CT2	1	5	4.14	0.69	-1.102	3.632
Customer trust (CT)	CT3	1	5	4.23	0.636	-0.587	0.944
	CT4	1	5	4.29	0.591	-0.307	0.043
	CT5	1	5	3.94	0.905	-1.238	2.134
	CT6	1	5	4.03	0.77	-1.072	2.528
	CT7	1	5	4.14	0.682	-0.74	1.849
	CL1	1	5	4.08	0.747	-0.98	2.183
	CL2	1	5	4.13	0.709	-1.115	3.327
	CL3	1	5	4.23	0.64	-0.581	0.878
Customer loyalty (CL)	CL4	1	5	4.38	0.603	-0.623	0.866
	CL5	1	5	4.32	0.637	-0.773	1.64
	CL6	1	5	4.36	0.618	-0.548	0.096
	CL7	1	5	4.24	0.713	-1.26	3.655
	CL8	1	5	4.2	0.668	-0.713	1.46
	CL9	1	5	4.22	0.712	-1.026	2.389

Note: MI-Measurement items.

5.2 Multicollinearity test

Multicollinearity refers to the scenario wherein an explanatory variable within the constructed model forms a linear combination with one or more other explanatory variables, indicating a high correlation or approximate correlation among them (Chumak et al., 2022). When data exhibits significant multicollinearity, the test outcomes for independent variables deviate significantly from the actual scenario.

Given the adverse implications of multicollinearity on results, this thesis employed the variance inflation factor (VIF) to gauge the severity of multicollinearity within the model. The VIF serves as a metric for the ratio of the regression coefficient estimator's variance to the variance under the assumption of non-linearly correlated independent variables. In general, if VIF>10, it indicates that the model has a strong collinearity problem (Chan et al., 2022). In light of the research findings presented in Table 5.3, the VIF values for each explanatory variable in this study's model all fall below 2. This implies an absence of significant multicollinearity concerns within the research, affirming the model's reliability.

Table 5.3 Latent variable VIF values

Variables	VIF
The psychological contract	1.056
Customer orientation	1.055
Perceived value	1.042
Customer trust	1.037

5.3 Exploratory factor analysis

Exploratory factor analysis aids in categorizing numerous items into common factors for the purpose of simplification. As mentioned before, psychological contract is a second-order variable, which involves three one-order variables. Specifically, transactional psychological contract is measured by 6 items, relational psychological contract includes 4 items, and developmental psychological contract contains 4 items. There were 6 items related to customer orientation, 9 items for customer perceived value, 7 items for customer trust, and customer loyalty is measured by 9 items, totaling 45 items.

Factor analysis was used in this study. Factor analysis is a statistical technique commonly utilized in psychometrics and social sciences to investigate the underlying structure of observed variables and determine if they can be effectively represented by a smaller number of latent factors. We use maximum variance as the method for factor analysis. Specifically, we systematically extracted common factors for each of the 45 items included in the study. The cumulative variance contribution rate of the 6 common factors, amounting to 57.191%, stands as a noteworthy indicator of the efficacy of this factor extraction. This percentage signifies that the 6 factors collectively encapsulate over half of the total variance present in the original set of items, affirming their ability to comprehensively generalize the inherent structure of the data.

Furthermore, to provide a more granular perspective, we conducted separate analyses for each variable using the same method. As shown in Table 5.4, the results revealed that the cumulative variance contribution rates for the single factors ranged between 50% and 90%. Importantly, all of these rates surpass the predefined criterion of 50%, attesting to the robust unidimensionality of each variable. This implies that each individual factor can effectively capture and generalize the core essence of the original items associated with it. Such comprehensive and consistent results across both the overarching common factors and individual variables underscore the reliability and validity of the factor extraction process.

Table 5.4 The unidimensionality of the latent variables

Component	Total variance explained					
	Initial Eigenvalues			Extraction sums of squared loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
	Transactional psychological contract					
1	3.427	57.111	57.111	3.427	57.111	57.111
2	0.982	16.362	73.473			
3	0.486	8.098	81.571			
4	0.429	7.155	88.726			
5	0.379	6.317	95.044			
6	0.297	4.956	100.000			

			Relational psychological contract			
1	3.181	79.520	79.520	3.181	79.520	79.520
2	0.304	7.602	87.121			
3	0.282	7.052	94.173			
4	0.233	5.827	100.000			
			Developmental psychological contract			
1	3.250	81.239	81.239	3.250	81.239	81.239
2	0.284	7.106	88.345			
3	0.252	6.307	94.652			
4	0.214	5.348	100.000			
			Customer orientation			
1	3.083	51.386	51.386	3.083	51.386	51.386
2	1.596	26.603	77.989			
3	0.395	6.583	84.572			
4	0.375	6.244	90.815			
5	0.318	5.297	96.113			
6	0.233	3.887	100.000			
			Perceived value			
1	5.357	59.522	59.522	5.357	59.522	59.522
2	0.912	10.129	69.651			
3	0.506	5.624	75.275			
4	0.474	5.269	80.545			
5	0.422	4.685	85.229			
6	0.420	4.662	89.891			
7	0.335	3.726	93.617			
8	0.306	3.402	97.019			
9	0.268	2.981	100.000			
			Customer trust			
1	4.240	60.578	60.578	4.240	60.578	60.578
2	0.694	9.919	70.497			
3	0.622	8.885	79.382			
4	0.457	6.534	85.916			
5	0.368	5.254	91.170			
6	0.325	4.636	95.805			
7	0.294	4.195	100.000			
			Customer loyalty			
1	5.637	62.629	62.629	5.637	62.629	62.629
2	0.850	9.444	72.073			
3	0.654	7.266	79.339			
4	0.410	4.557	83.896			
5	0.358	3.972	87.869			
6	0.347	3.857	91.725			
7	0.285	3.164	94.890			
8	0.234	2.602	97.492			
9	0.226	2.508	100.000			

5.4 Confirmatory factor analysis

Confirmatory Factor Analysis (CFA) is a statistical technique used in the field of multivariate statistics and structural equation modeling to test and confirm the underlying factor structure of a set of observed variables. In the context of CFA, researchers often use reliability and validity

assessments to ensure that the measurement model adequately represents the underlying constructs and that the observed variables are reliable indicators of those constructs.

5.4.1 Reliability

Reliability refers to the consistency and stability of a measurement instrument or scale. It assesses the extent to which a set of measurements or observations are consistent or repeatable. Using Cronbach's alpha and composite reliability (CR) is a common practice in research, and these two methods provide insights into the consistency and stability of the observed variables as indicators of the underlying constructs. Table 5.5 reported the result of reliability. The values of Cronbach's Alphas for all first-order variables, ranging from 0.768 to 0.925, consistently exceed the recommended threshold of 0.700. Similarly, the values of Composite Reliability (CR) for these variables, ranging from 0.845 to 0.938, also surpass the established threshold of 0.700. These robust reliability metrics collectively affirm the high internal consistency and dependability of the measured constructs in this study. The observed values suggest a level of reliability deemed more than acceptable, reinforcing the confidence in the precision and stability of the measurements undertaken in this research endeavor.

Table 5.5 The result of reliability

Variables	Measurement items	Cronbach's Alpha > 0.7	CR > 0.7
Transactional psychological contract (TPC)	TPC1 TPC2 TPC3 TPC4 TPC5 TPC6	0.850	0.889
Relational psychological contract (RPC)	RPC1 RPC2 RPC3 RPC4	0.914	0.939
Developmental psychological contract (DPC)	DPC1 DPC2 DPC3 DPC4	0.923	0.945
Customer orientation (CO)	CO1 CO2 CO3 CO4 CO5 CO6	0.768	0.845
Perceived value (PV)	PV1 PV2 PV3 PV4	0.914	0.929

	PV5		
	PV6		
	PV7		
	PV8		
	PV9		
	CT1		
	CT2		
	CT3		
Customer trust (CT)	CT4	0.891	0.914
	CT5		
	CT6		
	CT7		
	CL1		
	CL2		
	CL3		
	CL4		
Customer loyalty (CL)	CL5	0.925	0.938
	CL6		
	CL7		
	CL8		
	CL9		

5.4.2 Validity

Validity is the degree of validity of a measurement, that is, the degree to which the measurement tool can indeed measure the characteristics it is intended to measure, or simply speaking, it refers to the accuracy and usefulness of a test. Validity is the most important condition that a scientific measurement tool must possess, and content validity, convergent validity, and discriminant validity are indeed important aspects of validity. Content validity assesses the extent to which a measurement tool adequately covers the entire domain of the construct it intends to measure. It involves a thorough examination by experts to ensure that the items or questions are relevant and representative of the construct. Convergent validity evaluates the degree to which different measures of the same or similar constructs are correlated. If a measurement tool exhibits high convergent validity, it implies that it is capturing the same underlying construct as other established measures of that construct. Discriminant validity, also a subtype of construct validity, assesses whether a measurement tool is distinct from other constructs and does not correlate too strongly with unrelated measures. It ensures that the instrument is not inadvertently measuring a different construct.

First, in the context of content validity, it is noteworthy that all the measurement items employed in this study were meticulously derived from well-established and widely recognized measurement scales, ensuring a comprehensive and thorough representation of the intended constructs. Furthermore, a deliberate effort was made to include four or more measurement

items for each variable under investigation. This strategic decision not only reflects a commitment to capturing the multifaceted nature of the constructs but also contributes to enhancing the robustness of the measurement tool. Consequently, the study attains a high level of content validity, affirming that the selected items effectively cover the entire domain of the constructs in question, and the inclusion of multiple items per variable adds depth and richness to the assessment, further reinforcing the study's overall content validity.

Second, with a focus on convergent validity, the current study systematically evaluated the extent to which the measurement model converges effectively around the latent construct by examining the Average Variance Extracted (AVE) values associated with the first-order reflective variables. AVE is a useful statistic in structural equation modeling to gauge convergent validity by quantifying the shared variance among the indicators of a latent construct. The result reveals the AVE values for each of the first-order variables fall within the range of 0.500 to 0.812. Notably, all these AVE values surpass the widely accepted criterion of 0.500, as advocated by Fornell and Larcker (1981). This compelling evidence underscores the robust convergent validity of the measurement model, affirming that a substantial proportion of the variance in each first-order variable's indicators is indeed accounted for by the underlying latent construct. The consistently elevated AVEs across all variables fortify the study's measurement model, attesting to the effectiveness with which the observed indicators converge upon and accurately reflect their respective latent constructs.

Third, expanding on the assessment of discriminant validity, this thesis employed a comprehensive approach utilizing three distinct methods. (1) Discriminant validity was appraised through the examination of the square root of the Average Variance Extracted (AVE) for each variable. Specifically, the square root of the AVE serves as an estimate of the latent variable's shared variance with its indicators. When contrasted with the correlation coefficients between the variable and other variables, this method offers insights into whether the variable demonstrates sufficient distinctiveness from other constructs in the measurement model. This dual assessment provides a robust examination of discriminant validity, ensuring that each variable is genuinely measuring a unique and separate underlying construct within the study. The results are shown in Table 5.6, the square root of the AVE for each variable surpasses the correlation coefficient between the variable in question and other variables. This noteworthy observation underscores the distinctiveness of each variable, affirming that the variance captured by the latent construct is more substantial than the shared variance with other constructs. Therefore, these results provide compelling evidence that the variables in the study exhibit good discriminant validity.

Table 5.6 Square roots and correlation coefficients of AVE values

	PV	CT	TPC	RPC	DPC	CO	CL
PV	0.771						
CT	0.103	0.778					
TPC	0.142	0.096	0.756				
RPC	0.05	0.024	0.006	0.892			
DPC	0.052	0.105	-0.029	0.025	0.901		
CO	0.124	0.149	0.105	0.139	0.093	0.707	
CL	0.145	0.162	0.118	0.115	0.09	0.124	0.791

Note: PV-Perceived value; CT-Customer trust; TPC-Transactional psychological contract; RPC-Relational psychological contract; DPC-Developmental psychological contract; CO-Customer orientation; CL-Customer loyalty.

(2) This thesis further scrutinized discriminant validity by evaluating the cross-loading factors associated with each measurement item. Specifically, an exploration of how each item loaded onto its intended latent construct compared to its loadings on other constructs was conducted. By analyzing these cross-loadings, the study sought to ascertain whether the items predominantly exhibited strong associations with their designated constructs and weaker associations with other, unrelated constructs.

The results displayed in Table 5.7 provide robust evidence supporting the discriminant validity of the study. Specifically, the factor loadings of all measurement items on their respective variables are notably higher than their loadings on other variables. This compelling observation underscores the distinctiveness of each item, affirming that they primarily align with their intended constructs and exhibit weaker associations with unrelated constructs.

Table 5.7 Cross-loading

	CL	CO	CT	DPC	PV	RPC	TPC
CL1	**0.717**	0.095	0.103	0.068	0.086	0.079	0.077
CL2	**0.732**	0.122	0.139	0.069	0.081	0.081	0.106
CL3	**0.78**	0.046	0.116	0.018	0.092	0.069	0.1
CL4	**0.808**	0.076	0.14	0.062	0.091	0.107	0.123
CL5	**0.837**	0.093	0.139	0.094	0.145	0.073	0.062
CL6	**0.835**	0.102	0.148	0.061	0.141	0.118	0.078
CL7	**0.791**	0.072	0.116	0.081	0.106	0.045	0.119
CL8	**0.817**	0.132	0.12	0.085	0.112	0.111	0.105
CL9	**0.793**	0.126	0.126	0.092	0.16	0.115	0.075
CO1	0.08	**0.807**	0.1	0.054	0.112	0.094	0.084
CO2	0.13	**0.873**	0.15	0.074	0.112	0.123	0.102
CO3	0.073	**0.817**	0.113	0.083	0.072	0.085	0.069
CO4	0.057	**0.794**	0.116	0.064	0.119	0.08	0.062
CO5	0.103	**0.362**	0.043	0.062	0.059	0.101	0.075
CO6	0.065	**0.397**	0.079	0.051	0.016	0.097	0.032
CT1	0.128	0.132	**0.828**	0.075	0.098	0.002	0.07
CT2	0.122	0.094	**0.789**	0.066	0.045	0.031	0.07
CT3	0.147	0.116	**0.807**	0.075	0.055	0.003	0.074
CT4	0.127	0.163	**0.766**	0.093	0.049	0.059	0.065
CT5	0.093	0.128	**0.704**	0.082	0.109	0.024	0.032
CT7	0.142	0.123	**0.795**	0.114	0.102	0.014	0.145
DPC1	0.06	0.112	0.095	**0.892**	0.058	0.021	-0.037

DPC2	0.067	0.07	0.092	**0.913**	0.027	0.012	-0.045
DPC3	0.078	0.07	0.073	**0.895**	0.032	0.019	-0.023
DPC4	0.117	0.082	0.115	**0.905**	0.069	0.037	-0.003
PV1	0.09	0.079	0.057	0.029	**0.663**	0.05	0.07
PV2	0.073	0.109	0.02	0.062	**0.76**	0.026	0.077
PV3	0.116	0.081	0.103	0.067	**0.765**	0.05	0.123
PV4	0.122	0.069	0.076	0.034	**0.786**	0.008	0.125
PV5	0.101	0.09	0.085	0.039	**0.804**	0.057	0.119
PV6	0.119	0.09	0.097	0.057	**0.841**	0.042	0.088
PV7	0.134	0.112	0.096	- 0.006	**0.771**	0.028	0.147
PV8	0.107	0.139	0.096	0.055	**0.757**	0.041	0.108
PV9	0.131	0.081	0.057	0.028	**0.779**	0.045	0.109
RPC1	0.1	0.122	0.058	0.006	0.061	**0.879**	0.025
RPC2	0.124	0.133	-0.02	0.016	0.031	**0.895**	-0.003
RPC3	0.115	0.135	0.038	0.035	0.043	**0.901**	-0.017
RPC4	0.07	0.104	0.01	0.031	0.046	**0.891**	0.016
TPC1	0.024	0.12	0.061	-0.06	0.11	0.03	**0.75**
TPC2	0.097	0.069	0.063	-0.006	0.118	0.022	**0.794**
TPC3	0.085	0.046	0.033	-0.027	0.136	-0.017	**0.781**
TPC4	0.119	0.074	0.08	0	0.083	0.018	**0.752**
TPC5	0.116	0.078	0.105	-0.002	0.086	-0.043	**0.738**
TPC6	0.093	0.092	0.095	-0.04	0.109	0.012	**0.716**

Note: CL-Customer loyalty; CO-Customer orientation; CT-Customer trust; DPC-Developmental psychological contract; PV-Perceived value; RPC-Relational psychological contract; TPC-Transactional psychological contract.

(3) Measuring discriminant validity through the Heterotrait-Monotrait Ratio of Correlations (HTMT) is a valuable and sophisticated approach. The HTMT is a ratio of correlations designed to assess the extent to which the correlations between variables representing different constructs (heterotrait) are smaller than the correlations between variables representing the same construct (monotrait). A value of 1 indicates perfect discriminant validity, as heterotrait correlations are no larger than monotrait correlations. The results are shown in Table 5.8, all Heterotrait-Monotrait Ratio of Correlations (HTMT) values, as documented in the table, are consistently below the established criterion of 0.850. This observation indicates that the correlations between variables representing different constructs are indeed smaller than the average correlations within each construct.

Table 5.8 Heterotrait–Monotrait (HTMT) ratio

	PV	CT	TPC	RPC	DPC	CO	CL
PV							
CT	0.111						
TPC	0.158	0.108					
RPC	0.056	0.048	0.04				
DPC	0.06	0.112	0.045	0.028			
CO	0.143	0.172	0.132	0.17	0.113		
CL	0.153	0.177	0.135	0.122	0.096	0.145	

Note: PV-Perceived value; CT-Customer trust; TPC-Transactional psychological contract; RPC-Relational psychological contract; DPC-Developmental psychological contract; CO-Customer orientation; CL-Customer loyalty.

5.5 Common method bias test

Common method bias is a potential threat to research validity. The problem of common method bias may arise from covariance between independent and dependent variables due to the same data sources, measurement environment, and similar characteristics of the research items themselves. Common method bias is prevalent in individual behavioral research. It is a systematic bias that can distort research findings. Therefore, there is a need to test for common method bias using statistical methods in data analysis. This thesis uses the Harman's single-factor test to assess the severity of common method bias. The method assumes that if common method bias exists, a single common factor will explain most of the variance in the variables when conducting factor analyses. The results of the study showed that the first common factor contributed 16.003% of the variance, which is well below the 40% criterion, as shown in Table 5.9. Therefore, the problem of common method bias in this thesis is not serious.

Table 5.9 Results of Harman's single-factor test

Component	Total variance explained					
	Initial Eigenvalues			Extraction sums of squared loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	7.202	16.003	16.003	7.202	16.003	16.003
2	4.788	10.639	26.643	4.788	10.639	26.643
3	4.006	8.902	35.544	4.006	8.902	35.544
4	3.454	7.676	43.220	3.454	7.676	43.220
5	3.291	7.313	50.533	3.291	7.313	50.533
6	2.996	6.658	57.191	2.996	6.658	57.191
7	2.631	5.846	63.037	2.631	5.846	63.037
8	1.580	3.511	66.549	1.580	3.511	66.549
9	1.033	2.295	68.844	1.033	2.295	68.844
10	0.939	2.087	70.931			
11	0.813	1.807	72.738			
12	……	……	……			

5.6 Structural equation model

5.6.1 Main model

Structural equation modelling (SEM) is a statistical method that combines factor analysis and multiple regression analysis, and is used to estimate the extent to which measurement items reflect latent variables and the relationships between latent variables. SmartPLS is a software tool dedicated to structural equation modelling, which is particularly popular in disciplines such as business and management studies. SmartPLS is based on the PLS-SEM methodology to

perform parameter estimation. Compared to other methods, PLS-SEM has several advantages. (1) PLS-SEM is a component-based method that does not rely on the assumption of multivariate normality. This makes PLS-SEM a good choice when the data do not meet the strict normality assumptions required by other methods. (2) PLS-SEM is usually more robust when dealing with small sample sizes, making it more suitable for situations with limited sample sizes. (3) PLS-SEM is computationally efficient and allows for faster model estimation, especially when large or complex models are used. (4) PLS-SEM allows for the examination of intergroup differences through multi-group analyses, which is useful for assessing whether relationships in a model differ across subgroups. (5) PLS-SEM provides reliable standard errors and confidence intervals, especially in the case of non-normal data, which facilitates significance testing. In summary, this thesis uses the PLS-SEM method for analyses. More importantly, in this model, contracts are constructed as formative second-order latent variables, including first-order latent variables such as transactional psychological contract, relational psychological contract, and developmental psychological contract. Simultaneously, customer orientation, perceived value, customer trust, and customer loyalty are designed as reflective latent variables in this study, aiming to comprehensively understand their relationships with the psychological contract. Traditional Structural Equation Modeling (SEM) may be inadequate for measuring formative variables as they are often considered a set of indicators constructing a concept, rather than a single latent variable. In contrast, SmartPLS is a method suitable for analyzing the impact effects of formative variables. It offers greater flexibility in handling such variables, allowing researchers to explore the contributions of indicators to concepts and capture the diversity within latent structures. By choosing appropriate analytical tools, researchers can more comprehensively and accurately explain the relationships between formative and reflective variables, providing deeper insights for both research and practical applications. The adoption of this approach aids in better understanding and interpreting the multi-level, multidimensional conceptual relationships in research, offering more robust support for real-world management decisions.

The path coefficients of this thesis's model and their significance are shown in Figure 5.1 and Table 5.10. It can be seen that the psychological contract has a significant positive effect on customer orientation ($\beta = 0.166$, $p < 0.05$), perceived value ($\beta = 0.141$, $p < 0.05$), and customer loyalty ($\beta = 0.126$, $p < 0.05$), which suggests that the psychological contract enhances these aspects. Thus, H1, H2 and H3 are supported. Meanwhile, customer orientation had a significant positive effect on perceived value ($\beta = 0.101$, $p < 0.01$), customer trust ($\beta = 0.138$, $p < 0.01$) and customer loyalty ($\beta = 0.070$, $p < 0.05$). Thus, H4, H5 and H6 are supported. And

perceived value has a significant positive effect on both customer trust (β = 0.086, p < 0.05) and customer loyalty (β = 0.103, p < 0.01). Thus, H7 and H8 are supported. More importantly, customer trust has a significant positive effect on customer loyalty (β = 0.127, p < 0.01), thus H9 is supported. Therefore, the hypotheses (H1-H9) are all supported.

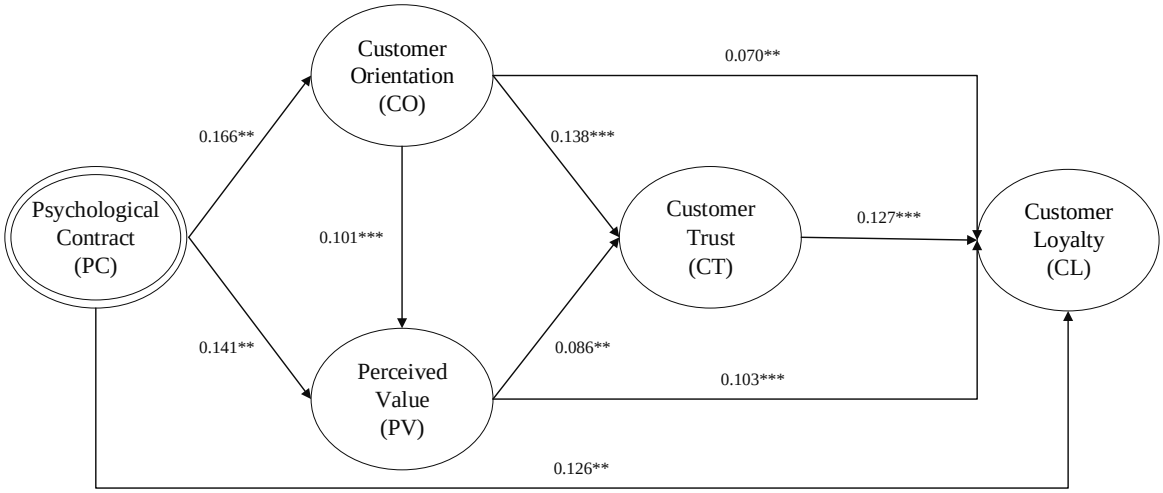

Figure 5.1 Results of model

Note: * p < 0.1, ** p < 0.05, *** p < 0.01

Table 5.10 Results of path coefficients

Path	Coefficient	P value	Hypothesis
PC→CO	0.166**	0.046	H2 is supported
PC→PV	0.141**	0.024	H1 is supported
PC→CL	0.126**	0.035	H3 is supported
CO→PV	0.101***	0.008	H4 is supported
CO→CT	0.138***	0.002	H5 is supported
CO→CL	0.070**	0.044	H6 is supported
PV→CT	0.086**	0.013	H7 is supported
PV→CL	0.103***	0.002	H8 is supported
CT→CL	0.127***	0.000	H9 is supported

Notes: PC means psychological contract; CO means customer orientation; PV means perceived value; CT means customer trust; CL means customer loyalty. * p < 0.1, ** p < 0.05, *** p < 0.01.

5.6.2 Indirect effect

Indirect effects analysis is an important tool for understanding the complex relationships between latent variables in theoretical models. Indirect effects are the effects of variables on endogenous variables through one or more mediating variables. Indirect effects analysis has several advantages. (1) It enables an assessment of the mediating role of a variable in the relationship between two variables, which is essential for understanding the underlying processes by which certain effects occur. (2) It provides insight into the mechanisms by which effects are transmitted between variables, which helps to build a more nuanced and in-depth understanding of the relationships in the model. (3) It helps to identify and quantify the

importance of particular pathways in the model (i.e. it can identify which mediating variables play an important role in transmitting effects). (4) It can provide information that can be used to refine and improve theoretical models. In other words, more in-depth research models can be set up based on the strength and significance of the indirect effects, which can more accurately reflect the relationships between the variables. (5) It can help to test hypotheses about the indirect paths in the model. For example, it can be possible to test whether the mediating effects are statistically significant that in turn providing evidence for the hypotheses. (6) It helps to identify critical points for intervention and strategic decision-making, which is crucial for decision-makers trying to intervene in the system to produce the desired outcomes. (7) It helps to conduct robustness checks. For example, assessing the robustness of the findings by checking that the indirect paths are in line with theoretical expectations. In summary, this paper conducts an indirect effects analysis to reveal potential mechanisms.

The results of the indirect effect analysis are shown in Table 5.11. Psychological contract can positively influence perceived value through customer orientation (β=0.017, p<0.1). Psychological contract can positively influence customer trust through customer orientation (β=0.023, p<0.1). Psychological contract can positively influence customer trust through perceived value (β=0.012, p<0.1). Psychological contract can positively influence customer loyalty through perceived value (β=0.015, p<0.05). Customer orientation can positively influence customer loyalty through perceived value (β=0.010, p<0.1). Customer orientation can positively influence customer trust through perceived value (β=0.009, p<0.1). Customer orientation can positively influence customer loyalty through customer trust (β=0.017, p<0.05). Perceived value can positively influence customer loyalty through customer trust (β=0.011, p<0.05).

Table 5.11 Results of indirect effect analysis

Path	Coefficient	P value
PC→CO→PV	0.017*	0.072
PC→CO→CT	0.023*	0.056
PC→CO→CL	0.012	0.122
PC→PV→CT	0.012*	0.064
PC→PV→CL	0.015**	0.034
CO→PV→CL	0.010*	0.058
CO→PV→CT	0.009*	0.085
CO→CT→CL	0.017**	0.020
PV→CT→CL	0.011**	0.039
PC→CO→PV→CL	0.002	0.148
PC→CO→CT→CL	0.003	0.107
PC→CO→PV→CT	0.001	0.175
PC→PV→CT→CL	0.002	0.100
CO→PV→CT→CL	0.001	0.126

PC→CO→PV→CT→CL	0.000	0.215

Notes: PC means psychological contract; CO means customer orientation; PV means perceived value; CT means customer trust; CL means customer loyalty. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

These research findings emphasize the complexity of the impact of the psychological contract on customer loyalty relationships. Past studies often oversimplified the direct correlation between the psychological contract and customer loyalty, while current discoveries reveal a more nuanced relationship. This not only enriches our understanding of the interaction between the psychological contract and customer loyalty but also provides deeper guidance for practical management.

This suggests that when shaping and maintaining customer loyalty, we need to consider and manage various aspects of the psychological contract in a more comprehensive and in-depth manner. Recognizing this complexity aids in formulating more effective management strategies to better meet customer expectations, enhance customer satisfaction, and ultimately foster long-term customer relationships.

It also indicates that researchers and practitioners should pay greater attention to the subtle interactions between the psychological contract and customer loyalty in their future work. This will enable them to better respond to market dynamics and the continually evolving needs of customers.

5.6.3 Heterogeneity analysis

Heterogeneity analysis or multi-group analysis has several advantages. (1) Multi-group analysis uses demographics, geographic location, and so on, to define groups, and by comparing different groups it is possible to test whether the relationships between the variables in the model differ between different groups. (2) Multi-group analysis helps to identify whether there are significant differences in path coefficients, latent variable means, or other parameters across groups, which is important for understanding the generalizability of the model across groups. (3) Multi-group analyses also help to test the assumption of group invariance of specific model parameters. (4) Multi-group analyses can assess whether the effectiveness of an intervention or policy varies across groups, thus providing managerial insights to decision-makers. (5) Multi-group analyses can improve the generalizability of findings and ensure that the relationships established in the model are robust across groups. (6) Multi-group analyses can help to adapt or improve models to better accommodate differences in specific groups. In summary, this thesis conducts a multi-group analysis to gain insight into potential changes in the relationships between variables across groups.

Considering that individuals of different genders and ages have different psychological

contracts, customer orientations, and so on, the impact mechanism of the psychological contract on customer loyalty may vary according to individual characteristics. Therefore, this thesis analyses the heterogeneity of two individual characteristics, gender and age. Partial Least Squares-based Multi-Group Analysis (PLS-MGA) is used to assess the statistical significance of the differences in the parameter estimates for specific groups, as shown in Table 5.12. Firstly, the grouping results for gender show that the path of psychological contract on customer loyalty is 0.214 and -0.009 in the male and female groups, respectively, and is significantly different ($p<0.05$), suggesting that the psychological contract has a greater impact on customer loyalty among males. In addition, the path coefficient of customer orientation on perceived value was 0.206 and 0.051 in male and female groups respectively and there was a significant difference ($p<0.05$), indicating that among males, customer orientation has a greater impact on perceived value. Secondly, the results of age grouping showed that the path of psychological contract on perceived value was -0.095 and 0.160 in the group of under 35 years old and more than 35 years old, respectively, and there was a significant difference ($p<0.05$), which indicated that the older the age, the greater the impact of psychological contract on perceived value. Meanwhile, the path of perceived value on customer loyalty is 0.255 and 0.066 in the group of under 35 years old and more than 35 years old, respectively, and there is a significant difference ($p<0.05$), which indicates that the younger the age, the greater the effect of perceived value on customer loyalty.

Table 5.12 The result of PLS-MGA

Variables	Paths	Coefficient 1	Coefficient 2	Difference	p value
		Male	Female		
Gender	PC→CL	0.214	-0.009	0.222**	0.037
	CO→PV	0.206	0.051	0.155**	0.047
		Under 35	More than 35		
Age	PC→PV	-0.095	0.160	-0.254**	0.028
	PV→CL	0.255	0.066	0.189**	0.019

Notes: PC means psychological contract; CO means customer orientation; PV means perceived value; CT means customer trust; CL means customer loyalty. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

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Chapter 6: Conclusions and Suggestions for Future Research

This research, conducted within the context of management practice and theory in medical services, explores the impact of psychological contracts on customer loyalty. The essence of the commitment by medical service institutions to their customers is encapsulated by psychological contracts. Studying the series of psychological and behavioural changes following the establishment of these contracts holds significant practical implications.

As customers become more familiar with the quality and service level of medical products, their emotional connections with medical service organizations strengthen. Consequently, the establishment of psychological contracts becomes more frequent. The academic community has yet to adequately explore how these contracts influence customer loyalty and the mechanisms behind this influence. This study proposes a conceptual model of the influence mechanism of psychological contracts on customer loyalty within medical services, providing a theoretical basis for hypotheses concerning the relationships between various variables.

6.1 Research results and discussion

6.1.1 Research results

In the field of medical services, the study of customer psychological contracts is still in the developmental stage, but it is significantly important for understanding and improving customer loyalty. The academic community generally agrees that customer loyalty can be viewed as a psychological contract, an implicit agreement that both parties (customers and medical service providers) should adhere to. In this contract, the initiative of the customer is crucial: if customers feel that the contract has been breached, they may choose to terminate the relationship, leading to customer loss. However, there is still no unified understanding of the specific content, structure, and mechanism of action of customer psychological contracts in the medical service field, and many gaps remain in this area of research.

Against this background, this study, particularly focusing on medical service enterprises, especially physical examination centers, proposes a conceptual model of the impact mechanism of customer psychological contracts on customer loyalty. This model explores the interrelationships between customer psychological contracts, customer orientation, perceived

value, customer trust, and customer loyalty, and empirically tests the effectiveness of the model through surveys.

The study put forward 9 overall research hypotheses, all of which have been statistically tested, demonstrating that the proposed conceptual model is valid as a whole. This indicates that the model of this study is reasonable and correct, providing important guidance for understanding and promoting good relationships between medical service enterprises and customers.

Specifically, the main conclusions of the research include the following points:

1. Content and structure dimensions of customer psychological contracts:

Early studies mainly based on the "two-dimensional" structure theory proposed by Rousseau in the field of organizational behavior, and simply divided customer interests into material benefits and emotional benefits, accordingly, dividing customer psychological contracts into transactional psychological contracts and relational psychological contracts. However, this study, through customer interviews and mathematical statistical analysis, combined with relevant theories, proposes that customer psychological contracts can be divided into three aspects:

Transactional psychological contracts, including basic needs satisfaction by medical service enterprises, stability and reliability of service quality, reasonable prices, fair transactions, and guaranteed after-sales service.

Relational psychological contracts, which, in the context of Chinese culture, mean that the long-term relationship between medical service enterprises and customers is similar to a familiar relationship, requiring medical service enterprises to be familiar with customers, care for customers, value customer opinions, and provide discounts or gifts for regular customers.

Developmental psychological contracts, including continuous innovation of medical service enterprises, reputation enhancement, attention to customer post-purchase usage, and ongoing communication with customers. This means that medical service enterprises, in addition to fulfilling normative and interpersonal responsibilities, must continuously pay attention to customers, communicate with them, develop and update, and absorb the strengths of competitors to provide customers with reasons to continue choosing their services.

2. The direct effects of customer psychological contracts:

The study found that customer psychological contracts have a significant positive impact on customer orientation, perceived value, customer trust, and customer loyalty. This suggests that when customers perceive that a medical service enterprise fulfills their psychological contract requirements, their loyalty to the enterprise significantly increases. In this process,

customer orientation serves as a foundation, continuously enhancing customers' perceived value and trust, which are key to establishing customer loyalty.

3. The mediating effects of customer orientation, perceived value, and customer trust:

Through hierarchical regression analysis and structural equation modeling, the study further explored the mediating effects of customer orientation, perceived value, and customer trust between customer psychological contracts and customer loyalty. The results show that customer orientation, perceived value, and customer trust play mediating roles between psychological contracts and loyalty. This means that medical service enterprises can effectively enhance customer loyalty by improving customer orientation, enhancing perceived value, and establishing trust.

4. The role of customer orientation between psychological contracts and loyalty:

Customer orientation refers to the degree to which medical service enterprises value customer needs and experiences in their services and operations. When enterprises implement customer-oriented strategies in their operations, they can better understand and meet customer expectations, thereby enhancing customers' perceived value. This increase in perceived value further promotes the establishment of trust in the enterprise, ultimately leading to increased customer loyalty.

5. The role of perceived value between psychological contracts and loyalty:

Perceived value refers to customers' subjective assessment of the value of medical services, including service quality, cost-effectiveness, and satisfaction related to the service. High evaluations of the service can enhance customers' trust and loyalty towards the enterprise.

6. The role of customer trust between psychological contracts and loyalty:

Trust refers to the confidence customers have in a medical service enterprise to fulfill its promises and protect their interests. When customers trust an enterprise, they are more likely to continue using its services and recommend the enterprise to others, thus increasing customer loyalty.

This study provides valuable insights for medical service enterprises in building and maintaining customer relationships. To enhance customer loyalty, medical service enterprises need to pay attention to and fulfill customers' psychological contract expectations, by enhancing customer orientation and perceived value, as well as establishing a solid trust relationship. These findings are crucial for the medical service industry, especially in a highly competitive market environment, where understanding and meeting customer needs is key to maintaining market competitiveness.

6.1.2 Discussion

In this study, we have delved deep into the relationship between psychological contracts and customer loyalty within the medical service field. By proposing and validating a conceptual model of how psychological contracts impact customer loyalty, our research provides new insights and perspectives for understanding customer relationship management in the healthcare sector. Here is a further discussion of our research findings incorporating references to specific studies:

1. Comparing dimensions of psychological contracts: Our study identified three dimensions of psychological contracts: transactional, relational, and developmental. This finding extends the two-dimensional psychological contract theory by Rousseau (1998) and shows a more complex and nuanced classification. In particular, the importance of relational psychological contracts in the medical service field may relate to the long-term and personalized nature of medical services, a finding that resonates with the observations of Shore and Tetrick (1994) who noted the sector-specific significance of relational contracts. This differs from existing literature on how psychological contracts manifest in various industries, indicating specificities in the healthcare sector.

2. Factors promoting customer loyalty: Emphasizing the mediating role of customer orientation, perceived value, and customer trust, our research aligns with the studies of Okediran et al. (2020), who also highlighted these factors as crucial in promoting customer loyalty in the healthcare sector. However, our study suggests that the impact of these mediating variables may vary with cultural, market, and organizational characteristics, thus extending the work of Robbins et al. (2019) by indicating that future research needs to consider more dimensions.

3. Combining practice and theory: The results of our study not only enrich the literature on psychological contracts and customer loyalty theoretically but also provide insights for practitioners. By emphasizing the importance of focusing on individual customer needs and continuous communication, our findings support the trend in healthcare markets towards personalization and long-term relationship building, similar to the recommendations by Berman (2020). This recommendation is in line with the current trend in the healthcare market, which increasingly emphasizes personalization and long-term relationship building.

4. Research limitations and future directions: Recognizing the limitations such as the representativeness of the sample and the constraints of the research methods, our study echoes the calls by Rousseau (1998) and H. C. Luo and Fan (2005) for broader cultural and economic

contexts in future studies. Additionally, this research contributes to the existing literature by suggesting a specific scale for medical service care considering three dimensions, extending the two-dimensional (Rousseau, 1998) and five-dimensional (You et al., 2007) psychological contract scales, which are mainly focused on the field of marketing. This study thus fills a significant gap by providing a specific scale tailored for the medical service sector.

Through these discussions and the incorporation of specific studies, we hope to further emphasize the theoretical and practical contributions of our study, while providing direction and inspiration for future research on psychological contracts in the medical service field. This approach, integrating feedback from various sources and literature, is aimed at enriching the discussion and providing a more robust understanding of the complex dynamics at play in the relationship between psychological contracts and customer loyalty in healthcare.

6.2 Management implications

This study, which explores the impact of psychological contracts on customer loyalty in the medical service field, provides significant theoretical and practical management implications for medical service enterprises and their managers. Key points include:

1. Strengthening awareness of customer psychological contracts:

(1) Cultivating a deep understanding of psychological contracts: Managers must recognize the existence and profound impact of psychological contracts on customer behavior and loyalty. This involves a deep understanding of customer expectations beyond basic service quality, encompassing subtle perceptions and overall experiences. Training programs and workshops can help managers and employees better understand the concept and importance of psychological contracts.

(2) Regular assessment of customer expectations and satisfaction: Enterprises should regularly assess customer expectations and satisfaction through surveys, feedback, and data analysis. This information can help businesses adjust their service strategies in a timely manner to align with customers' psychological contracts.

(3) Establishing feedback mechanisms for customer expectations: Create effective communication channels that allow customers to easily express their opinions and expectations. This includes traditional service evaluation forms as well as modern methods such as online surveys, social media interactions, and customer forums.

(4) Transparency and consistency in service standards: Ensure a consistent service experience across all customer touchpoints. This involves clearly communicating service

commitments, maintaining transparency and consistency in service processes, and ensuring that all staff follow the same service standards.

(5) Proactive response to unfulfilled psychological contracts: Take active measures to remedy situations where the enterprise fails to meet the psychological contract. This could include offering compensation to customers, explaining the reasons for the issue, and outlining how the enterprise will prevent similar situations in the future.

2. Developing multi-dimensional service strategies:

(1) Implementing transactional psychological contracts: Ensure high-quality services, constantly monitoring and enhancing service quality. Establish transparent pricing policies that allow customers to understand the value of their expenditures and avoid hidden fees or unfair pricing strategies. Provide service quality guarantees or refund policies to reassure customers.

(2) Cultivating relational psychological contracts: Offer personalized services by analyzing customer data and feedback. Build trust and intimate relationships through regular communication, customer visits, and attention to long-term customer needs. Implement loyalty programs to reward long-term and repeat customers with discounts, rewards, and exclusive services.

3. Optimizing customer-oriented strategies:

(1) Implement customer-centric strategies: Enhance customer experience by understanding customer needs and expectations, offering customized services, and actively collecting and responding to customer feedback.

(2) Continuous innovation: Develop new medical services and treatment methods to provide more effective and advanced options.

(3) Improving service processes: Continuously optimize service processes and customer experience, for example, by using the latest technology to reduce waiting times and increase service efficiency.

(4) Customer involvement and feedback: Encourage customers to participate in the service improvement process, such as through surveys and feedback forums.

4. Quantitative assessment and monitoring of psychological contract fulfillment:

(1) Develop and implement regular customer satisfaction surveys: Design surveys with key performance indicators (KPIs), such as service quality, staff attitude, and response times, to comprehensively assess customer satisfaction. Collect feedback through various methods to cover different customer groups.

(2) Set up real-time feedback mechanisms: Establish convenient feedback tools on websites, mobile apps, or social media platforms. Use Customer Relationship Management (CRM)

systems to track and manage feedback.

(3) Data analysis and insight extraction: Use data analysis tools to analyze survey results and feedback, identifying trends, issues, and improvement opportunities.

(4) Use KPIs to monitor service quality: Set specific KPIs based on different dimensions of psychological contracts, such as problem resolution time and customer complaint handling efficiency.

(5) Establish an Internal feedback loop: Share customer feedback and survey results with relevant departments and employees. Hold regular meetings to discuss service improvement measures and customer feedback.

(6) Continuously optimize survey and assessment tools: Adjust and improve survey questionnaires and assessment methods based on customer feedback and market changes. Explore new data collection and analysis technologies, such as AI-driven customer insight tools, to enhance the efficiency and accuracy of data analysis.

These strategies and actions are crucial for medical service enterprises to understand and fulfill customer psychological contracts effectively, leading to increased customer satisfaction and loyalty in a competitive healthcare market.

6.3 Theoretical contribution

The theoretical contribution of this study lies in its innovative development and in-depth exploration of the dimensions of psychological contracts within the medical service field, while also revealing the complex relationship between psychological contracts and customer loyalty. The theoretical contributions of this research are mainly reflected in the following aspects:

1. Development of a three-dimensional scale for psychological contracts in medical services:

Based on an extensive literature review, this study systematically explored the composition of psychological contracts in the medical service field through survey questionnaires. The study categorized psychological contracts into three dimensions and quantified them using a 14-item scale. The development of this scale not only verified its reliability, validity, representativeness, and stability but also provided a reliable tool for subsequent research to assess psychological contracts in the medical service industry.

2. Exploration of the relationship between psychological contracts in medical service institutions and customer loyalty:

While the study of psychological contracts in the fields of human resources and

organizational behavior is relatively mature, research in the medical service field is less so. This study breaks through the traditional two-dimensional structure scale, introducing empirical research methods with mediating and moderating variables. It not only theoretically explored the relationship between psychological contracts and customer loyalty but also empirically verified this relationship, providing management insights for medical service institutions.

3. Establishment of a quantitative model for the impact path of psychological contract fulfillment on customer loyalty:

The study proposed a structural relationship chain to quantitatively explain the impact of psychological contract fulfillment on customer loyalty. The establishment of this model enriched the research field of psychological contract fulfillment and laid a solid theoretical foundation for subsequent studies.

4. Guidance for improving customer relationship management in medical service institutions:

Through an in-depth study of psychological contracts, this paper provided effective ways for medical service institutions to improve customer relationship management. All the operational variables in the study can be used to optimize the relationship between medical service institutions and customers, reduce the negative impact of breaches in psychological contracts, enhance customers' trust and perceived value in medical service institutions, and thereby improve the market competitiveness of these institutions.

In summary, this study not only theoretically filled the gap in research on psychological contracts in the medical service field but also provided practical management strategies for medical service enterprises to improve customer loyalty and corporate performance. By applying the theory of psychological contracts to the medical service field, this study offered new perspectives to both the academic and practical realms, significantly contributing to the application of psychological contract theory in specific fields.

6.4 Limitations and future research

1. Limitations

Although this study provides in-depth analysis and valuable insights into the relationship between psychological contracts and customer loyalty in the medical service field, there are several limitations as follows:

(1) Limitations of sample representativeness: The sample used in this study mainly comes from 7 health check institutions in the Chongqing area of Meinian Health Group, which may

not fully represent all types of medical service environments. Therefore, the universality of the research results may be limited. Future research should consider a wider and more diverse sample to increase the applicability of the research conclusions.

(2) Limitations of research methods: This study mainly uses questionnaire surveys, which, although effective in data collection, may be subject to issues such as response bias. Future research could improve the reliability and depth of the research by using a combination of qualitative and quantitative studies.

(3) Lack of richness in measurement dimensions: As customers generally are reluctant to fill out survey questionnaires, to reduce the workload of filling out the questionnaire for patients, this study used fewer questions to measure customers' psychological contracts and loyalty. This might have caused some deviation in the survey results and limited the ability to delve deeper into related research.

(4) Time sensitivity and dynamic changes: The medical service market and consumer behavior are constantly evolving, and the snapshot provided by this study may lose its relevance over time. Therefore, when understanding and applying the research conclusions, one needs to consider the latest dynamics of the market and environment.

2. Future research

(1) Shifting the research perspective to focus more on customer experience:

Future research should focus more on the customer's perspective, delving into their experiences, expectations, and perceptions of medical services. Considering the significant changes in customer consumption patterns, characteristics, and needs, the research should focus on understanding the composition of psychological contracts and the formation of customer loyalty from the customer's viewpoint. Additionally, the research should explore how the marketing strategies and brand image of medical service institutions impact their positioning and competitiveness in the customers' minds.

(2) Exploring the moderating effects of other variables:

Future research should explore the moderating effects of various other variables on the fulfillment of psychological contracts and their relationship with medical service institutions. For instance, considering the differences in consumer behavior across different cultural backgrounds, research could explore how to understand and manage psychological contracts in different cultural contexts. Furthermore, factors such as customer satisfaction with previous transactions with medical service institutions and the quality of the relationship between customers and medical service institutions may also have significant moderating effects on the fulfillment of psychological contracts and customer loyalty.

(3) Improving the content and quality of the psychological contract fulfillment scale:

Given the current lack of a unified standard for measuring the fulfillment of psychological contracts in the medical service field both domestically and internationally, future research should aim to further refine and improve the content and quality of the psychological contract fulfillment scale. This includes using the latest literature and field study results to refine the dimensions and measurement items of the scale. Additionally, more methods should be explored to verify the reliability and validity of the scale, ensuring the robustness and reliability of the research findings.

(4) Exploring other driving factors for enhancing customer loyalty:

Customer loyalty is a core focus in the medical service field. Future research should explore other potential factors beyond psychological contracts, customer orientation, customer trust, and perceived value, such as the public image of medical service institutions, demographic variables, service quality, and service atmosphere, and their impact on customer loyalty. This will help to more comprehensively understand the factors influencing customer loyalty in the medical service environment, thereby providing more effective customer relationship management strategies for medical service institutions.

In summary, future research should deepen and expand the current findings in various aspects to better understand and address the complex issues in the medical service field, providing more comprehensive and in-depth guidance for improving the quality of medical services and customer satisfaction.

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Annex

Annex Table 1 Proportion of Chinese residents' medical service expenditure in consumption expenditure

Proportion of health care expenditure of Chinese residents in consumption expenditure, 2014-2020 (unit: %)							
Account for%	7.2%	7.4%	7.6%	7.9%	8.5%	8.8%	8.7%
year	2014	2015	2016	2017	2018	2019	2020

Data source: Office for National Statistics

Annex Table 2 Number of health check-ups in China

Number of medical check-ups in China from 2014 to 2020 (Unit: 100 million)							
Person-time	2.01	2.77	3.24	4.06	4.35	4.44	4.54
year	2014	2015	2016	2017	2018	2019	2020

Data source: National Health Commission

Annex Table 3 Estimated size of China's health check-up market

Estimated market size of Physical Examination in China from 2019 to 2025 (Unit: RMB 100 million)							
Hundred million	1,662	1,828	1,990	2,210	2,440	2,780	3,000
year	2019	2020	2021	2022	2023	2024	2025

Annex Table 4 Customer retention rate of medical service institutions and physical examination centers in Chongqing

2014-2020 Chongqing VS National Health Examination Customer Retention Rate (Unit: %)							
Chongqing %	15.2%	23.1%	18.5%	9.7%	13.5%	14.9%	10.1%
National %	18.2%	24.4%	24.3%	18.2%	16.8%	25.7%	24.8%
Year	2014	2015	2016	2017	2018	2019	2020

Annex Table 5 A questionnaire on the influence of customer psychological contract on customer loyalty (Pre-beta version)

A questionnaire on the influence of customer psychological Contract on customer loyalty

(Pre-beta version)

Dear Customer：

Hello! Thank you very much for taking time out of your busy schedule to answer this questionnaire. This questionnaire is used for academic research, and your careful answer is very important for our research. When filling out the questionnaire, please read it carefully and answer it honestly. Only choose one answer for each question. There are no right or wrong answers, so just answer truthfully and try to express your true opinion. If a question describes a situation that does not match yours, please also select the closest answer. Do not omit any questions, otherwise the questionnaire will lose the research significance, so please fill in carefully.

Thank you again for your strong support to our research work! I wish you a smooth work and a happy life!

ISCTE University Institute of Lisbon

1. Your personal data (Please select ☑)

Number	Content	Choose
1	Gender status	☐Male ☐Female
2	Age status	☐Under 35 years old ☐Over 35 years old
3	Degree of education	☐Junior college and below ☐Undergraduate ☐Master's degree ☐Doctor
4	Occupational distribution	☐Administrative management ☐Marketing promotion ☐Teacher ☐Scientific research and development ☐Individual merchant ☐Student
5	Payment method of medical examination fee	☐At one's own expense ☐Medical insurance ☐Company
6	When to go to the medical center	☐Obvious body pain ☐Regular physical examination ☐Have chronic symptoms ☐Other

2.Please rate your experience and relevance of the medical service organization（Please select ☑）

Number	Please express your opinion on purchasing the products and services of this medical service organization	Completely disagree	Basically disagree	Uncertain	Basic agreement	Fully agree
	(1) Psychological contract questionnaire					
1	Health care facilities provide a beautiful, clean and welcoming environment	1	2	3	4	5
2	Medical service institutions can provide me with reliable quality medical products	1	2	3	4	5
3	Medical services can provide timely and patient answers to my diagnosis	1	2	3	4	5
4	The price should be consistent with the brand of the medical institution	1	2	3	4	5
5	The price and quality of medical service products are open and transparent	1	2	3	4	5
6	Medical service products should take the initiative once there is a problem	1	2	3	4	5
7	The health service values my privacy	1	2	3	4	5
8	I should be given a price discount for frequent purchases	1	2	3	4	5
9	I buy it often and should be offered something for free	1	2	3	4	5
10	I should not be offered expensive medical products that are unsuitable for me in order to make money	1	2	3	4	5
11	Medical staff should genuinely value their personal relationship with me in their service	1	2	3	4	5
12	Medical staff should value my feedback on products and services	1	2	3	4	5
13	The medical staff should respond to my comments and suggestions about the brand in a timely manner	1	2	3	4	5
14	This medical product can continuously increase my confidence	1	2	3	4	5
15	This medical product can continuously increase the joy of my life	1	2	3	4	5
16	This medical product will continue to enhance my personal image	1	2	3	4	5
17	The medical organization continues to offer better services and products	1	2	3	4	5
18	The medical organization should continue to improve its brand reputation	1	2	3	4	5
	(2) Customer-oriented questionnaire					
19	Whether I am satisfied with the medical service is the primary concern of the medical service	1	2	3	4	5
20	The health care provider is always trying to accommodate my needs	1	2	3	4	5
21	The health service's competitive strategy is based on an understanding of my needs	1	2	3	4	5
22	Providing me with quality medical care is the foundation of the institution's rules and regulations	1	2	3	4	5
23	Every once in a while, the health care provider evaluates my satisfaction with the service I provide	1	2	3	4	5
24	After I leave the hospitalthe health care provider will follow up with me after my discharge	1	2	3	4	5
	(3) Perceived value questionnaire					
25	Image value: The medical service institution has clean and beautiful environment and leading equipm	1	2	3	4	5
26	Staff value: The quality and allocation of staff in this medical service institution are adequate	1	2	3	4	5
27	Time cost: I think the waiting time of this medical service institution is short	1	2	3	4	5
28	Service value: provide detailed answers and psychological guidance, personal privacy protection, e	1	2	3	4	5
29	Employee value: I get respect and care, and when I need help, I get timely response and accurate trea	1	2	3	4	5
30	Time cost: I think the diagnosis results of this medical service institution are efficient	1	2	3	4	5
31	Technical value: I think the diagnosis conclusion of this medical service institution is accurate	1	2	3	4	5
32	Technical value: I feel that the treatment results of this medical service are satisfactory	1	2	3	4	5
33	Monetary cost: I think the fee charged by the medical service institution is reasonable	1	2	3	4	5
	(4) Customer trust questionnaire					
34	I have confidence in this medical organization and medical product	1	2	3	4	5
35	I think this medical product is reliable	1	2	3	4	5
36	This medical organization will fully consider my interests	1	2	3	4	5
37	I feel that the medical organization is honest	1	2	3	4	5
38	The information provided by this medical organization is accurate	1	2	3	4	5
39	This medical product is very professional in its class	1	2	3	4	5
40	The quality of this medical product has always been guaranteed	1	2	3	4	5
	(5) Customer loyalty questionnaire					
41	I will continue to buy this medical product	1	2	3	4	5
42	I will try the new medical products launched by the medical organization	1	2	3	4	5
43	I will recommend this brand to my relatives and friends	1	2	3	4	5
44	I will reduce purchases of this medical product in the future	1	2	3	4	5
45	This medical product is my best choice	1	2	3	4	5
46	As long as the medical product maintains the current comprehensive level, I will not replace it	1	2	3	4	5
47	Even if someone recommends me a similar medical product, I still choose the existing one	1	2	3	4	5
48	Even if the price of the medical product is slightly higher, I will still choose the existing one	1	2	3	4	5
49	The next time I buy other medical products, I don't think it matters	1	2	3	4	5

Annex Table 6 A questionnaire on the influence of customer psychological contract on customer loyalty (Official version)

A questionnaire on the influence of customer psychological Contract on customer loyalty

(Official version)

Dear Customer：

Hello! Thank you very much for taking time out of your busy schedule to answer this questionnaire. This questionnaire is used for academic research, and your careful answer is very important for our research. When filling out the questionnaire, please read it carefully and answer it honestly. Only choose one answer for each question. There are no right or wrong answers, so just answer truthfully and try to express your true opinion. If a question describes a situation that does not match yours, please also select the closest answer. Do not omit any questions, otherwise the questionnaire will lose the research significance, so please fill in carefully.

Thank you again for your strong support to our research work! I wish you a smooth work and a happy life!

ISCTE University Institute of Lisbon

1. Your personal data (Please select ☑)

Number	Content	Choose
1	Gender status	☐Male ☐Female
2	Age status	☐Under 35 years old ☐Over 35 years old
3	Degree of education	☐Junior college and below ☐Undergraduate ☐Master's degree ☐Doctor
4	Occupational distribution	☐Administrative management ☐Marketing promotion ☐Teacher ☐Scientific research and development ☐Individual merchant ☐Student
5	Payment method of medical examination fee	☐At one's own expense ☐Medical insurance ☐Company
6	When to go to the medical center	☐Obvious body pain ☐Regular physical examination ☐Have chronic symptoms ☐Other

2.Please rate your experience and relevance of the medical service organization（Please select ☑）

Number	Please express your opinion on purchasing the products and services of this medical service organization	Completely disagree	Basically disagree	Uncertain	Basic agreement	Fully agree
	(1) Psychological contract questionnaire					
1	Health care facilities provide a beautiful, clean and welcoming environment	1	2	3	4	5
2	Medical service institutions can provide me with reliable quality medical products	1	2	3	4	5
3	Medical services can provide timely and patient answers to my diagnosis	1	2	3	4	5
4	The price and quality of medical service products are open and transparent	1	2	3	4	5
5	Medical service products should take the initiative once there is a problem	1	2	3	4	5
6	The health service values my privacy	1	2	3	4	5
7	I should be given a price discount for frequent purchases	1	2	3	4	5
8	I should not be offered expensive medical products that are unsuitable for me in order to make money	1	2	3	4	5
9	Medical staff should value my feedback on products and services	1	2	3	4	5
10	The medical staff should respond to my comments and suggestions about the brand in a timely manner	1	2	3	4	5
11	This medical product can continuously increase my confidence	1	2	3	4	5
12	This medical product can continuously increase the joy of my life	1	2	3	4	5
13	The medical organization continues to offer better services and products	1	2	3	4	5
14	The medical organization should continue to improve its brand reputation	1	2	3	4	5
	(2) Customer-oriented questionnaire					
15	Whether I am satisfied with the medical service is the primary concern of the medical service	1	2	3	4	5
16	The health care provider is always trying to accommodate my needs	1	2	3	4	5
17	The health service's competitive strategy is based on an understanding of my needs	1	2	3	4	5
18	Providing me with quality medical care is the foundation of the institution's rules and regulations	1	2	3	4	5
19	Every once in a while, the health care provider evaluates my satisfaction with the service I provide	1	2	3	4	5
20	After I leave the hospitalthe health care provider will follow up with me after my discharge	1	2	3	4	5
	(3) Perceived value questionnaire					
21	Image value: The medical service institution has clean and beautiful environment and leading equipm	1	2	3	4	5
22	Staff value: The quality and allocation of staff in this medical service institution are adequate	1	2	3	4	5
23	Time cost: I think the waiting time of this medical service institution is short	1	2	3	4	5
24	Service value: provide detailed answers and psychological guidance, personal privacy protection, e	1	2	3	4	5
25	Employee value: I get respect and care, and when I need help, I get timely response and accurate trea	1	2	3	4	5
26	Time cost: I think the diagnosis results of this medical service institution are efficient	1	2	3	4	5
27	Technical value: I think the diagnosis conclusion of this medical service institution is accurate	1	2	3	4	5
28	Technical value: I feel that the treatment results of this medical service are satisfactory	1	2	3	4	5
29	Monetary cost: I think the fee charged by the medical service institution is reasonable	1	2	3	4	5
	(4) Customer trust questionnaire					
30	I have confidence in this medical organization and medical product	1	2	3	4	5
31	I think this medical product is reliable	1	2	3	4	5
32	This medical organization will fully consider my interests	1	2	3	4	5
33	I feel that the medical organization is honest	1	2	3	4	5
34	The information provided by this medical organization is accurate	1	2	3	4	5
35	This medical product is very professional in its class	1	2	3	4	5
36	The quality of this medical product has always been guaranteed	1	2	3	4	5
	(5) Customer loyalty questionnaire					
37	I will continue to buy this medical product	1	2	3	4	5
38	I will try the new medical products launched by the medical organization	1	2	3	4	5
39	I will recommend this brand to my relatives and friends	1	2	3	4	5
40	I will reduce purchases of this medical product in the future	1	2	3	4	5
41	This medical product is my best choice	1	2	3	4	5
42	As long as the medical product maintains the current comprehensive level, I will not replace it	1	2	3	4	5
43	Even if someone recommends me a similar medical product, I still choose the existing one	1	2	3	4	5
44	Even if the price of the medical product is slightly higher, I will still choose the existing one	1	2	3	4	5
45	The next time I buy other medical products, I don’t think it matters	1	2	3	4	5

Annex Table 7 Sample survey

Sample characteristics	Classification standard	Number	The proportion
Gender status	Male	78	37.7%
	Female	129	62.3%
Age	Under the age of 35,	45	21.7%
	More than 35 years old	162	78.3%
Level of education	Junior College and below	147	71.0%
	Undergraduate course	45	21.7%
	A master's degree	14	6.8%
	Dr.	1	0.5%
Professional distribution	The administrative management	21	10.1%
	Marketing	14	6.8%
	Teachers'	22	10.6%
	Scientific research and development	10	4.8%
	Individual businesses	77	37.2%
	Students	55	26.6%
	Other	8	3.9%
Payment method of physical examination fee	At his own expense	76	36.7%
	Health care	42	20.3%
	The company	89	43.0%
When to go to the physical examination center	Physical pain is evident	19	9.2%
	Regular physical examination	119	57.5%
	With symptoms of chronic disease.	61	29.5%
	Other	8	3.9%
	Total	207	

Annex Table 8 CITC and validity analysis for CO

Item Number	Overall project correlation coefficient	Cronbach'a value after removing the item	Cronbach'a value
CO1	0.774	0.672	0.736
CO2	0.766	0.646	
CO3	0.799	0.633	
CO4	0.733	0.641	
CO5	0.754	0.627	
CO6	0.791	0.614	

Annex Table 9 Factor analysis results for CO

Item Number	Factor 1
CO1	0.787
CO2	0.744
CO3	0.791
CO4	0.719
CO5	0.767
CO6	0.788
KMO fitness test value = 0.782	
Bartlett's Spherical Test Chi-square = 272.896	
Degrees of freedom = 15	
Concomitant probability P=0.000	

Annex Table 10 CITC and validity analysis for PV

Item Number	Overall project correlation coefficient	Cronbach'a value after removing the item	Cronbach'a value
PV1	0.742	0.682	
PV2	0.811	0.643	
PV3	0.743	0.679	
PV4	0.748	0.689	
PV5	0.741	0.677	0.767
PV6	0.787	0.697	
PV7	0.810	0.654	
PV8	0.799	0.632	
PV9	0.767	0.727	

Annex Table 11 Factor analysis results for PV

Item Number	Factor 1
PV1	0.804
PV2	0.842
PV3	0.817
PV4	0.773
PV5	0.742
PV6	0.747
PV7	0.768
PV8	0.675
PV9	0.572
KMO fitness test value =0.786	
Bartlett's Spherical Test Chi-square =139.772	
Degrees of freedom =10	
Concomitant probability P=0.000	

Annex Table 12 CITC and validity analysis for CT

Item Number	Overall project correlation coefficient	Cronbach'a value after removing the item	Cronbach'a value
CT1	0.688	0.801	
CT2	0.687	0.817	
CT3	0.559	0.819	
CT4	0.767	0.817	0.828
CT5	0.774	0.781	
CT6	0.786	0.795	
CT7	0.692	0.814	

Annex Table 13 Factor analysis results for CT

Item Number	Factor 1
CT1	0.809
CT2	0.877
CT3	0.781
CT4	0.676
CT5	0.709
CT6	0.642
CT7	0.503

KMO fitness test value=0.821	
Bartlett's Spherical Test Chi-square=258.355	
Degrees of freedom =21	
Concomitant probability P=0.000	

Annex Table 14 CITC and validity analysis for CL

Item Number	Overall project correlation coefficient	Cronbach'a value after removing the item	Cronbach'a value
CL1	0.614	0.551	
CL2	0.417	0.614	
CL3	0.619	0.627	
CL4	0.551	0.601	
CL5	0.547	0.562	0.652
CL6	0.627	0.622	
CL7	0.574	0.629	
CL8	0.569	0.591	
CL9	0.501	0.602	

Annex Table 15 Factor analysis results for CL

Item Number	Factor 1
CL1	0.863
CL2	0.773
CL3	0.769
CL4	0.648
CL5	0.187
CL6	0.197
CL7	0.257
CL8	0.396
CL9	0.077
KMO fitness test value=0.820	
Bartlett's Spherical Test Chi-square=356.707	
Degrees of freedom =36	
Concomitant probability P=0.000	

Annex Table 16 Luo Haicheng's psychological contract scale

Name	Dimension	Measurement item
Psychological contract	Transactional contract	I believe that the store can provide clean and tidy service facilities, and sincerely consider my hygiene and comfort.
		I believe that the store really treats me as a regular customer and will give real price concessions or free services.
		I believe the shop provides fast service and they don't want to waste my waiting time.
		I'm sure the store won't let me use expensive but unsuitable beauty products to make money.
		I believe that the store will arrange a relatively fixed doctor for me, familiar with my skin condition and beauty preferences.
		I believe that when I have doubts about beauty quality

		and results, the shop will sincerely explain.
		I believe that in the event of a service accident, the store will jeopardize my interests and take responsibility.
		I believe that the beautician in this shop is really respecting me, not perfunctory.
	Relational contract	I trust the store will give me a long-term quality and honor guarantee for my cosmetic results.
		I believe the beautician in this shop really cares about my personal work and life.
		I believe the store really values my personal friendship with me.

Annex Table 17 You Shibing's psychological contract scale

Name	Dimension	Measurement item
Psychological contract	Frequent Flyer Rewards	The brand should give me a discount if I buy often
		Frequent purchases of this brand, I should have a better deal than infrequent buyers
		Buy the brand often, there should be some free service
		If I buy this brand frequently, I should get more discounts than other brands
		The brand should give me a freebie if I buy often
	Quality and Service	This brand should be able to meet my actual needs very well
		The quality of the brand should satisfy me
		It should not be difficult to find the brand
		The service of this brand should satisfy me
		If anything goes wrong, the brand's service solution should satisfy me
	Social and emotional	This brand should make me happy
		This brand should increase my confidence
		This brand should improve my profile
		This brand should meet my emotional needs
		This brand should add joy to my life
	Communication	The brand maintains transparency with my information.
	Price	The brand seeks my opinion on important issues.
		The brand surveys my satisfaction at all times.
		The brand often gives me the discounts I deserve.
		The brand has a high cost-performance ratio.
		The brand can provide me with complimentary value-added services.

Annex Table 18 Transactional dimension analysis results for TPC

Transactional psychological contract (TPC)		
Num		
The initial α	0.827	
TPC1	0.644	0.771
TPC2	0.752	0.778
TPC3	0.725	0.791
TPC4	0.544	0.831
TPC5	0.771	0.794

TPC6	0.751	0.778
TPC7	0.699	0.721
Cronbach's α value after deleting the item	0.831	

Note: the data on the left represent the overall correlation coefficient of the item after modification, and the data on the right represent the Cronbach's α value that can be increased after deleting this item

Annex Table 19 Deleted transactional subscale TPC

Name	Project		Measuring project
Transactional	TPC1	1	Health care facilities provide a beautiful, clean and welcoming environment
	TPC2	2	Medical service institutions can provide me with reliable quality medical products
	TPC3	3	Medical services can provide timely and patient answers to my diagnosis
	TPC4	4	The price and quality of medical service products are open and transparent
	TPC5	5	Medical service products should take the initiative once there is a problem
	TPC6	6	The health service values my privacy

Annex Table 20 Results of relational dimension analysis for RPC

Relational psychological contract (RPC)		
Num		
The initial α	0.829	
RPC1	0.677	0.812
RPC2	0.751	0.839
RPC3	0.625	0.811
RPC4	0.634	0.837
RPC5	0.761	0.814
RPC6	0.744	0.818
Cronbach's α value after deleting the item	0.841	

Note: the data on the left represent the overall correlation coefficient of the item after modification, and the data on the right represent the Cronbach's α value that can be increased after deleting this item

Annex Table 21 Relational subscale after deletion RPC

Name	Project		Measuring project
Relational	RPC1	7	I should be given a price discount for frequent purchases
	RPC2	8	I should not be offered expensive medical products that are unsuitable for me in order to make money
	RPC3	9	Medical staff should value my feedback on products and services
	RPC4	10	The medical staff should respond to my comments and suggestions about the brand in a timely manner

Annex Table 22 Results of developmental dimension analysis for DPC

Num		
The initial α	0.857	
DPC1	0.671	0.847
DPC2	0.751	0.849
DPC3	0.694	0.877
DPC4	0.634	0.851
DPC5	0.761	0.844
Cronbach's α value after deleting the item	0.877	

Note: the data on the left represent the overall correlation coefficient of the item after modification, and the data on the right represent the Cronbach's α value that can be increased after deleting this item

Annex Table 23 Relational subscale after deletion DPC

Formal Scale of customer psychological contract			
Developmental	DPC1	11	This medical product can continuously increase my confidence
	DPC2	12	This medical product can continuously increase the joy of my life
	DPC3	13	The medical organization continues to offer better services and products
	DPC4	14	The medical organization should continue to improve its brand reputation

Annex Table 24 Reliability statistics table for psychological

Dimension	Coding	Item deleted scale mean	Item deleted scale variance	CITC	Item Cronbach'α value deleted	Cronbach' α
Transactional psychological contract (TPC)	TPC1	34.721	172.081	0.782	0.927	0.927
	TPC2	34.983	172.908	0.737	0.934	
	TPC3	33.737	172.982	0.791	0.923	
	TPC4	33.457	173.871	0.723	0.922	
	TPC5	34.024	174.229	0.746	0.934	
	TPC6	34.339	170.892	0.736	0.956	
Relational psychological contract (RPC)	RPC1	33.289	102.489	0.789	0.924	0.918
	RPC2	33.283	104.298	0.762	0.928	
	RPC3	33.176	101.862	0.743	0.915	
	RPC4	33.289	103.578	0.712	0.929	
Developmental psychological contract (DPC)	DPC1	21.482	66.820	0.810	0.881	0.902
	DPC2	21.793	65.782	0.820	0.829	
	DPC3	21.574	65.980	0.843	0.822	
	DPC4	21.578	66.771	0.854	0.811	

Annex Table 25 KMO and Bartlett test of psychological contract scale

The dimension	KOM	Bartlett's test for sphericity		
		The approximate chi-square	df	Sig.
Psychological contract scale	0.819	2432.855	527	0.000