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Marketing Strategy of Company D in China in the Context of B2C to B2B Transformation -- From the Perspective of Customer Satisfaction

CHEN Wenbin

Doctor of Management

Supervisors:
PhD Virginia, Professor Emerita,
ISCTE University Institute of Lisbon
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University of Electronic Science and Technology of China

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

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Abstract

By referring to marketing strategy theory, customer satisfaction theory, marketing mix theory and SWOT analysis tool, this study takes Company D, a traditional IT enterprise in the strategy transition from B2C to B2B, as the research object to carry out an exploratory case study. Nvivo is used to sort out and refine cases of influencing factors of customer satisfaction. On this basis, through theoretical deduction, product functionality, product innovation in product quality dimension, service convenience, service reliability in service quality dimension, and customer satisfaction are integrated into an analytical framework. Taking the concept of sustainability and digital service as moderating variables, the conceptual model and theoretical hypothesis of "product quality + service quality - customer satisfaction" are proposed. Through large sample questionnaire collection, regression analysis is used to empirically test the research hypothesis. The results show that the four independent variables including product functionality, product innovation, service reliability, and service convenience have a significant impact on customer satisfaction, and digitalization and sustainability have a positive moderating effect on customer satisfaction. All the theoretical hypotheses are verified. At last, this study gives suggestions on marketing strategy optimization of Company D in China under B2B transformation mode. It includes enriching product function portfolio to meet customers' future needs, strengthening product research and innovation to maintain sustainable competitive advantages, strengthening sustainable product concept to gain customers' recognition, ensuring reliable and safe services to enhance customers' trust, simplifying processes and facilitating services to reduce customer costs, and providing digital services to help customers transform and upgrade.

Keywords: B2B model; IT Company; Customer Satisfaction; Marketing Strategy; Product Quality; Service Quality

JEL: M15; L86

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Resumo

Com base nas teorias do marketing estratégico, da satisfação do consumidor, do marketing misto e no instrumento SWOT, este estudo toma a empresa D, uma empresa tradicional do sector das Tecnologias da Informação na transição estratégica do B2C para o B2B, como objeto de pesquisa. O software NViVo é utilizado para identificar os fatores de satisfação dos consumidores. Por dedução teórica os conceitos de funcionalidade do produto, inovação do produto na dimensão da qualidade do produto, conveniência do serviço, a confiabilidade do serviço na dimensão qualidade e satisfação do consumidor foram integrados num modelo. Pegando no conceito de sustentabilidade e serviço digital como variáveis moderadoras, propomos o seguinte modelo conceptual "qualidade do produto + qualidade do serviço= satisfação do consumidor". Através de uma grande amostra aplicamos a análise de regressão para testar as hipóteses de pesquisa. Os resultados mostram que as quatro variáveis independentes; funcionalidade do produto, inovação do produto, confiabilidade no serviço e conveniência do serviço têm um impacto significativo na satisfação do consumidor. Os resultados mostram também que a digitalização e a sustentabilidade têm um efeito moderador positivo na satisfação do consumidor. Todas as hipóteses teóricas não foram rejeitadas. Este estudo contribuiu também para a optimização da estratégia de marketing da empresa D na transformação de B2C para B2B. As contribuições incluem; (i) enriquecer o portfólio do produto para satisfazer as futuras necessidades do consumidor; (ii) fortalecer a pesquisa e inovação de produtos para manter vantagens competitivas sustentáveis, (iii) fortalecer o conceito de produto sustentável para ganhar o reconhecimento dos clientes; (iv) garantir serviços confiáveis para aumentar a confiança dos clientes; (v) simplificar os processos e facilitar serviços com vista à redução dos custos dos clientes; e (vi) fornecer serviços digitais para ajudar os clientes a transformarem-se e a atualizarem-se.

Palavras-chave: B2B; empresa de tecnologias de informação; satisfação dos consumidores; estratégia de marketing; qualidade do produto; qualidade do serviço
JEL: M15; L86

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摘　要

本研究借鉴营销战略理论、顾客满意理论、营销组合理论以及 SWOT 分析工具等，将处于 B2C 向 B2B 战略转型中的传统 IT 企业中国 D 公司作为研究对象，开展探索性案例研究，并利用 Nvivo 软件对客户满意度的影响因素进行案例整理和编码提炼。在此基础上，通过理论演绎，将产品质量维度中的产品功能性、产品创新性，服务质量维度中的服务便利性、服务可靠性，与顾客满意度纳入一个分析框架，将可持续性的理念、数字化服务作为调节变量，提出“产品质量+服务质量——顾客满意”的概念模型和理论假设，通过大样本的问卷收集，利用回归分析对研究假设进行实证检验。结果表明产品功能性、产品创新性、服务可靠性、服务便利性四个自变量对顾客满意度的影响作用显著，以及数字化和可持续性对顾客满意度存在正向调节作用，理论假设均获得了验证。最后，本研究给出中国 D 公司在 B2B 转型模式下的营销策略优化建议，包括丰富产品功能组合满足顾客未来需求、加大产品研发创新保持持续竞争优势、强化可持续性的产品理念获取顾客认同、保障可靠安全服务提升顾客信赖、简化流程便利服务降低顾客成本、提供数字化服务助力顾客转型升级等。

关键词：B2B 模式；IT 企业；顾客满意度；营销策略；产品质量；服务质量

JEL: M15; L86

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Chapter 1: Introduction

1.1 Background

The advent of digitization has brought about a significant change in the personal PC market, compelling enterprises in the traditional PC industry to make a strategic transformation. In the era of 21st-century mobile Internet, a wave of enthusiasm for tablet computers and smartphones has emerged, leading to a shift in the market landscape. Apple, Samsung, and other manufacturers swiftly rose to prominence, while the PC market gradually declined, resulting in profit decline of enterprises in varying degrees. Amidst intensifying competition in the personal IT consumer market, a number of PC giants, including HP, IBM, Dell, and Lenovo, have expedited their transformations. Recognizing that their existing marketing models are no longer able to keep up with market demands, these traditional IT enterprises have, in recent years, pursued strategic transformations through measures such as divestitures, mergers and acquisitions to ensure survival at scale and strengthen their competitiveness. Furthermore, as global digital transformation accelerates, IT enterprises are encountering broader market opportunities and growth potential in the business (B end) market.

Therefore, since 2010, traditional PC manufacturers and other IT giants have embarked on a large-scale entry into the enterprise market (B2B), aiming to seize a share of the global digital economy. In the era of digital economy, they have focused on providing enterprise-level “end-to-end solutions” (terminals, servers, storage, networks) that are tailored to the digital transformation needs of enterprise customers, offering them a comprehensive suite of solutions and services from edge computing and core data centers to cloud computing, and assisting them in achieving their digital transformation goals (Remmerbach, 2015). As a result, numerous IT enterprises have entered a new phase of extensive integration and transformation.

The pressure for traditional PC giants to undergo transformation primarily stems from several factors. First, the consumer market for personal PCs (B2C) has reached a point of saturation, leading to increasingly fierce competition in the personal consumer market; second, the global digital economy transformation has ushered in a broader space and greater growth prospects in the enterprise market. Consequently, traditional IT enterprises have initiated

strategic transformations from B2C to B2B through measures such as mergers and acquisitions. By providing products and solutions for enterprise customers, they seek to achieve survival and growth at scale, which has become an unstoppable trend in the Chinese IT business ecosystem in recent years. Traditional PC giants like Company D, HP, IBM, Lenovo, as well as Chinese Internet giants such as 360, Tencent, and Alibaba, for instance, are actively entering the enterprise market and offering corresponding solutions. Furthermore, as the IT market matures, manufacturers have shifted their focus from products to users, emphasizing integrated product solutions and holistic services as key competitive factors for winning customers and thriving in the IT market.

Company D, a leading player in the computer industry, was founded in 1984. In just eight years, it grew from its initial capital of USD 1,000 to become a Fortune 500 company. In 2001, Company D became, for the first time, the world's largest computer manufacturer in terms of market share; by 2004, it surpassed HP to become the largest PC manufacturer globally; at present, the company provides hardware, software, and service solutions related to information technology. During its early stages, however, Company D achieved remarkable success by employing a direct selling model based on "modular production + supply chain management + e-commerce". The company's first machine was assembled and sold based on customer demand, pioneering a new business model known as the direct selling model or "direct business model" in the United States. The concept of direct selling allowed Company D to establish a channel directly connecting with end-users. Customers could place orders directly with Company D, specifying their desired configurations in detail, and the company would then manufacture the products according to the orders and ship them directly to the customers. The direct selling business model had significant advantages during that time, as it eliminated intermediaries and reduced customers' time and channel costs. Furthermore, the direct contact with customers enabled Company D to quickly, clearly, and effectively understand their needs and respond promptly. The direct selling model was particularly advantageous in the rapidly evolving and price-sensitive PC industry, helping achieve zero inventory, reduce capital occupation and minimize the risk of price fluctuations, which are prevalent in the PC industry. This model enabled Company D to maintain competitive pricing. Company D also set a high premium on the Chinese market. In August 1998, it entered the Chinese market by establishing Company D China, headquartered in Xiamen, Fujian. The company introduced the direct ordering model, i.e., the direct selling model, and set up factories and customer call centers. Its revenue growth rate there surpassed the global average, and so did the profitability, indicating enormous potential.

However, with the rapid development of social economy and the impact of digitization and mobile Internet, the direct selling model gradually became less suitable for market development. The direct selling model has several characteristics: first, sales without fixed sales locations; second, sales conducted through independent sales personnel; third, product sales accomplished through product demonstrations and presentations. However, in the Chinese market environment, the direct selling model faced challenges due to underdeveloped logistics systems and immature e-commerce infrastructure. The service quality often failed to meet customer expectations, and customers were not accustomed to phone guidance services, leading to a decline in service quality. Under the direct selling model, product offerings were relatively limited, lacking physical experience and having uniform design. This model did not cater well to the diverse needs of small and medium-sized customers, and conflicts often arose in the distribution channels between the direct selling model and the distribution channels prevalent in the Chinese market. Therefore, Company D must mitigate key threats, leverage core strengths to develop their own products, adapt to local conditions, and change their single-channel model to achieve full market coverage; provide effective training for employees to enhance product service and sales volume; adopt a broader multi-channel marketing approach to actively tap into the third, fourth, and fifth-tier markets that the direct selling model might not effectively reach, thereby attracting more customers and increasing market share. This represents a significant transformation for the company in their marketing model on the individual consumers (C end).

During the period from 2006 to 2009, Company D was surpassed by HP and Acer in the personal computer market, dropping from the first position to the third in terms of market share. In response to this decline, the founder of the company reassumed the position of CEO and actively initiated a transformation in the consumer market. Meanwhile, a channel sales model was introduced, and a top-down company restructuring was implemented. Since 2009, following the company's announcement of its strategic transformation, it has successfully transitioned from a hardware manufacturer to an "end-to-end" solution provider through a series of acquisitions and effective market initiatives. During the process of shifting to an enterprise market based on the product solution marketing model, Company D achieved three significant milestones. The first milestone occurred in 2009 when the company embarked on the path of transforming from a PC manufacturer to a solution provider. During the three years from 2009 to 2012, the company launched a series of acquisition and integration plans (according to incomplete statistics, it acquired more than 20 enterprise-level manufacturers) especially in the software, storage, network, and security sectors, with an aim to build a

product portfolio with comprehensive solution capabilities. The second milestone occurred in 2013 when Company D realized privatization. It acquired stakes worth USD 25 billion jointly with Silver Lake. To achieve long-term strategic transformation, the company made the decision to forego short-term gains and intensified its shift towards high-profit services and solution-oriented transformation as its direction and goal for sustainable development. The third milestone took place in 2015 when Company D acquired EMC, a storage giant primarily serving enterprise customers, for a staggering USD 67 billion. This acquisition marked the largest-scale merger in the global scientific and technological market and enriched the company's portfolio of enterprise-level product solutions. All these measures represented that Company D transformed from the marketing pattern of B2C to B2B.

After the transformation, the company's core theme for providing solutions to its clients is "Building an Efficient Enterprise." It has been dedicated to internal IT integration and transformation to enhance organizational efficiency. Through the automation, virtualization, and streamlining of IT systems across its global operations, Company D has managed to reduce its IT budget by USD 200 million annually and redirect those savings towards innovation. This has enabled the company to gain a greater competitive advantage in the market. Company D assists enterprise customers in three crucial areas. First, intelligent digital management. The company offers various consulting services to clients, covering multiple aspects such as data collaboration, storage, data protection strategy formulation, and implementation. Second, data center. The company helps users strategize the implementation of cloud computing and virtualization to enhance operational efficiency, offering a comprehensive range of products that cover servers, storage solutions, and network devices. Third, end-user computing. The company provides a range of end-user devices that enable clients to access accurate information anytime and anywhere. By 2022, Company D’s two main business segments, the Client Solutions Group (CSG) and the Infrastructure Solutions Group (ISG), witnessed growth. According to Table 1 in Annex D, in its financial reports, the company explicitly stated that the commercial sector was a significant factor driving its performance. As digitalization and cloud computing continue to advance, an increasing number of companies worldwide are adopting cloud solutions. This trend has led to a surge in demand for storage services, benefiting Company D's server and storage businesses, which have seen rapid growth in the global market.

While Company D’s transformation has achieved significant success, further deepening of its service transformation is necessary when it comes to enterprise customers. From 2017 onwards, the company’s main business revenue has continued to grow, but at a slower pace.

In the 2019-2020 fiscal year, the year-on-year revenue growth rate was only 1.69%. Business customers differ significantly from individual customers, presenting challenges to Company D's marketing strategies. They typically play multiple roles in multiple dimensions, including decision-makers (executives), managers (finance and business department heads), and implementers (end-users). In contrast, individual customers are relatively singular, generally falling into a single dimension of customer category. When facing enterprise customers, there are more and complex factors to consider. enterprise customers take multiple aspects into account, such as the completeness, value, and future prospects of the proposed solution. Therefore, when understanding their requirements, it is important to consider the interests of their company. Enterprises need to invest more human and time resources in dealing with enterprise customers, from establishing the partnership to achieving business performance. It is a lengthy process. Consequently, in the face of the ever-changing needs of enterprise customers, it becomes crucial for Company D to figure out how to optimize its existing marketing strategies and determine what kind of products and services to offer in order to enhance customer satisfaction and drive business performance. The revenue change of Company D is shown as per Figure 1.1.

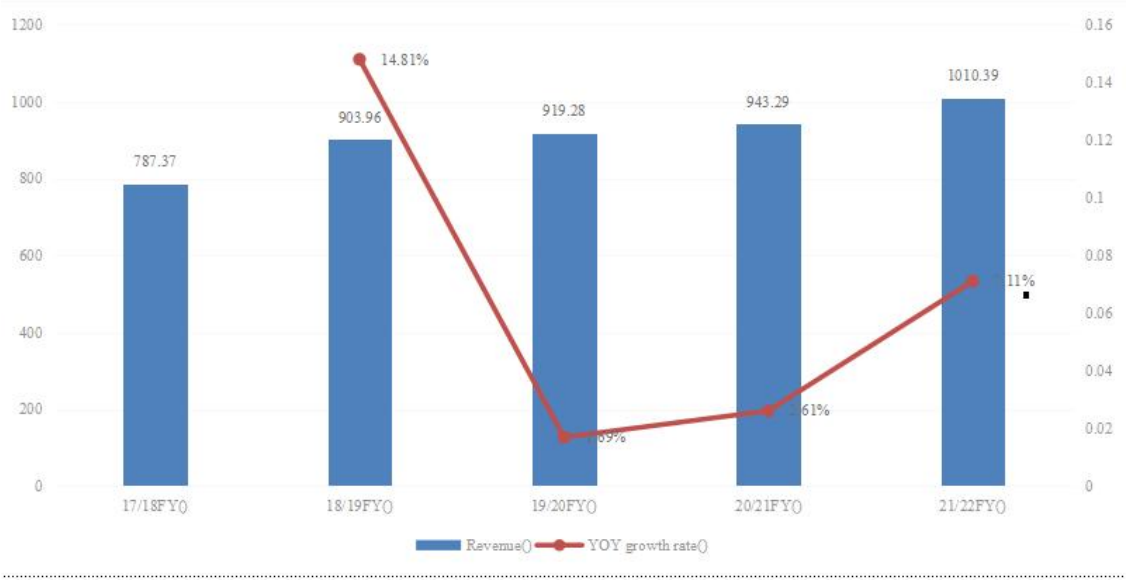


Figure 1.1 Company D's revenue change

Source: D corporate financial statements

Based on the aforementioned research background, we hold that in the context of the digital economy, the central tasks and key issues of the marketing strategy for Company D in dealing with the evolving demands of enterprise customers are as follows: 1)How to allocate limited resources to develop corresponding products and solutions; 2) How to provide more accurate services to enterprise customers; 3) How to enhance customer satisfaction among

enterprise customers and thus elevate Company D's business performance to a new level. Therefore, this thesis selects Company D, a traditional IT enterprise and PC giant undergoing strategic transformation, as the research subject for analysis. It combines China's current emphasis on digital transformation and sustainable development in the market and proposes the necessity and key influencing factors of implementing a marketing model targeting enterprise clients for Company D from the perspective of customer satisfaction. Additionally, it provides specific implementation strategies for marketing model transformation.

1.2 Research questions

This thesis focuses on the Company D in China, a PC giant in the traditional IT industry, as the research subject, exploring the optimization strategies for marketing models within the context of its transition from the initial consumer-oriented B2C marketing model to the B2B marketing model targeting enterprise clients. Based on the market environment and digital background, this thesis analyzes the marketing transformation path and influencing factors of a Company D in China, summarizes and extracts various effective marketing strategies. And based on the survey questionnaire and taking customer satisfaction as an indicator, it measures the effectiveness of these marketing strategies and proposes improvement suggestions for marketing strategies. Based on the case analysis of Company D, this thesis proposes ways and countermeasures for marketing innovation for IT companies in the marketing transformation period, and supplements the traditional 7Ps marketing mix theory. This thesis aims to explore the main factors affecting customer satisfaction in the B2B marketing model, as well as the adaptability of the traditional 7P marketing mix in business customer marketing, and analyze effective marketing strategies suitable for traditional IT companies to apply B2C marketing models to B2B.

At the same time, in the new era, the digital wave has swept every corner of the world and is penetrating into enterprises and society in all dimensions. Digital has become the fuel for enterprise to grow in which big data is of crucial importance. Entering the data-driven era requires many technologies to connect the future, and all technologies are based on data. Mining data, calculating data, storing data, and protecting data are all cornerstones of industry development. In order to help enterprises to achieve digital business transformation, Company D needs to adapt to the change of the times and use technological power to promote China's industrial upgrading and accelerate "smart +" technological innovation and its landing to meet business customer needs, boosting China's industrial upgrading and high-quality economic

development. In addition, China has proposed a “dual carbon” goal of peaking carbon emissions and carbon neutrality. The “14th Five-Year Plan” (since 2021) for the development of the information and communication industry recently issued by the Ministry of Industry and Information Technology proposes to coordinate and optimize the layout of data centers, build green and intelligent, interconnected and shared data and computing power facilities, accelerate the construction of a new type of digital infrastructure system driven by technological innovation based on new-generation communication networks with data and computing power facilities as its core and integrated infrastructure as its breakthrough point. It has put forward specific requirements for energy consumption in data centers. How to achieve a high-reliability green data center while meeting the needs of modern applications such as 5G, cloud computing, AI and massive business? This is a realistic problem facing the Company D in China. Therefore, macro environments such as digitalization and sustainable development have become important factors that the Company D in China must consider when formulating marketing strategies. Both will have a certain impact on customer needs and customer satisfaction.

Specifically, the main research questions of this thesis include the following aspects:

1. How should the existing marketing strategies be optimized to improve customer satisfaction and promote business performance?

2. What are the main influencing factors of B-end customer satisfaction of this type of companies in China?

3. In the context of digital transformation, digitalization and sustainability have become extremely important. How should this type of companies in China adapt their marketing strategies?

1.3 Research significance

Based on the research background, this thesis proposes the main problems to be solved, and further summarizes the significance of this thesis. Nowadays, technological innovation is developing rapidly and competition in the IT industry is becoming increasingly fierce. This thesis focuses on the transformation of marketing strategies in traditional IT companies. Taking the Company D in China as an object, it conducts an in-depth analysis on the process of the Company D in China marketing strategy transformation, explores the influencing factors of customer satisfaction, summarizes effective marketing strategies, evaluates the effectiveness of each marketing strategy based on data analysis and customer satisfaction,

proposes a package of marketing strategies and improvement strategies. This thesis has made certain contributions to the research on marketing strategies, marketing models and customer satisfaction, which can be captured by:

Firstly, it has important reference significance for the transformation of the entire traditional IT industry. Marketing is an important and special link in the industrial chain. A sound marketing strategy is of great significance for improving market competitiveness in the industry.

Secondly, the transformation of China's traditional IT companies from B2C to B2B marketing model is still in its early stages. This thesis will provide some experience for reference for traditional IT companies to transform and develop their marketing models, making a contribution to the innovation of marketing models.

Thirdly, competition for customers is the key for enterprises winning their rivals. The traditional B2C marketing model is not suitable for the complex and changing enterprise market environment. Based on the perspective of enterprise customer satisfaction and the perspective of customer satisfaction research, this thesis explores the effectiveness of each marketing strategy and fills in the research on customer satisfaction in different situations. This is also one of the theoretical contributions of this thesis. No matter how the times and environment change, customers are always the source of enterprise profits and the foundation of survival. Carrying out production and marketing activities in a customer-oriented manner is always the starting point and focus of enterprises. Therefore, customer satisfaction and customer loyalty have become the most important core for today's enterprises.

Fourthly, based on the case analysis of the Company D in China, this thesis proposes ways and countermeasures for marketing innovation for IT companies in the marketing transition period, and supplements and improves the traditional 7P marketing theory with the context of new era.

1.4 Research content & method

1.4.1 Research content

This thesis mainly includes six chapters, as follows:

Chapter 1 gives an introduction. To begin with, the thesis introduces the research background, including the backdrops of traditional IT industry and digital economy. Based on the context of market environment and digital transformation and taking the Company D in

China as the research object, it proposes research questions and further sort out practical significance of and theoretical opinions on this research. In the end, attached is a technical roadmap of this research.

Chapter 2 focuses on establishing theoretical foundation and literature review for this thesis. On basis of systematically sorting out domestic and foreign research progress and main representative views in academic circles, this thesis draws on marketing strategy theory, customer satisfaction theory, marketing mix theory as well as PEST macro-environment analysis, SWOT analysis tools, to lay a solid theoretical foundation and methodological basis.

Chapter 3 describes the research design and research methods. This chapter aims to clarify theoretical framework of this thesis, determine research methods, in which mainly adopted are combination of exploratory case study method and empirical research method, combination of first-hand and second-hand data, and combination of interviews and questionnaire surveys.

Chapter 4 presents the case analysis of customer satisfaction of the Company D in China. Taking the Company D in China as the research object, firstly this chapter analyzes the internal and external environment of Company D and its strengths, weaknesses, opportunities and threats according to SWOT analysis; Secondly, it explores the influencing factors of customer satisfaction of the Company D in China with a starting point of product quality and service quality by interviewing internal employees and enterprise customers of the Company D in China as the case analysis method; Finally, through case study, four direct factors affecting customer satisfaction have been found: product functionality, product innovation, service reliability and service accessibility. In addition, it was found that the value of sustainability and digital services can positively impact these factors on customer satisfaction.

Chapter 5 explains an empirical study on customer satisfaction of the Company D in China. Based on case study, it carries out theoretical deduction, and proposes theoretical model and theoretical hypothesis. Then empirical research plan is designed in terms of questionnaire design, variable measurement, pre-survey and questionnaire revision. On basis of formal survey sample and data collection, reliability and validity test, research hypothesis has been tested that four independent variables: product functionality, product innovation, service reliability and service accessibility can impact customer satisfaction and that digitalization and sustainability can regulate customer satisfaction.

Chapter 6 gives the research conclusion and enlightenment for optimization of marketing strategies of the Company D in China. Based on above research and from perspective of customer satisfaction, this chapter summarizes marketing strategies of the Company D in

China and proposes ideas for its improvement.

1.4.2 Research method

This research is based on various qualitative and quantitative research methods, mainly including:

In order to ensure the scientific and rigorous nature of this research, this thesis extensively collects cases and data materials in the marketing field of Company D's industry on the basis of qualitative analysis, systematically sorts out the transformation background and path of Company D, analyzes the driving factors and customer changes therein. Combining literature analysis method, case study method, survey method and quantitative research methods, it analyzes and concludes the case of Company D's marketing strategies during the transformation process, pointing out the problems in Company D's marketing and proposing improvement strategies.

(1) Literature analysis method. By analyzing and quoting of research results collected and organized in the field of marketing model through channels such as CNKI, Wanfang Data, China Science and Technology Journal Database (VIP), China Excellent Master's and Doctoral Dissertation Database, Web of Science Core Database, Google Scholar and EBSCO Academic Information Database, campus library, this thesis has drawn on the main conclusions and research methods in these research literature, which provides a solid theoretical foundation for its research.

(2) Case study method. This research is very suitable for exploratory case study. The case study method adopted in this thesis is divided into three stages: ① By collecting actual cases of the Company D in China B2B marketing model, it clarifies deficiencies in China's D's marketing management practice for enterprise customers in terms of customer satisfaction, and extracts successful operating methods and experiences of leading domestic enterprises. ② Obtaining first-hand information and data through forms such as discussions with main persons in charge of relevant marketing departments of the Company D in China and interview surveys, thus collecting a large amount of pragmatic and detailed materials to further carefully summarize. ③ Using grounded approach to code and analyze collected data to conduct practical and detailed research on the Company D in China where author is located.

(3) Empirical research method. The empirical research adopted in this thesis includes following steps: ① Propose research hypothesis, design survey questionnaire, measure

indicators such as 7P marketing mix and customer satisfaction; ② Take internal personnel and enterprise customers of the Company D in China as survey objects. Collect survey questionnaires through methods such as sampling survey, WJX network, individual interviews; ③ Use regression econometric analysis method to obtain first-hand data information. Explore impact of related factors such as 7P marketing mix on customer satisfaction and its working mechanism. Analyze relationship between customer satisfaction and enterprise operating performance. Explore regulatory utility of digitalization and sustainability. Propose marketing strategies for the Company D in China to conduct B2B business.

1.5 Technology roadmap

The technology roadmap of this thesis is shown as per Figure 1.2.

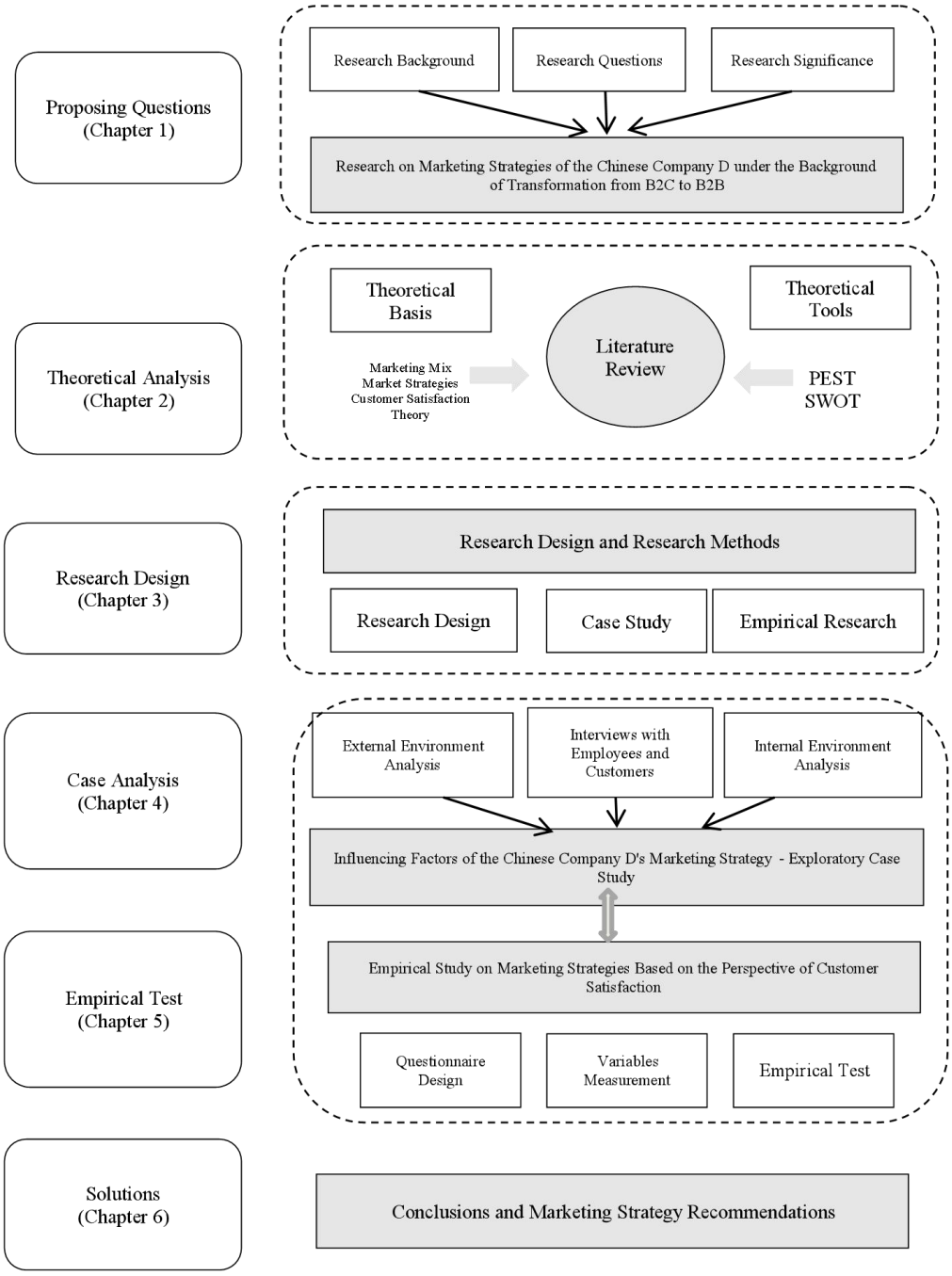


Figure 1.2 Technology roadmap

Chapter 2: Literature Review

2.1 Marketing strategy theory

2.1.1 Marketing strategy

The main purpose of this study is to explore how Company D in China should optimize its marketing strategies in the context of B2B transformation. Therefore, marketing strategies are the core issue, and it is necessary to summarize relevant research on marketing strategies to lay a theoretical foundation. In this section, we will elaborate on marketing strategy theory and Segmentation, Targeting, and Positioning theory (STP theory), which has a wide influence, and trace its development.

The concept of marketing is in a constant process of development. In 1997, the American English Dictionary defined “marketing” as "the act or practice of advertising and selling product", while the American Marketing Association considers marketing to be “the activities, institutions and processes that create, communicate, deliver, and exchange products of value to consumers, customers, partners and society at large (Kotler, 2011). Over the years, marketing has expanded its scope beyond products to include, for example, services, experiences, places, people, and ideas. With the constant impact of globalization, cultural differences, the internet, social media, brand proliferation, retailing, and environmental issues, marketing as well as marketing strategies need to be accordingly developed and updated.

Since the 1970s, marketing science has been organized around an exchange paradigm. The concept of marketing applies to all forms of exchange, no matter of goods, services, people, places or ideas, and no matter of individuals, for-profit and non-profit corporations, governments, and non-governmental organizations (Achrol & Kotler, 2012). The roles and responsibilities of marketing extend from sales and advertising to product development and company-wide customer service responsibilities (Bartels, 1962). Marketing theories and research are generalized beyond the exchange of goods, services, and money to include any valuable resource such as time, feelings, place, ideas, or information (Kotler, 1972; Kotler & Levy, 1969). They are extended to exchanges with customers, employees, suppliers, the public and even competitors and apply to all types of organizations–- for-profit, not-for-profit, social service agencies, governments, non-governmental organizations and national states.

Wendell Smith developed the Segmentation, Targeting and Positioning Theory (STP theory) in the mid-twentieth century, which was later refined by Kotler to form the Strategic Marketing System, which consists of, among other things, market segmentation, target markets, and market positioning. Kotler and Lee developed an STP model based on the social marketing model, which is applicable to for-profit business corporations, non-profit NGOs, charitable trusts, and public service agencies (Kotler & Lee, 2009). STP marketing theories and methods can greatly enrich the quality and effectiveness of ongoing projects. Market segmentation, customer analysis and positioning techniques can improve the quality of product design and delivery. Marketing personnel can effectively analyze these segmented markets and develop effective marketing strategies based on differences in customer needs, motivations, literacy, life cycle, social class, welfare, and other factors.

2.1.2 Content of STP theory

According to Kotler's Strategic Marketing System model (Kotler & Lee, 2009), the STP model consists of Market Segmenting, Market Targeting and Market Positioning, which are the three core elements of a company's marketing strategy in modern marketing theory.

Market segmentation is generally a process of dividing a company's customers into different groups according to the different preferences, usage habits and buying habits of the company's products. Through market research, marketers divide the market into several customer groups based on differences in customer needs and demands, buying behavior and purchasing habits. Each customer group is a market segment, and each segment is a group of customers with similar demand tendencies. Customer segmentation can be carried out in a variety of ways, geographically, by country, province, city, or even by climate or size of city; psychologically, by consumer unique consumption patterns, lifestyles, and personality traits. The main purpose of market segmentation is to identify customer differences and develop corresponding marketing programs, also known as precision marketing (Kotler & Lee, 2009).

A target market is one or more markets that a company can choose to enter. The company needs to distinguish the type of customers it serves, as well as their characteristics, including consumption habits and needs. At the same time, choosing a target market that is suitable for the company is an important step for its long-term development. There are three main types of target marketing strategies. The first is the non-differentiated marketing strategy, which refers to the non-differentiated treatment of the entire product market, taking the entire market as the target market, and adopting a unified marketing mix, ignoring the existence of demand

differences. The second is the concentrated market strategy, which means that the market is taken as and divided into several pieces of the cake. The company can choose one of them as its target according to its own situation and development strategy. The third is the differentiated marketing strategy, which divides the market into several segments with similar characteristics according to the different needs of consumers, and the company selects the target market segment according to its own situation.

Market positioning is to distinguish the product offered by the company from other products by customers, because the company can create a unique impression in the minds of customers. When positioning a product, companies can consider different aspects such as the product's characteristics, target customers, cost performance and classification. Positioning theory is one of the most important assumptions in marketing science. Scholars argue that market positioning identifies the clear, unique and desirable position of a product in the minds of target customers and that marketers need to differentiate their products from competitive products and give them the greatest strategic advantage in the target market (Kotler et al., 2012). The aim of positioning is to create a distinctive and favorable image in the minds of target customers (Bhat & Reddy, 1998). Therefore, positioning is a natural conclusion to the sets of activities that form a core part of marketing strategy (Fill, 2005). Market segmentation and target marketing are prerequisites for successful positioning. Product positioning is the decision and activity aimed at creating and maintaining a certain concept (Hooley et al., 2001), developing a specific marketing mix including brands, product lines (Lamb et al., 2004). The essence of the STP model is simple: to present the product to those customers who want and can access it. The first two steps of the STP model are used to find and define the target customer. And positioning is used to place the product in the desired position in the mind of the target customer.

Hooley et al. (2008) identified these stages of the product positioning process, as shown in Figure 1 in Annex D. Other scholars recommended the following steps in the product positioning process (Hutt & Speh, 2021), as shown in Figure 2 in Annex D.

2.2 Customer satisfaction

2.2.1 The connotation and development of customer satisfaction

Customer satisfaction is a key concept in marketing thought and practice (Yi, 1990). It was first originated overseas when Oliver (1980) introduced the concept of satisfaction to the field

of marketing based on the “contrast theory” and “inconsistency theory” in psychology. His research pointed out that customer’' expectations when buying a product would affect their evaluation and feelings about the product, and that customer satisfaction would lead to purchasing behavior, and that the customer’s attitude towards whether the product or service was satisfactory would have an impact on the customer’s intention to repeat the purchase behavior, which would change the development of the company and the profit gained. Oliver (1980) developed the expectancy-disconfirmation model. According to this model, “consumer satisfaction with a product or service is the result of a subjective comparison between their expectations and perceptions” (Oliver, 1980). The expectancy-disconfirmation theory has been widely used in many studies on customer satisfaction (Sipe & Testa, 2017; Zhang et al., 2019). In this era of increasing competition, people are aware of the importance of customers to enterprises and increasingly agree with customer-oriented marketing theories, and customer satisfaction theory has received widespread attention from experts and scholars at home and abroad. Howard and Sheth (1969) argue that customer satisfaction is a cognitive state in which consumers evaluate whether they have received an appropriate return for the price they paid at the time of purchase. It is an emotion triggered by the inconsistency between the expectations generated by the customer’s psychological state and the actual consumption experience (Oliver, 1993). Further research has since concluded that customer satisfaction is determined by the difference between the psychological expectation and the perceived value arising from the actual consumption activity by the customer. Customer dissatisfaction occurs when the perceived value does not match the expected value, while customers will be satisfied or even over-satisfied when the perceived value matches or exceeds the customer's expectations (Oliver, 1999). Jones and Sasser (1995) state that focusing on the perceived value and needs of customers for a product can lead to long-term customer satisfaction. According to Kotler (2003), customer satisfaction is the psychological state that results from comparison between consumer’' expectation and perception of a product or service. He also believes that the level of satisfaction is determined by the customer delivered value. Oliver (1999) states that satisfaction is a customer judgement of whether the product or service is satisfying and leads to a level of pleasure.

2.2.2 Customer satisfaction model

In the 1990s, customer satisfaction research has developed rapidly, and many countries has been developing customer satisfaction models or indices in order to improve the overall

competitiveness of their companies. Among these models, the Swedish Customer Loyalty Barometer Model (SCSB model), the American Customer Satisfaction Model (ACSI model), the European Customer Satisfaction Model (ECSI model) and the China Customer Satisfaction Index (CCSI index) are widely recognized and used, and hence provide theoretical references for the measurement of customer satisfaction in empirical testing.

The first one was the SCSB model, as shown in Figure 3 in Annex D. This model was constructed by Swedish scholars in 1989 and is used in the national measurement of customer satisfaction indices, covering a comprehensive range of industries, companies, and data. The antecedent variables of this model are perception value and customer expectations, while the posterior variables are customer complaints and customer loyalty. Customer satisfaction can be measured in three ways, namely the level of customer satisfaction, the level of customer expectations, and the gap between actual level and expected level. Customer complaints will be improved as customer satisfaction increases. Customer loyalty is influenced by how well customer satisfaction and customer complaints are handled. The model assumes that customers will by default learn lessons from previous consumption experiences and make satisfaction predictions for future service experiences (N. Li, 2016).

The second one is the ACSI model, as shown in Figure 4 in Annex D. This model is derived from the SCSB model and was proposed by Fornell et al. (1996) in the USA. This model deepens the antecedent variables of customer satisfaction based on the SCSB model by adding the concept of perceived quality and distinguishing quality perception from value perception. The model considers perceived quality as the customer's evaluation of quality perceptions, which can be measured by three variables, namely customization, reliability and overall evaluation of quality. The perceived value focuses on the cost aspect, while perceived quality focuses on the quality aspect. By studying and comparing the perceived value and perceived quality, it is possible to analyze the level of importance placed on price and quality by customers in different industries and regions (M. D. Johnson & Fornell, 1991).

The third one is the ECSI model, as shown in Figure 5 in Annex D. This model, also known as the European Customer Satisfaction Index (ECSI), has been piloted in 11 countries in the European Union since 1999 and its most significant contribution is its emphasis on customer complaints and corporate image. The model assumes that customer complaints do not only generate customer dissatisfaction, but that the way in which they are handled, and the outcomes also have a significant impact on customer satisfaction. In addition, corporate image also influences customer expectations and satisfaction with services. Customer preference for a company will improve with perceptions of corporate image, which in turn affects customer

loyalty.

The fourth one is the CCSI index, as shown in Figure 6 in Annex D. The China Customer Satisfaction Index (CCSI) is one of the well-known customer satisfaction measurement studies in China, which was carried out by the China Quality Association and the National Users Committee in the late 1990s. The CCSI index was developed based on the ACSI index and has seven variables, including expected quality, perceived product quality, perceived service quality, perceived value, customer satisfaction, customer complaints and customer loyalty (N. Li, 2016).

2.2.3 Impact antecedents of customer satisfaction

As mentioned above, customer satisfaction is influenced by a variety of factors. External environment, individual differences in perception, and other factors can have an impact on customer satisfaction. The literature review has selected several popular aspects in customer satisfaction research.

The service quality has impact on customer satisfaction. Service quality refers to the extent to which service can meet customer needs. It is one of the factors that most directly affect customer satisfaction. In their study, Taylor and Jr. Cronin (1994) found that service quality was a prior variable for customer satisfaction. Parasuraman et al. (1994) further investigated the relationship between the two and proposed a "conceptual model of service quality" in which the size of the fifth gap is determined by the customer and customer satisfaction is lower when customer perceptions are lower than customer expectations. Gong and Yi (2018) verified the applicability of the service quality model in five Asian countries, namely China, Hong Kong, Japan, Korea, and Singapore. The findings show that overall service quality has a positive impact on customer satisfaction, which in turn affects customer loyalty and happiness. And the general model of structural path is valid in these five countries. Neuman and Rossman (2006) explored the impact of service quality on customer satisfaction and loyalty, and the mediating role of customer satisfaction in the supermarket industry. The study finds that service quality significantly affects customer satisfaction and loyalty, customer satisfaction partially mediates the relationship between service quality and customer loyalty. The decrease of customer perceptions of service quality leads to lower customer satisfaction and thus lowers customer loyalty. Torabi and Bélanger (2021) developed a multifaceted model to identify the impact of service quality and e-WOM (Word of Mouth) on customer satisfaction and in turn the impact of customer satisfaction on WOM. Results shows

that service quality dimensions and e-WOM have a positive impact on customer satisfaction. Domestic scholars have also conducted extensive research on the relationship between service quality and customer satisfaction. Zuo et al. (2017) argue that the psychological changes of customers in a single service present multiple changes. They state that the measurement of customer satisfaction should fully consider the dynamic changes in customers' demand weights as well as dual expectations, thus establishing a measurement model of the dynamic changes in cumulative customer satisfaction under a single multi-stage service. Fan and Ye (2017) studied the factors influencing service quality in the courier industry in the e-commerce environment and categorized them into four aspects, namely convenience, economy, timeliness, and reliability. The study finds that the timeliness and reliability of courier has a direct positive impact on courier satisfaction in online shopping, and reliability has the most significant influence. Quan and Fan (2018) studied the impact of cross-border logistics service quality on customer satisfaction in the context of cross-border online shopping, using perceived value as a mediating variable. It finds that customer satisfaction and perceived value are both affected by cross-border logistics service quality, and moreover, perceived value positively affects customer satisfaction. Product attributes have influence on customer satisfaction. Oliver (1993) argues that customer satisfaction is based on the assessment of the functional benefits of a product or service when defining customer satisfaction. Hence product attributes are also a major factor that directly affects customer satisfaction. Jing et al. (2014) argue that customers do not evaluate product attributes as a whole, but rather the performance of the attributes they care about, and that the weight of product attribute performance in satisfaction evaluation shifts over time.

The study by S. R. Wu et al. (2011) also validated this view and suggested the relationship between the "time" dimension in product attributes and customer satisfaction. In addition, product quality and design are significantly related to customer satisfaction. Xu et al. (2018) considered that improving product quality is an important condition for improving customer satisfaction and developed a comprehensive quality evaluation system based on intuitionistic fuzzy numbers by investigating the linguistic evaluation by customers on product quality, including product expectations and product perceptions. Norazah (2017) explored the structural association of product quality, corporate image, shop image and price on Malaysian customers' satisfaction and loyalty towards the use of green products. The empirical analysis shows that factors such as product quality, corporate image, shop image and product price jointly influence customers' satisfaction with green products.

Customer characteristics also has influence on customer satisfaction. In general, there are

two major factors that directly affect customer satisfaction in the shopping process. The first one is customer emotion. Westbrook and Oliver (1991) argue that the customer consumption process is not only a cognitive process, but also an emotional experience process. Ignoring the influence of customer emotions on customer satisfaction will lead to lack of understanding of the formation process of customer satisfaction. J. Huang and Li (2014) found that customer misbehavior had a significant effect on both negative emotions and satisfaction, and that negative emotions had a partially mediating role. Therefore, more attention should be paid to the emotional changes in customer shopping. The second one is customer perception. Quan and Fan (2018) found that perceived value also positively affects customer satisfaction and that there is a partially mediating effect between perceived service quality and customer satisfaction. They used structural equation modelling based on data collection from outdoor cafes and found that quality experience has a significant positive effect on customer perceived value, customer satisfaction and customer loyalty; and customer perceived value has an obvious impact on customer satisfaction and customer loyalty. It is found that service quality, price fairness and ethical practices of sharing platforms have a significant impact on customer satisfaction through perceived value, among which, service quality having a direct and indirect impact on customer satisfaction, and perceived value partially mediates between service quality and customer satisfaction. However, both price and ethical practices affect customer satisfaction indirectly through customer perceived value, which plays a fully mediating role in customer satisfaction. Therefore, firms can incorporate service quality, price fairness and ethical practices into their strategic plans to improve customer satisfaction.

2.2.4 The impact of customer satisfaction

Customer satisfaction has a positive impact on the company's market share and profitability (E. W. Anderson et al., 1994). It helps companies build customer loyalty (Hallowell, 1996) and strengthens brand equity (Pappu & Quester, 2006). Customer loyalty and brand loyalty are still the most important outcome in assessing customer satisfaction. Over the years, several studies have verified the impact of customer satisfaction on customer loyalty (Hsu, 2000), on branding (Y. Lee et al., 2009) and on overall marketing prices (Han & Ryu, 2009). In particular, researchers have tended to assess the impact of customer satisfaction on cognitive, affective and behavioral loyalty, but the results are different (Back & Parks, 2003). For example, some studies have shown that customer satisfaction has a greater impact on cognitive loyalty, while others have shown that affective loyalty has a greater impact on

customer satisfaction than active loyalty. Therefore, it is important to recognize that there is an interrelationship between different types of loyalty, and that the impact of customer satisfaction on different types of loyalty is not consistent across research (Kim et al., 2015).

Others have used terms such as attitude and behavioral loyalty when examining the impact of customer satisfaction on the loyalty (Back & Parks, 2003). However, it is important to note that Kumar et al. (2013) in their study of the customer satisfaction-loyalty relationship concluded that this relationship is not as strong as it is believed to be and suggested that customer satisfaction may not be sufficient to explain loyalty behavior. Therefore, while we know enough about the relationship between customer satisfaction and loyalty, researchers should have also investigated other factors impacting on loyalty.

In addition to loyalty, many studies have verified the impact of customer satisfaction on repurchase intentions (Mattila, 2001), including intention to revisit (Namkung & Jang, 2007) and switching costs (Jung & Yoon, 2012). These variables are often modelled as indicators of loyalty. Overall, the results of these studies seem to suggest that higher satisfaction is associated with stronger repurchase and revisit intentions, but the relationship with switching costs is not so direct. While satisfaction can be supposed to reduce switching intentions (Jung & Yoon, 2012), some studies suggest that satisfaction increases switching behavior (Park & Jang, 2014)).

We also note that several scholars have studied customer repurchase and revisit behavior within a behavioral intention perspective (Namkung & Jang, 2009). The conclusion reached was that higher satisfaction generated more positive behavioral intentions to repurchase. Researchers have also investigated the effect of satisfaction on willingness to pay more (Ladhari et al., 2008). Satisfied customers are willing to pay a premium for access to a product or service. It has also been found that customer satisfaction is associated with better financial performance (Chi & Gursoy, 2009), such as profitability, return on assets and return on equity (Sun & Kim, 2013). Therefore, it is reasonable to believe that improving customer satisfaction can effectively improve a company's marketing performance.

2.3 Marketing mix theory

2.3.1 4Ps marketing mix theory

Marketing is the process of planning and executing ideas, concepts of goods and services, pricing, promotion, and distribution to create communication, so as to meet individual and

organizational goals. With the development of technology, oversupply has accelerated competition in the market, and companies that offer a competitive advantage tend to new products and new markets to meet customer needs, as companies without satisfied customers have no chance of long-term success (Gürbüz et al., 2014). Marketing strategies are planned with options in mind and each option requires an appropriate marketing mix, which is a set of marketing tools that work in concert to satisfy customer needs and build customer relationships (Kotler et al., 2012). Its elements are the basic tactical components of a marketing plan. The marketing mix provides a convenient framework for marketing analysis, the most typical elements of which are Price, Place, Product and Promotion. The concept of the marketing mix was introduced by Borden in 1964 in his article “The concept of the marketing mix” (Borden, 1964). In 1960, American marketing scientist Jerome McCarthy summarized the various marketing elements into four, namely product, price, place and promotion. That is also known as the famous 4Ps theory (Marschner, 1972). McCarthy’s 4Ps model has dominated marketing thoughts, particularly in the context of commodity marketing. The 4Ps theory have clarified the nature of business marketing activities and marked the emergence of marketing theory.

Price includes the price of a product and the company's overall pricing strategy. It is the process of determining what a company will receive in exchange for its product. Place, also known as distribution or intermediation, is the mechanism by which goods and/or services are transferred from the manufacturer/service provider to the user or customer. Product is a tangible entity or an intangible service that may be purchased or sold, i.e. a product or service that meets the needs of customers in a target market segment. Promotion includes all the tools available to marketers for marketing communications, which may include advertising, personal selling, sales promotion, and public relationships, and represents the means of communication used by marketers in the marketplace. For a company, decisions regarding marketing strategy depend on the market as well as the company's customer mix or target market, the company's finance state and organizational structure, and the characteristics of its products.

2.3.2 7Ps Marketing mix theory

In recent years, there has been a growing interest in the service marketing mix, which aims to improve customer satisfaction and repurchasement, enabling firms to be competitive over time. As theories have evolved, scholars have found that the elements of business marketing

are not limited to the four aspects of the 4Ps theory, but also that service is an important concept in business marketing. The new generation of marketing theories such as 7Ps theory (Booms and Bitner, 1981), service marketing theory (Brown & Fisk, 1984) and service-oriented marketing strategies have gradually become research hotspots (Brown & Fisk, 1984).

In general, services refer to a variety of intangible activities or operations that one party is able to provide to another party, the result of which does not result in any ownership (Kotler et al., 2012). Services can either be linked to physical products to form product-focused services, or exist as mere service activities. Service plays an important role in the development of marketing strategies for modern companies. On the one hand, service-focused marketing emphasizes the role of people. Companies should not only focus on improving the competencies of their marketers, but also on tapping into the change of customer needs (Gummesson, 2007). On the other hand, many studies confirm that service quality has a significant positive effect on customer satisfaction, customer loyalty and marketing performance (Danciu, 2007). It can be concluded that the development of a service-oriented marketing strategy has become the core of a company's marketing activities.

In 1981, Boehms and Bittner enriched and developed the traditional 4Ps theory, and proposed three newly added elements, namely People, Process, and Physical evidence. The word People does not only refer to customers, but also to all business participants related to the marketing process. These people directly or indirectly participate in the entire process of consumption and effectively enhance the value. Service process is a key factor in marketing strategy, including procedures, mechanisms, and processes. Physical evidence refers to all the physical product or facilities that help production and service in the process of product marketing. Making good use of Physical evidence can improve service quality and help enterprise marketing and promotion. 7ps theory is developed from 4ps theory in the perspective of service marketing. It considers more micro marketing details based on focusing on the product itself. At the same time, it is more inclined to discover customer needs. Over the past decade, marketers and researchers have identified the importance of service marketing and the 7Ps theory for sustainable competitive advantage (Grönroos, 2004). A successful marketing mix approach can help companies achieve better customer service and support, greater efficiency and lower costs (Krasnikov et al., 2009).

To some extent, managing a service is more complex than managing a product because products can be standardized, whereas standardization of services is much more difficult and involves more input factors, namely physical evidence, process, and people (Grönroos, 1997).

Evidence suggests that managing the marketing mix (ie, Product, Price, Position, and Promotion) is less important than managing the interactive marketing dimensions (ie, Physical evidence, Process, and People) (Gummesson, 1987).

While the literature's definition of the 7Ps theory is broad and covers many dimensions, some dimensions are more important. In this case, marketing does not act as marketing function, but also becomes part of the various functions of the company (Grönroos, 2000). The concept of marketing mix and the additional three Ps of service marketing have been defined by many marketing researchers from different backgrounds and industries, and it is important to study these Ps. It is worth noting that many researchers focus on analyzing the impact of a single marketing mix on firm performance (Lymperopoulos et al., 2013). However, marketing mix does not yield a single marketing strategy. It may lead to all seven Ps interacting simultaneously (Lees et al., 2007).

People are a unique part of the marketing mix. An organization’s people deliver services to customers on behalf of the organization. If these people are not trained in how to conduct face-to-face customer service, then the overall marketing effort may not effective (Anca & Daniel, 2012). Service is a performance, and it is often difficult to separate the performance from the people. The way people deliver services can be an important source of differentiation and competitive advantage (Rajesh et al., 2014). This is why the element of 'People' is so important in the 7Ps of the service marketing mix (Wilson et al., 2016).

With regard to Physical evidence, generally speaking, services are often intangible, and customers cannot assess their quality very well. This is why clients use the service environment (Physical evidence), as an important proxy for quality. The service environment, also known as the service landscape or Physical evidence, relates to the style and appearance of the physical environment and other elements of the experience that customers encounter at the place where the service is delivered (Lovelock, 1983). Companies need to carefully manage Physical evidence as it can have a profound impact on customer perceptions (Kranias & Bourlessa, 2013). The appearance of the building, landscaping, interior furnishings, equipment, staff uniforms, signs, communication materials and other visible cues all provide Physical evidence of the quality of a company's services (Fukey et al., 2014), which in turn affects customer satisfaction.

Process is the architecture of a service (Amin et al., 2013). The Process describes the approach and sequence in the service and creates the value proposition promised to the customer (Salloum & Ajaka, 2013). In high-touch services, the customer themselves are an integral part of the operation and the process becomes their experience (Helm & Gritsch,

2014). Poorly designed processes may annoy customers as they often lead to slow, frustrating, bureaucratic, and low-quality service delivery (Lähteenmäki & Nätti, 2013). Well-designed processes ensure service availability, consistent quality, complete ease, and convenience for customers (Purcărea et al., 2013). Since services cannot be inventoried, a well-designed process management system is essential to balance service demand and service availability (Sheorey et al., 2014).

2.4 PEST macro-environmental analysis

In order to optimize the marketing strategy of Company D in China, it is necessary to analyze the internal and external environment faced by Company D in China, identify trends, opportunities, and threats, and identify the strengths and weaknesses of Company D in China itself. PEST analysis is an effective tool for analyzing the external environment.

2.4.1 PEST origins

PEST analysis is a basic tool used to analyze the external marketing environment and help organizations examine their external macro-elements, i.e. an analysis method of the external environment. Different industries, companies and organizations need to analyze each factor according to their own characteristics and management needs, i.e. in terms of the four main external factors: P is politics, E is economy, S is society and T is technology. When analyzing the context of a company, it is these four factors that are usually used to analyze the situation the company is facing (Porter, 1982).

The emergence of PEST can be traced back to 1976 when Francis Joseph Aguilar, a Harvard economics professor, used the term "ETPS" in his book "Scanning the Business Environment". The term "ETPS" was his mnemonic for the four macro-environmental factors: economy, technology, politics and society. Following the release of the book, Arnold Brown of the Institute of Life Insurance (in the US) dubbed it as 'STEP'. In subsequent developments, several scholars, including Hitt and Ireland (1987) and Porter (1982), have added different classifications to assist individuals or teams more effectively in their macro-environmental scanning, resulting in different arrangements such as PESTLE, STEEPLE and so on. The academic community is generally of the opinion that Gerry Johnson and Kevan Scholes formalized the PEST analysis in 1999 (G. Johnson & Scholes, 1998).

2.4.2 PEST content

PEST aims at analyzing the macro environment, also known as the general environment, which refers to the various macro factors that affect all industries and companies. The specific content of the analysis will vary from industry to industry and from company to company, depending on their own characteristics and business needs.

(1) Political environment

The political environment includes the social system of a country, the nature of the ruling parties, and the government's guidelines, policies and decrees. Different countries have different social nature. Different social systems have different restrictions and requirements on organizational activities. Even in the same country with the same social system, the attitude and tendencies of its government's policy on organizational activities are constantly changing at different times due to the different ruling parties. When the political system and structure, as well as the attitude of the government towards the business operated by the organization changes, and when the government issues laws and regulations that are binding on the operation of the business, the business strategy of the company must be adjusted accordingly. The legal environment mainly includes laws and regulations that are binding on business operations, such as anti-unfair competition laws, tax laws, environmental protection laws and foreign trade regulations. The political and legal environment is actually an inseparable set of factors from the economic environment. Companies in competition must carefully study a government's business-related policies, such as national tax laws, anti-monopoly laws and trends towards deregulation, as well as understanding some of the international trade rules, intellectual property regulations, labor protection and social security that are relevant to the business. These relevant laws and policies can affect the operations and profits of various industries.

The main influencing factors are listed following.

(i) The relationship between companies and government; (ii) Environmental protection laws; (iii) Diplomatic situation; (iv) Industrial policy; (v) Patent law; (vi) Government expenditure; (vii) Change of government; (viii) Government budget.; and (ix) Other government regulations.

The political and legal variables that are important to company strategy are listed following.

(i) Government regulation; (ii) Special tariffs ;(iii) The number of patents; (iv) Government procurement size and policies; (v) Import and export restrictions; (vi)

Amendments to tax laws; (vii) Amendments to the Patent Law; (viii) Amendments to the Labour Protection Law; (ix) Amendments to company and contract law; and (x) Fiscal and monetary policy.

(2) Economic environment

The economic environment includes both macro and micro aspects. The macroeconomic environment mainly refers to a country's national income, Gross National Product and its changes, as well as the level and speed of development of the national economy that can be reflected through these indicators. The microeconomic environment mainly refers to factors such as the income level, consumption preferences, savings and employment level of customers in the area where the company is located or where is served by the company. These factors directly determine the current and future market size of a company. The key strategic elements that make up the economic environment generally include: GDP, interest rate levels, fiscal and monetary policies, inflation, unemployment levels, disposable income levels, exchange rates, energy supply costs, market mechanisms, and market demand. As companies are micro-individuals in a macro-environment, the economic environment can determine and influence the company’s strategies. Economic globalization also brings about economic interdependence between countries, and companies need to pay attention to, search, monitor, forecast and assess the economic conditions of countries other than their own in the decision-making process of various strategies.

(3) Socio-cultural environment

The socio-cultural environment includes the level of education, religious beliefs, customs, aesthetic views and values of the inhabitants of a country or a region. The level of education affects the level of needs of the population. The religious beliefs and customs may prohibit or resist certain activities. The sense of values affects the acceptance of the companies, company activities and existence of the company. The aesthetic views, in turn, affect attitudes of inhabitants to the content, the methods, and outcomes of company activities. The most significant influencing factors are the demographic environment and the cultural context. The demographic environment includes factors such as population size, age structure, population distribution, ethnicity and income distribution. Each society has its core values, which are often highly persistent. These values and cultural traditions are steeped in history, transmitted through family and social education, and hence have considerable stability. Each culture has several sub-cultures, which is made up of groups with a common language, a common value system and a common life experience or living environment. Different groups have different social attitudes, preferences and behaviors, and thus show different market demands and

different consumer behavior. In addition, we cannot ignore the natural environment, which refers to the geographical, climatic, resource and ecological environment of the regional markets. Different regional companies differ in business strategy due to the natural environment in which they are located.

(4) Technological environment

The technological environment includes changes in the field in which the company operates, developments of technology R&D cost, as well as the rate of technology transfer and technology commercialization in relevant industries, patents and their protection.

PEST analysis is mainly used for strategic planning, market planning, product development and research report writing. Because the analyzed external environment is very complex, companies need to use other analytical tools together, based on their experience and intuition, to determine which are the key influencing factors, to ensure the validity and accuracy of the PEST analysis. Because the external environment is constantly changing and unpredictable, companies need to have strong information gathering, feedback and processing capabilities in the PEST analysis process, with strong reflective speed and analytical ability to accurately determine the external environmental factors affecting company strategy, as shown in Table 2 in Annex D.

2.4.3 The development and application of PEST analysis

PEST analysis has been widely used and many scholars have used it to make recommendations for market development and planning in different industries. Through comparative analysis of political and legal factors, economic factors, socio-cultural factors and the technological environment with the PEST model, Zhao and Diao (2013) identified the similarities and differences between luxury goods industry in China and India, from both an internal and external perspective, and laid the foundation for branding strategies. Vasilenko et al. (2018) used PEST analysis to present the problems in the development of the transport sector, considering the advantages and disadvantages of different modes of transport. S. G. Lee et al. (2013) firstly analyzed the newly established SaaS market in South Korea in order to promote the adoption of ‘Software as a Service (SaaS)’. Then, they used a two-factor theory-based approach to divide the SaaS market into two domains: adoption-driven and adoption-inhibited. The results of the methodology demonstrate the validity of the consumerization phenomenon and PEST analysis from the perspective of the adoption-driven domain. The customer factor in the consumerization phenomenon and the economic factor in

the PEST analysis are the most important driving force of SaaS adoption. From the perspective of inhibiting regions, customer factors as well as vendor and environmental factors inhibit SaaS adoption. According to PEST analysis, social, economic, and political factors hinder SaaS adoption. These results have important implications for Asian countries with newly established SaaS markets (S. G. Lee et al., 2013). Khalid et al. (2020) for the first time used a political, economic, social and technological framework to identify detailed prospects for the development of anaerobic digestion (AD) in China. They conducted an in-depth cost-benefit analysis, and the information provided by the study helped to drive implementation of anaerobic digestion (AD) systems in China and other developing countries.

PEST analysis can be extended to STEEP analysis, STEEPLE analysis and other forms of analysis, mainly based on the different characteristics and needs of companies, focusing on corresponding analysis points. For example, STEEPLE is an abbreviation for the following factors, Social/Demographic, Technological, Economic, Environmental/Natural, Political, Legal, Ethical and Social Responsibility. The main focus is on the environment, law, ethics and social responsibility. The STEEP model has added Ecological to emphasize the importance of the natural environment to strategic decision-making.

2.5 SWOT i analysis tool

2.5.1 SWOT analysis tool

SWOT analysis is one of the most widely used tools in the world because it allows for a quick and effective assessment of the strengths (S), weaknesses (W), opportunities (O) and threats (T) facing any organization or company (C. Y. Gao & Peng, 2011). Strengths-Weaknesses-Opportunities-Threats (SWOT) analysis is one of the most popular tools used to define strategic actions for organizations. The beauty of SWOT is that it takes an internal review of an organization’s capabilities and then conducts an environmental scan to identify appropriate opportunities and threats. SWOT analysis of external opportunities and threats as well as the internal strengths and weaknesses of a company is important for strategy formulation and development. The analysis purpose of the external opportunities and threats is to assess whether a company can seize opportunities and avoid threats when faced with an uncontrollable external environment such as price fluctuations, political unrest, social transformations and changes in the rule of law. The analysis purpose of an internal strengths and weaknesses is to assess how the company conducts its internal work, such as management,

efficiency, research and development. If used properly, SWOT can provide a good basis for successful strategy development.

SWOT is a popular tool used for strategic level decision making which analyses the internal and external environment to obtain a systematic approach to the decision making (Kahraman et al., 2008). The purpose of any SWOT analysis is to identify the main strengths and weaknesses of the organization as well as the opportunities and threats in the environment. Strengths and weaknesses are based on the organization's 'internal audit'. Opportunities and threats relate to the 'environmental factors' that decision makers should consider when planning strategic actions. Opportunities represent environmental factors that can be used effectively, while threats need to be considered because they have the potential to harm the organization (Gable et al., 2007). Strategies are usually developed on the basis of existing strengths, eliminating weaknesses, exploiting opportunities and suppressing threats. SWOT identifies strengths and weaknesses by conducting an internal assessment of the company and an external assessment of the environment. The internal assessment examines all aspects such as people, facilities, location, products and services to identify the strengths and weaknesses of the company. The external assessment scans the political, economic, social, technological and competitive environment to identify opportunities and threats (Dyson, 2004).

The SWOT matrix is based on matching external opportunities and threats with internal strengths and weaknesses of the company, to produce four strategic options. The SO strategy involves making the most of opportunities by exploiting the existing strengths of a given organization. The WO strategy helps the organization to benefit from the opportunities of external environmental by considering the weaknesses in the organization. Similarly, ST is a strategy that uses organizational strengths to eliminate or reduce threats. The fourth and final strategy is WT, where the organization tries to reduce the impact of its threats by considering its weaknesses (Yüksel & Dagdeviren, 2007).

Over the last few decades, many SWOT definitions have emerged that have helped to build the profile and relevance that the tool can have when managing a company. A SWOT analysis allows an organization to have an integrated vision of its entire strategy and allows an organization to understand how internal capabilities relate to external capabilities in order to gain a competitive advantage and ensure the success of the company (Mintzberg, 1990). Over the years, many critics have attributed SWOT analysis; however, despite its simplicity and applicability to any situation, the tool will continue to be one of the most common tools used to develop strategy for any organization, as it is challenging to find other tools that can identify strengths and advantages (Coman & Ronen, 2009; Hill & Westbrook, 1997). SWOT

analysis is part of a set of tools that can be used to help plan and strategy development and is often used by managers of companies in the form of brainstorming, which helps to identify and position the company's capabilities and environment within each section of the tool and then make the right decisions (Hill & Westbrook, 1997).

Due to increasing competition, any organization must invest in its strategic planning process and must have the ability to create value where others are unable to seize or see opportunities, and through eliminating threats, or mitigating their weaknesses. To do this, however, must be the ability to build a unique strategy that constitutes a competitive advantage over competitors. This can only be achieved through the use of tools such as SWOT, which allow a comprehensive understanding of all aspects of a company's internal and external environment to achieve a level of excellence (Cooke, 2005). For these reasons and its ability to help formulate corporate strategies, SWOT analysis has been used as a key tool in many different businesses (Agarwal et al., 2012). Due to all its features and associated advantages, the tool can be used in a variety of settings and domains, such as commercial companies, government departments, non-profit organizations, marketing development, reporting departments, and communication departments, among others (Tuncay, 2015).

2.5.2 Expansion of SWOT analysis tool

SWOT analysis starts from the internal and external conditions of the research object, analyzes its macro and micro environment, and draws conclusions as the basis for decision-making. It has strong relevance with PEST analysis. It can be said that PEST analysis is a part of SWOT analysis. Therefore, more and more scholars combine the two together for research. SWOT combined with PEST analysis (hereinafter referred to as the SWOT comprehensive analysis method), can analyze the influencing factors of a marketing strategy in four dimensions, namely political, economic, social and technological, and compare their strengths, weaknesses, opportunities and threats, resulting in a matrix. SWOT comprehensive analysis method is a matrix approach for strategic analysis that allows for the systematic analysis of political (P), economic (E), social (S), technological (T), and other relevant influences within a unified framework (Liang et al., 2021).

SWOT comprehensive analysis method systematically matches and cross-analyses independent factors to present a detailed and scientifically comprehensive picture of the various factors. How to maximize the advantages and counteract the disadvantages should be the focus of consideration. In the study of the subject, the internal strengths (S), weaknesses

(W), external opportunities (O) and threats (T) of the subject are combined with factors such as political (P), economic (E), social (S), and technological (T) in an unified framework for systematic analysis, which is conducive to understanding the environmental conditions of the subject and providing strategic decisions for the optimal development of the subject. In domestic practice, SWOT and PEST analysis are often used to analyze the management system and strategic management of a company.

The analysis process of SWOT comprehensive analysis method is as follows:

1) Analyze the environmental factors that may have an impact on the research subject. List the strengths and weaknesses of its internal environment, external opportunities and threats, as well as political, economic, social, and technological factors.

2) Establish a analysis matrix and present the factors in a diagram charts.

3) Form strategic options. After the matrix analysis results in 16 sub-proposals, the 16 sub-proposals can be divided into four groups. The first one is S-type strategy (SP, SE, SS, ST), which focus on strengths and maximize the impact of these factors through decision-making. The second one is W-type strategy (WP, WE, WS, WT), which focus on weaknesses. The purpose of W-type is to let the organization make full use of the opportunity factors to overcome the weaknesses through decision-making. The third one is O-type strategy (OP, OE, OS, OT), which focus on the opportunity factors. The organization can play an advantageous role and make full use of the opportunity factors using decision-making. The last one is T-type strategy (TP, TE, TS, TT), which focus on the threat factors. The purpose of T-type is to let the organization play an advantageous role through decision-making to neutralize threat.

4) Develop action strategies. Development of SO strategy is to seize the opportunities embodied in the external environment based on the strengths embodied in the internal environment. Development of WO strategy is to use the opportunities brought by the external environment to overcome the weaknesses of the internal environment. Development of ST strategy is to match the strengths of the internal environment with the threats of the external environment. Development of WT strategy is to match the weaknesses of the internal environment with the threats of the external environment.

The constructive role of SWOT comprehensive analysis method is reflected in the following aspects. First, factors which are seemingly independent and little connected are integrated and cross-analyzed, so that various factors are presented in detail and the final strategic plan is more scientific and comprehensive. Second, this analysis focuses on the political, economic, social, and technological performance of the research subject on the

premise of a comprehensive grasp of internal strengths and weaknesses and external opportunities and threats. By listing the strengths and weaknesses of the subject, decision makers can see the positive side and face the weaknesses at the same time, so as to avoid the harm. By analyzing the opportunities and threats, decision makers can seize the opportunity and be confident while considering the possible risks. However, as an open-ended model, SWOT comprehensive analysis method is always in a dynamic process of change, and the transformation of any one of the factors to its opposite side may produce unfavorable results. How to maximize the effect of favorable factors and counteract the influence of unfavorable factors should be the focus of consideration. This thesis attempts to establish several principles and mechanisms to promote the sustainable development of enterprise.

As theoretical research lasting, SWOT comprehensive analysis method has become one of the main analytical methods for systematic research and strategizing, not only for strategic guidance of profit-making organizations such as enterprises, but also for systematic analysis of the current situation and prospects of non-profit organizations such as government departments, charities, institutions, and even specific industries. S. H. Huang et al. (2012) studied the current situation of the sportswear industry in China through three analyses. Among them, PEST analysis (political, economic, social and technological) was used to examine the external environment of the sportswear industry, while market analysis was used to examine the current market situation of the industry. SWOT analysis was conducted based on the findings of the PEST and market situation analysis. Accordingly, possible strategies extracted from SWOT analysis are given to provide strategic planning reference for the industry. Mainali et al. (2021) analyzed the characteristics and commonalities of market conditions in the construction industry in Denmark and Sweden. The market analysis covers political, economic, social and technological (PEST) dimensions, and SWOT comprehensive analysis method formed some strategies for deep transformation. X. Li and Pan (2017) presented the current situation of the commodity flow and then used the SWOT comprehensive analysis method on the internet platform to analyze the commodity flow model, analyzing the impact of the internal and external environment of the trade flow, including strengths, weaknesses, opportunities, threats, and political, economic, social and technological aspects. Finally, the impact of the commodity trade flow was analyzed and development strategies corresponding to the transformation and upgrading of the commodity flow in China were proposed. Xie et al. (2019) focused on the development of China's energy storage industry in the context of China's "Internet+" era, summarized the industrial situation and policy environment, analyzed China’s energy storage industry using the SWOT

comprehensive analysis method, and discussed the development trend and three cases under the "Internet+" initiative. Finally, recommendations are made in terms of energy storage systems, development solutions, market design, and international cooperation for the problems and future challenges faced by the China's energy storage industry. Hou et al. (2019) reviewed the current situation of energy poverty in rural China, drawing out the need to develop photovoltaic power generation in these areas. From the perspective of precise poverty alleviation, the current situation of PV power generation for poverty alleviation is introduced in terms of poverty alleviation type, business model, and poverty alleviation projects. The internal strengths and weaknesses, as well as external opportunities and threats of PV power generation are analyzed through the SWOT comprehensive analysis method, including policy, economy, society, and technology. Based on the analysis of the strategic model, countermeasures were proposed in terms of policy recommendations, market mechanisms, and technical support. J. Huang et al. (2019) conducted SWOT comprehensive analysis method on SDH (solar district heating) development in China to promote it. They summarized the development strategy, roadmap, and decision-making process for SDH projects based on the Danish experience and Chinese clean heat retrofitting practices. Tan et al. (2018) introduced the current status of the energy storage industry, studied relevant policy documents, and laid the foundation for the study of the internal and external ecology of the energy storage industry. Using the SWOT comprehensive analysis method, the strengths, weaknesses, opportunities, and threats of China's energy storage industry were analyzed. Finally, based on the results of the analysis, a strategic analysis matrix of the energy storage industry was constructed to provide strategic ideas for the development of China's energy storage industry. Tong et al. (2015) used the SWOT comprehensive analysis method to analyze the conversion of rural pension insurance fee to tax, from the political, economic, social and technological aspects, to explore the pros and cons, opportunities and challenges of conversion of rural pension insurance fee to tax, and to assess its development environment with a view to conducting an exploratory study on the strategic choice of rural pension insurance fee to tax conversion. Maisyaroh et al. (2017) argued that in order to survive in the business environment, companies need to develop core competencies by understanding their competitive advantages. Identifying opportunities for competitive advantage requires an understanding of industry competition. The company needs to assess the level of competition and the company's position in the industry, and must respond to changes in the external environment. Then, the company can arrange appropriate strategies to win the competition. Michael Porter's Five Forces Model, SWOT comprehensive analysis method is used to

analyze competitive advantages and develop strategies. Michael Porter's Five Forces Model is used to provide the level of competition and the company's position in the industry, while PEST analysis is used to analyze the macro environment of the organization, and finally, SWOT analysis is used to develop corporate strategies based on Porter' and PEST analysis. Liang et al. (2021) summarized the research trends and development status of social welfare crowdfunding from the perspective of SWOT comprehensive analysis method, deconstructed the strengths, weaknesses, opportunities and threats faced by social welfare crowdfunding from political, economic, social and social aspects, and proposed feasibility analysis of relevant development strategies to provide reference for its future sustainable development. Y. Li and Zhao (2019) used the SWOT comprehensive analysis method to analyze the investment environment of the waste-to-energy industry; analyzed the investment environment of the waste-to-energy industry from four aspects: policy, economic, social and technological; and pointed out the opportunities, threats, strength and weakness of the waste-to-energy industry, which can be used for inventor's reference and have far-reaching implications for the healthy development of the waste-to-energy industry.

Based on the aforesaid analysis, it can be seen that the SWOT analysis is one of the most widely used tools for strategic decision making for organizations and has been gradually developed and refined in a complex and ever-changing environment, resulting in a new SWOT i analysis framework that will be an important basis for developing marketing strategies for DELL China in this study.

2.5.3 Defects of SWOT

SWOT analysis, although widely used, still has defects. SWOT does not propose a direct method to identify strengths and weaknesses, focusing more on the organization's excessive strengths and weaknesses, rather than the main strengths and weaknesses, which makes it hard to translate findings into action. There is no indication of a causal relationship between strengths and weaknesses, nor is there any hierarchy. SWOT analysis is usually a one-off event and lacks a mechanism to act on and monitor changes in long-term strengths and weaknesses. The results of a SWOT analysis are often just a superficial, imprecise list, or an incomplete qualitative examination of internal and external factors (Kurttila et al., 2000). The results lack objective, quantitative data, and inconsistencies can arise when the same problem occurs (David, 2011). Hence, through combining Analytic Hierarchy Process (AHP) with SWOT, Kurttila et al. (2000) provide a new hybrid approach to improve the usability of

SWOT analysis. Although consistency tests are used to ensure objective scoring of weights by the evaluation group, it is difficult to conduct SWOT analysis and comparison of multiple firms simultaneously (Stewart et al., 2002).

Based on this, a number of scholars have tried to improve the SWOT analysis tool. Coman and Ronen (2009) developed an integrated SWOT analysis approach to identify and diagnose the core competencies and core issues of an organization. The main problems in strengths and weaknesses analysis were mitigated by introducing three tools. The first tool is the event factor analysis which is acting as a rigorous generator of strengths and weaknesses. The second one is focused current reality tree (fCRT) which is to discover core issues. And the third one is core competency tree (CCT) analysis, which is to discover core competencies. The analysis consists of three tools.

(1) Event Factor Review (EFR), which analyses value-creating and disruptive events and generates a list of 'strengths and weaknesses' for the organization.

(2) Core Competency Tree (CCT), which distils the list of strengths to generate a short list of core competencies.

(3) Focused Current Reality Tree (fCRT), which refines the weaknesses into a short list of core issues.

H. Chang and Huang (2006) developed a quantitative SWOT improvement method and improved it based on Grand Strategy Matrix (GSM). Just as in the GSM, companies are parked in four quadrants of the coordinates by category. The vertical coordinates represent the external environment (opportunities, threats), while the horizontal coordinates represent the internal environment (strengths, weaknesses). The meaning of the four quadrants is shown as per Figure 7 in Annex D.

The first quadrant represents a firm 'has strong strength and greater market opportunities. Firms in this quadrant can use their strengths to develop a competitive advantage by market penetration, market development and product development. If a firm in the first quadrant has additional resources, forward, backward, and horizontal integration may be effective strategies.

Companies in the second quadrant are those who have market development opportunities but are at a competitive disadvantage. It is imperative that they fill in the gaps and strengthen their competitive strengths. If they lack unique capabilities, they may consider enhancing their competitive strengths through joint ventures or merger strategies.

Companies in the third quadrant are not very competitive and face threats from other competitors. Defensive strategies, such as focusing on the most favored markets, can be

adopted to avoid threats. If these strategies fail, divestiture or liquidation should be pursued.

Companies in the fourth quadrant are those who have competitive strength but face more threats than opportunities. Diversification or joint venture strategies should be used to reduce the threat.

Through quantitative SWOT analysis and the coordinates, companies can not only understand their position in the competition, but also make their development strategies.

2.5.4 SWOT i analysis

Despite its popularity, traditional SWOT analysis still gets some criticism and opposition to its methodology. The inability of SWOT analysis to analyze a company's internal environment in a relevant, comparative and evolutionary manner and the lack of an open, heterogeneous and differentiated approach to analyze the opportunities and threats occurring in the external environment sometimes prevent the company from adapting to their ability quickly and effectively (Vlados, 2019). In addition to this, sometimes a traditional SWOT analysis may not provide the most effective assessment of the internal and external environment as it is based on a qualitative analysis that may hold the subjective opinions and views of the organization’s managers. SWOT analysis only assesses from the manager's perspective and does not consider the customer's perspective, which is a mistake as managers cannot ensure that the organization’s capabilities are recognized and valued by customers (Piercy & Giles, 1989). The tool is unable to substantially analyze a company's strategy because it provides unclear and ambiguous outputs that do not differentiate or prioritize the factors that have been identified. Nevertheless, there is no criticism about that the tool does not focus on sustainability, climate change and how it can be improved to adapt SWOT decisions to sustainability. In an increasingly competitive market, according to new perspectives and paradigms, profit is no longer the only goal and organizations should share benefits with society, conserve ecological resources and ensure future availability (Chung et al., 2016). Interest in sustainability is becoming increasingly important to companies, and therefore any company must adapt its strategy and behavior to make this issue a core of the company's strategy to remain competitive, while also assuming greater responsibility for society, the earth and the environment.

In the current ever-changing environment, markets are no longer regulated by the same indicators as they once were. In recent years, issues such as sustainability and environmental awareness have become extremely important to companies, so that their implementation in

corporate strategies has become a common objective. For this reason, it is necessary to develop new strategies capable of responding to these trends, thus ensuring the competitiveness of organizations in the market (Dias et al., 2021), as well as new sustainable businesses (Dias et al., 2023). Recently, we have seen a significant change in the external environment for organizations, who should no longer prioritize profit maximization at all costs, but must move towards sustainable management to make decisions and take measures that meet consumer expectations. Because the main responsibility of organizations for their stakeholders is to maximize the positive impact and minimize the negative impact of their decisions. In order to attract and maintain them, companies must follow this path (Robins, 2005).

Thus, based on the above analysis, Pereira et al. (2021) propose a SWOT i analysis methodology, based on the achievements of ISCTE's strategy team, to adapt to a forward-looking sustainable world, with a convergent model that represents open innovation. With concern and sustainability as one of its pillars, SWOT i places the potential value and impact of each decision at the center of strategy development, thus leverages its performance, and helps companies to develop new strategies that can respond to new trends while remaining competitive. Research has found that sustainability has or could have an important role in a company's future and represents an opportunity for companies to grow and ensure long-term business success. SWOT analysis remains a widely used tool to help develop a company's strategy. It is easy to use, accessible and can be used to support the analysis of competitors, suppliers, markets, products and services, helping companies to gain a competitive advantage over others and to gain profit by doing so (Coman & Ronen, 2009). However, it needs to adapt to new trends in the business market when more complex and considered decisions about sustainability need to be made (Hill & Westbrook, 1997). Also important are values, which relate to environmental and sustainability issues. Values are a strategic framework for company behavior and decision-making. There is evidence that values are increasingly being practised by companies, such as reducing greenhouse gas emissions, water recycling, investment in renewable energy, environmental facilities and social action. The core dimension of values is sustainability and the impact of each decision has been taking into account. Sustainability can change a company's strategy, processes and mindset, and the implementation of environmental activities and social responsibility has become a priority to a company. Any company needs to be aware of what is happening in its external environment and act quickly (Elkington, 1998).

With regard to sustainability, for large companies with strong investing ability, the

sustainability departments can be created internally to help integrate sustainability into the company's strategy and create processes, behaviors and practices that will help the company grow in the future. For Micro, Small and Medium-sized Enterprises (MSMEs), with limited size and budget to create a separate department for sustainability, there is a need to turn to a set of tools to help assess the performance of the company in terms of sustainability so that it can invest in it. In such case, sustainability should be a core focus to facilitate change in the company's strategic planning.

The SWOT i analysis tool develops a map based on the strategic pillars and assumes that the strategy is planned according to the size of each pillar. This tool allows for the horizontal approach and visualization of all strategic paths. Each strategic pillar will always be defined according to the organization and all SWOT analysis will be constructed together with the strategic pillars under consideration. The SWOT i matrix combines concerns with a sustainability scope and is presented in management decisions. Although companies have established a values-based strategic framework and are focusing on environmental, social and economic issues, these values are often forgotten when they making decisions. In SWOT i, values are placed at the center of strategy formulation, which forces companies to consider the positive impact that actions may have on society. It should be noted that when SWOT i is used as a management tool, two issues must always be equated: firstly, whether the company's actions are in line with the company's values; and secondly whether the actions will have a positive or negative impact in environmental, social and economic terms, such as leading to increased climate change, social inequality and pollution. The SWOT i analysis tool is shown as per Figure 2.1.

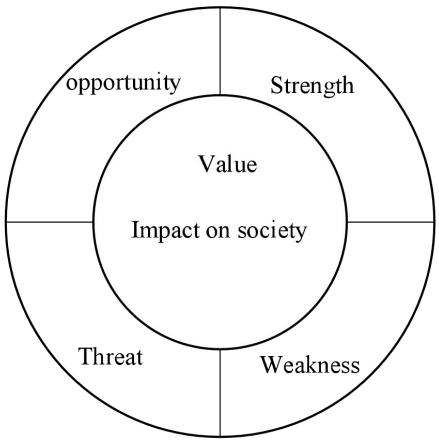


Figure 2.1 SWOT i analysis tool

Based on the aforesaid analysis, it can be seen that the SWOT analysis is one of the most

widely used tools for strategic decision making for organizations and has been gradually developed and refined in a complex and ever-changing environment, resulting in a new SWOT i analysis framework that will be an important basis for developing marketing strategies for DELL China in this study.

2.6 Review of research related to this thesis

2.6.1 Product and service quality & customer satisfaction

Essentially, the 7P marketing mix is a combination of products and services. First of all, the first marketing factor of the 7P marketing mix is the product, which is also the core factor, followed by the price, channels and promotion that are closely related to the product. These factors are particularly critical for companies with physical products like Company D in China and cast a great impact on the customer satisfaction of terminal B. Westbrook (1987) designed a satisfaction model of customers' needs, believing that the customer satisfaction with products or services depends on whether the products or services provided by the company can meet customers' needs. Research also showed that customer satisfaction depended on the actual performance of company products or services and marketing services. If the actual performance of products or services can meet the needs of customers, customers are likely to be satisfied, while if the actual performance of the products or services cannot meet the needs of customers, customers will be passive and not satisfied (Westbrook, 1987).

Secondly, in the 7P marketing mix, personnel, physical display, and process are based on the service, and service quality will also have an impact on customer satisfaction. Gronroos (1990) believes that the perceived service quality of customers is the premise of customer satisfaction, and the perceived service quality can be measured between customer's expectation of the products or services before purchasing and the actual quality perception after purchasing. When the customer's perception of the quality of the product or service is greater than the customer's expectation, the customer will deem that the service quality is good and will be satisfied with the product or service. If the customer thinks that the actual quality of the product or service is less than their service expectations, the customer will deem that the service quality is poor and will not be satisfied with the product or service. Johnston and Heineke (1998) believed that the actual performance of the company in customer service was different from the actual performance perceived by customers after they purchase the products or services. Bolton and Drew (1991) believed that service quality was a holistic

attitude of whether customers would re-purchase the products or services. Taylor and Jr. Cronin (1994) believed that the actual service performance of companies should be evaluated by the actual performance after customers purchased the products or services.

Therefore, based on the above analysis, product quality and service quality are the most critical factors that affect customer satisfaction.

2.6.2 Digitization and customer satisfaction

With the emergence and widespread use of new digital technologies, business models and processes have changed in every industry and company, and business rules have changed as well. Digital technology determines how companies create value through the network. Through digital communication and communication with customers, companies and customers are more closely connected. Meanwhile, companies are more able to track the behavior and attitude of customers, so that customers can dynamically participate in the process, thus improving customer satisfaction, and digitalization has become a key and a driving force of companies toward success (Büyüközkan et al., 2020). Scholars have proposed five key strategic areas in which digital technologies can affect businesses, including customers, competition, data, innovation and value. From a customer perspective, the mass market customer has become a dynamic network. Communication from the company to the customer has become a bidirectional communication. The traditional marketing strategy based on persuasion to buy has been replaced by customer purchasing behavior, customer loyalty and customer support (Rogers, 2016). Digital technologies have affected different areas of business and many companies have found it necessary to change their structures and business models to improve customer satisfaction. Digital transformation helps to determine the real needs of customers, contact them, and solve their problems, as well as provide products and services by anticipating their needs (Miguel et al., 2022). The relationship among digital marketing practices, customer satisfaction, customer participation and purchase intention has been studied. The results show that digital marketing practices significantly affect customer satisfaction and purchase intention, and customer satisfaction significantly affects purchase intention and mediates between digital marketing practices and purchase intentions (Dash & Chakraborty, 2021). Customer-centric management systems that contribute to customer relationship management using digital services have been studied. The results confirm that most dimensions of digital service quality are conducive to the development of customer satisfaction, and high customer satisfaction with digital services can lead to superior company

performance. Companies should also earn credibility from customers and design products according to customer preferences (Demirel, 2022).

Therefore, based on the above analysis, we have reason to believe that in the context of digitalization, companies will adapt products and services to the development of the times and indirectly affect customer satisfaction.

2.6.3 Corporate sustainability values and customer satisfaction

Sustainable development is or may be important in the future of a company and it is an opportunity for a business to grow and ensure long-term business success. Companies need to make more complex and thoughtful decisions about sustainable development and adapt to new trends in the business market (Hill & Westbrook, 1997). In addition, values also matters, as it is related to issues concerning environmental and sustainable development. Values are the strategic framework for corporate behavior and decision making, and there is evidence that values are gradually being practiced by companies, for example, reduction of greenhouse gas emissions, water recycling, investment in renewable energy, environmental protection, and social actions. The core of values lies on sustainability and it will be considered for each decision. Sustainable development will change the company's strategies, procedures and way of thinking. The implementation of environmental activities and social responsibilities has become the priorities. Any company needs to be aware of the current situation of the external environment and act quickly and make prompt actions (Elkington, 1998).

Therefore, we believe that the sustainability of company products and services will affect customer satisfaction according to the above analysis.

Chapter 3: Research Design and Research Method

As scientific research is “scientific” and “rigorous”, empirical research is often more convincing under compliance scientific design compared with qualitative paradigm research in the field of management sciences, and it applies objective data and scientific statistical methods for explanation and analysis. Therefore, we need to pay attention to the research design in the process. Research design is the start of the whole research, laying the foundation for the empirical development, model analysis and variable description and delineating a specific outline. Objectives and questions in the research are the basis for formulating recommendations for the research design, as they provide crucial clues about the substances to be evaluated by the researchers (Yin, 2013). The research design specifies a framework or blueprint. The research design also specifies the research method chosen, and determines the information required, as well as the sampling method, sample size, measurement, and data analysis process. Therefore, it is necessary to focus on the research design and method to guide the data collection process and meet the objectives. The type of research design is generally defined by the purpose of the research (Neuman & Rossman, 2006). In this chapter, we focus on sorting out the research design and the theoretical framework to provide a scientific method system for the later "empirical analysis" for verifying the “theoretical analysis and research hypotheses". Then, it introduces the research methods adopted, including the exploratory case study method, empirical research method, data collection methods, collection types and data processing methods, including primary data collection, secondary data collection, NVivo qualitative analysis method and structural equation model.

3.1 Research design

Customer satisfaction is crucial to the development of the company. Customer satisfaction brought by products or services of companies can improve the profit of companies, and improve market competitiveness. Meanwhile, it can make customers rest assured about the products or services of the company, encourage them to repurchase, and develop loyal customers. Therefore, more and more companies take customer satisfaction as a major development strategy. In the study of customer satisfaction in Sweden, it was concluded that customer satisfaction determines the will to repurchase (Anderson & Sullivan, 1990).

Moreover, a study shows that the company's service quality has a significant positive influence on customer satisfaction and loyalty, and customer satisfaction has a significant positive influence on the will to repurchase, and improving customer satisfaction with the company's products or services will greatly promote the will to repurchase of customers (Cronin Jr. & Taylor, 1992). Customer satisfaction with the quality of products and services casts a significant and direct impact on the willingness of customers to introduce company products or services to others, which will affect the business performance of companies (Parasuraman et al., 1994). Customer satisfaction of customers can be determined by their willing to recommend the products or services to others or buy them at a higher price (Zeithaml et al., 1996).

The product and service quality has a significant influence on customer satisfaction and affects the business performance of companies. The impact of product quality on firm financial performance has been studied (Anderson et al., 1999; Wayhan & Balderson, 2007). For example, with the implementation of total quality management, the performance of the company has been significantly improved (Choi & Eboch, 1998). Taking Taiwan companies as the research object, it was concluded that the stock market would have a positive reaction on the day when the companies won the quality award (Lin & Su, 2013). In addition, it was pointed out that product quality was positively related to company reputation, customer satisfaction and customer loyalty (Corredor & Goñi, 2011). With the increasing demand of consumers for service experience, companies pay more and more attention to improve service quality. The business performance brought by the improvement of service quality is manifested in two aspects: increasing revenue and less cost. A series of studies suggest that company service improvement can effectively increase company revenue and profits (Duncan & Elliott, 2002; Levesque & McDougall, 1996). Companies can obtain certification and recognition from relevant organizations, consulting companies and partners through high-quality services. Meanwhile, it has a positive impact on corporate image and word of mouth, product or service premium (Kitapci et al., 2014). Ekinci et al. (2011) believed that companies that provide excellent service quality can charge higher prices than their competitors, so as to obtain higher profits than other companies in the same industry. Through empirical research of economy hotels in Britain, it was concluded that the service quality of companies was positively related to product premium, brand loyalty and sales volume. It was pointed out that the average price of products or services of the top 20% of firms was 8% higher than that of their competitors in terms of quality of service (Gale, 1992). It was also indicated that the improvement of company service quality can increase the company's market

share and product premium (Phillips et al., 1983).

Customer satisfaction will directly affect company performance, and the quality of products and services is a key factor in the development of companies. Therefore, in this research, we intend to explore the influencing factors from the perspective of customer satisfaction and analyze the marketing strategies related to product quality and service quality that Company D in China should adopt in the B2B environment based on the research results.

Based on the aforesaid analysis, firstly, the 7P marketing mix, customer satisfaction and other theories have been deeply analyzed, and the two key factors that influence customer satisfaction have been summarized, product quality and service quality. Secondly, a theoretical model has been constructed to take product quality and service quality as independent variables and customer satisfaction as an induced variable. On this basis, two moderating variables, digitization and sustainability, were added to explore the segmentation of product quality and service quality through exploratory case study methods and SEM and other empirical research methods were applied to verify the theoretical model, as shown in Figure 3.1.

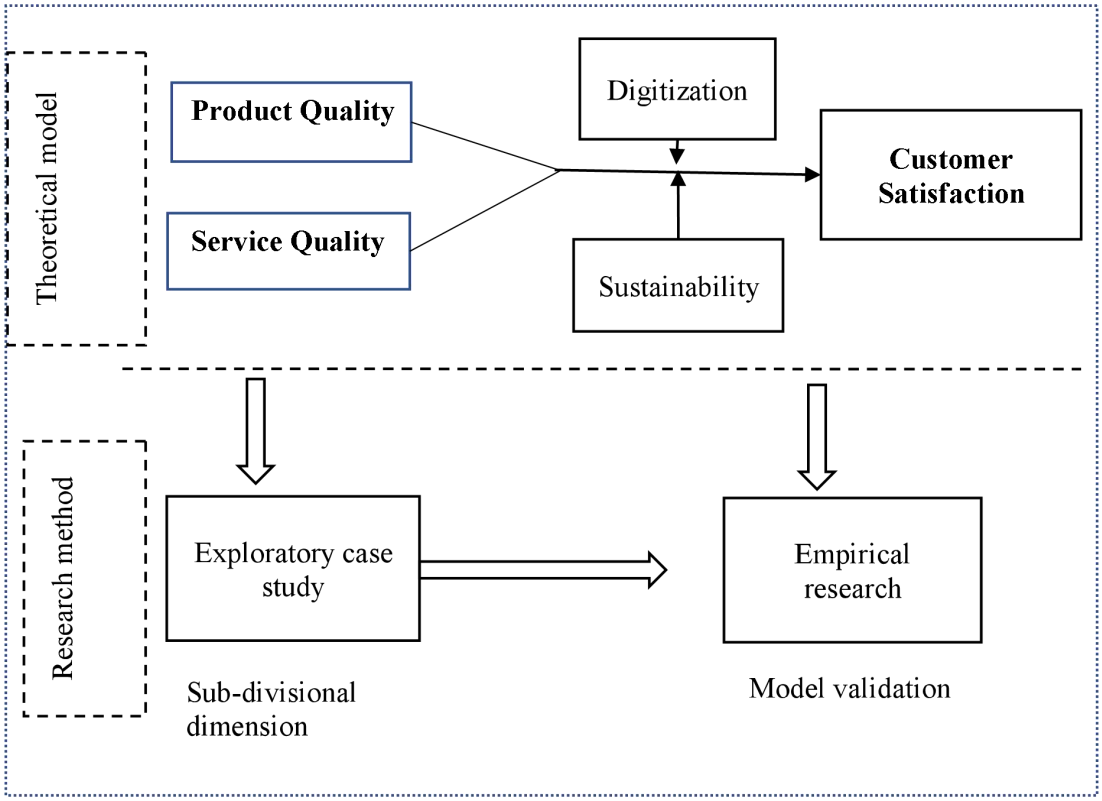


Figure 3.1 Research framework of this thesis

3.2 Exploratory case study method

3.2.1 Case study method

Research method is applied to research a general direction. The research method is defined as a master plan for how researchers answer research questions. They further pointed out that the corresponding research methods should be selected according to the research questions and objectives, the extent of research in the existing discipline knowledge field, a large amount of time and accessible resources and philosophical research foundation, and selecting appropriate research methods is necessary to carry out research.

According to the view of Yin (1994), case study is a kind of empirical research. As a research method, it is featured to study the current phenomenon in the real situation, and there is no clear boundary between the phenomenon and the real world. Researchers selected one or several scenes as objects, and systematically collected data and materials for in-depth research to explore the situation of a phenomenon in the actual living environment. The method is applicable to answer research questions such as "How", "Why" and "What" when it is hard to distinguish the boundary between the phenomenon and the actual environment, or when researchers cannot design accurate, direct and systematically controlled variables. Moreover, case study contains a typical design logic, specific data collection and unique data analysis methods, and it can be carried out by field observation and get information from research files. The research is qualitative and characterized in data collection and data analysis. For example, it relies on multiple sources of evidence, and different data and evidence must converge by triangulation and the same conclusion must be achieved. There is usually a theoretical proposition or problem definition developed in advance to guide the direction of data collection and focus of data analysis. It focuses on the examination of current events without intervening in the manipulation of events, so that the integrity of life events can be preserved and significant features can be found. Compared with other research methods, it can make a solid description and systematic understanding of the case, grasp the dynamic interaction process and the context of the situation, and obtain a more comprehensive and holistic view.

Case study methods can be interactively classified according to three basic dimensions: the purpose of the study, the number of cases, and the hierarchy of cases. According to the purpose of the study, it can be divided into three categories: exploratory, descriptive, and explanatory. Exploratory case studies are to define the questions or hypotheses to be studied or to judge the feasibility of the proposed research protocol. Descriptive case studies provide

a complete description of the phenomenon and its context. Explanatory case studies provide causal information and explain how things happen. According to the number of cases, it can be divided into two categories: single-case and multi-cases, in which double-case can be regarded as a special case in multi-case category. Cross-case analysis is the aggregation of findings from various case studies, which is the main form of multi-case study. According to the hierarchy of the case, it is divided into two categories: holistic type (single level analysis) and embedded type (multi-level analysis). From the perspective of research design, single case study is suitable for extracting theories or laws explaining complexities, and single case study is suitable for longitudinal process research and analysis, which is conducive to capturing new phenomena emerging in management practice (Gioia et al., 2013; Gioia & Thomas, 1996). Multi-case (cross-case) studies can apply replication logic, and each case can be used to verify or disprove inferences drawn from other cases (Yin, 1994). Compared with single case study, a more robust and universal theory can be obtained by using replication logic (Eisenhardt & Graebner, 2007).

This study was carried out in the way of single case study. According to the general steps of the case study presented by Eisenhardt and Graebner (2007), the case study is divided into three phases. Phase I is about preparation, covering study case initiation, study design, case selection, research tools and methods, phase II is about execution, covering data collection, data analysis and hypothesis formation, and phase III is about dialogue between conclusions of the case study and existing literature. To be specific, put forward the core theoretical contribution of the research, and try to saturate the theory, and complete the case study.

3.2.2 Case object selection

The companies for single case study were mainly selected according to the principle of typicality and inspiration, which should meet the requirements of "theoretical sampling" (Eisenhardt & Graebner, 2007), and the case company should highly match the research topic and be suitable for developing and extending the correlation logic between the constructs in this research. Therefore, the thesis sets out two key criteria for selecting case company: 1. The case company is a typical IT company (B2B), and the company has a certain popularity in the e-commerce field, with a large scale. It has experienced a significant marketing transformation process and the marketing strategy of the company has changed significantly. 2. The data availability of the case company is high. It can get the primary data from interviews and have a large number of sources of secondary data. It can form a complete

evidence chain and case evidence triangulation verification to ensure the scientificity of the research data. Based on these principles, Company D, a giant company in the field of traditional e-commerce, was chosen as the case study object.

Company D, founded in 1984, is a Fortune Global 500 company headquartered in Rondrick, Texas, USA, it is best known for production, design and marketing of home and office computers. Moreover, it taps into the high-end computer market, and engages in production and marketing of servers, data storage equipment and networking equipment. Company D was listed in the Fortune Global 500 in 1992 and has been on the list of the "Most Admired Companies" on Fortune since 1995, ranking No.10 in 2001 and No. 6 in 2011. In January 2018, Company D went public in a reverse merger with VMware, a cloud-computing company it controls. On July 19, 2018, in the released list of Fortune Global 500, Company D ranked No. 93. In December 2018, it was ranked among Fortune Global 500 2018. In October 2019, it was ranked No. 63 in the list of Top 100 Global Brands released by Interbrand. Company D targets its core business at the B2C business end, including Dimension PCs for home or small business, Inspiron laptops for home or small businesses, XPS high-end entertainment computers, OptiPlex desktop computers, Vostro business laptops, Latitude company laptops and other products. With the transformation of business layout, Company D is also involved in a large number of B2B businesses, including Power Edge servers, Power Vault and EMC storage solutions, Precision workstations, Power Connect switches and other products and services. In the United States, Company D is the leading provider of personal computers to business users, government agencies, educational institutions, and consumers. Company D has further promoted its direct-order model through Internet, making itself in the leading position again. Based on Microsoft's Windows NT operating system, Company D has been operating the world's largest Internet commerce site, and the sales from the site account for 40%~50% of the company's total revenue. The D website operated by the PowerEdge server of Company D includes sites in 80 countries and has been viewed by more than 40 million people every quarter. Customers can evaluate multiple configurations, get immediate quotes and technical support, and order one or more systems.

In the B2B marketing transformation in recent years, Company D began to transform from a PC manufacturer to a solution supplier. In the three years from 2009 to 2012, Company D carried out a series of plans for acquisition and integration (according to incomplete statistics, over 20 company manufacturers were acquired during this period). It has built a product portfolio with solution capabilities, especially in the four directions,

software, storage, networking and security. In the process of transforming from B2C market to B2B market, the best-known "three gold principles" of Company D, that is, "Adhere to the direct selling", "Abandon the inventory" and "Alliances with customers" have changed significantly. However, the effectiveness of marketing strategies and the customer satisfaction improvement by products and services provided after B2B mode transformation have caught our attention, and they have become the core issues of the study.

3.2.3 Case study design and ideas

This study comprehensively uses research interviews, network information, site visits and some other methods to conduct in-depth research on the case enterprise to ensure the validity of case study. The primary data is mainly obtained through reviews on the business backbone and middle and senior managers from the case enterprise. The interview on each interviewee lasts for about 1 hour and it is mainly about brief introduction of the enterprise. During the interview process, the interviewees are encouraged to make clear explanation rather than empty comments for the events (Eisenhardt, 1989). Besides, three interviewees from the same enterprise will be asked to give opinions on the same question to ensure that the principle of triangulation verification is followed and to ensure the validity of the interview data. Due to the confidentiality of complex product industry, the secondary data collected are the main data for this study. The sources of secondary data mainly include the official website news, announcement, brochures, Wechat official account, enterprise journal, enterprise newspaper and industry analysis report. The various ways and channels can ensure the correctness of the accuracy data. Finally, through the combined use of primary data and secondary data, relevant subjects are extracted for this study, and problems such as data omission, information insufficiency and deviation are effectively avoided.

Early from the stage of study design, this study adopts a multi-level research scheme to maintain the rigor, standardization and logic of the case study, and ultimately ensure the reliability and validity of the case study. (1) In construct validity, three methods are mainly used. First, the triangulation verification of data is adopted, that is, data from various sources, including data obtained from in-depth interviews and secondary data are used to complement and verify each other. Second, the method of devil's defense is used, that is, make report to the tutor, professors of the department, and members of the research team, accept their suggestions and make revisions to the case study according to the suggestions. Third, form a complete evidence chain, that is, establish a complete, clear and continuous evidence chain. (2)

In validity, two methods are mainly used. First, for the establishment of explanation, make revision to the proposition, construct and research model proposed by this study through the method of data comparison to verify and improve the matching degree of the proposition and data. Second, make analysis of corresponding assumption, that is, compare and revise the similar or opposing viewpoints in documents and practical data related to customer satisfaction theory, marketing strategy, and 7p theory. (3) In reliability, four methods are mainly used. First, make a detailed research plan, that is, put forward a thorough research plan and correct the plan according to the suggestions made by the tutor and experts to make it perfect. Second, establish a database, that is, classify the interview data, investigation record, and document materials and put them in storage. Third, pay special attention to reference of original evidence, that is, when using secondary data, reference of original document should be used to present the evidence chain. Finally, record the case execution process in detail and execute it repeatedly, that is, discuss with other research members during the process of data analysis until a consistent conclusion is reached.

3.2.4 Case data processing

Data collection is generally performed in good case studies and depends crucially on the competence of researchers. Researchers tasked with collecting data need to be able to ask good questions, listen, and give interpretive answers. This requires that the researchers involved hold well onto the issues and propositions of the case studies and approach the research in an impartial and flexible manner. A wide variety of data collection methods and techniques can be used in research, including usable information (literature review), observations, interviews (face-to-face), written questionnaire management, focus group discussions and projection techniques (mapping and scaling) (Moser & Kalton, 2017). Data acquisition tools can be divided into tools for quantitative analysis and qualitative analysis.

Because the chosen case company has a large volume and involves a long time period, in order to better restore the whole marketing process of case company, the research team has carried out interviews multiple times, and collected data from such channels as historical files, personnel interviews, documents, corporate annual reports, corporate websites, research reports and public media data to enrich evidence materials and form "data triangulation" (Glaser & Strauss, 2017) and ensure the reliability and validity of the study. Besides, in order to have a deeper understanding of the marketing process of Company D in China, the research team also visited the sales area and customer activities on the spot many times to observe and

experience the current situation of B2B marketing mode of the Company, interview and survey with marketing workers, master first-hand marketing mode information, thus having a deeper understanding of the similarities and differences of marketing modes of two different markets. The case data sources of this study are shown in Table 3.1.

Table 3.1 Case data source and coding

Data Type	Data Category	Coding Category
Primary data	Data obtained from formal semi-structured interviews	A
	Data obtained from informal interviews	B
	Data obtained by field observation and participatory observation	C
Secondary data	Internal working documents, work records and promotional materials provided by the company	G1
	Information from the corporate website and official account	G2
	Media reports from other websites	G3

(1) Primary data collection: semi-structured interviews

Interviewing is a data collection technique involving verbal questioning of respondents, including individuals and groups (Patton, 2002). It allows researchers to leave the lab to get primary data. In this study, the data collection technique allowed us to better detect and understand some responses that we were not clear about, so as to study the situation from the perspective of the participants. To be specific, this research was conducted in form of semi-structured interviews, which refers to informal interviews conducted according to the broad outline of interviews. There was only a basic requirement on the condition of the interview object and the questions to be asked. The interviewer can flexibly make necessary adjustments according to the actual situation of the interview. There was no specific requirement on the way and order of questioning, the way of answering and interview recording, and the time and place of the interview, which were decided by the interviewer as the case may be.

This research interviewed a total of 31 senior executives in company D in China, with a frequency of 33 times. They are managers who have worked in the IT industry for more than 10 years and at Dell for more than one year. And Interviewed 25 enterprise customers, with an average of nearly 30 minutes per person. Finally, a first-hand interview data of 2265 minutes and a total of 246000 words was formed. The interview information is shown as per Table 3.2.

Table 3.2 The interview information sheet

Name	Interview object	Interview content	Frequency	Interview duration	Record the word count
Senior corporate managers	Senior VP	D the influencing factors of the company's development process, advantages, weaknesses, opportunities, threats, and	1	60 Minutes	8,000 Words

Name	Interview object	Interview content	Frequency	Interview duration	Record the word count
		customer satisfaction			
	VP	D the transformation and development process, advantages, weaknesses, opportunities, threats and customer satisfaction	1	45 Minutes	6,000 Words
	VP	D the transformation and development process, advantages, weaknesses, opportunities, threats and customer satisfaction	1	60 Minutes	6,000 Words
	The General Manager of the Quality Management Center	D of the Company's transformation and development process, and the impact of product quality on customer satisfaction	1	45 Minutes	4,000 Words
	General manager of the sales telecom vertical department	Characteristics of B end customers, influencing factors of B end customer satisfaction	1	60 Minutes	6,000 Words
	Sr.manager of the sales telecom vertical department	Characteristics of B end customers, influencing factors of B end customer satisfaction	1	60 Minutes	6,000 Words
	Manager of the sales telecom vertical department	Characteristics of B end customers, influencing factors of B end customer satisfaction	1	45 Minutes	4,000 Words
Middle managers of the enterprise	General manager of the sales energy vertical department	Characteristics of B end customers, influencing factors of B end customer satisfaction	1	50Minutes	6,000 Words
	Sr.manager of the sales energy vertical department	Characteristics of B end customers, influencing factors of B end customer satisfaction	1	60 Minutes	8,000 Words
	Manager of the sales energy vertical department	Characteristics of B end customers, influencing factors of B end customer satisfaction	1	45 Minutes	6,000 Words
	General manager of the sales public vertical department	Characteristics of B end customers, influencing factors of B end customer satisfaction	1	60Minutes	7,000 Words
	Sr.manager of the sales public vertical department	Characteristics of B end customers, influencing factors of B end customer satisfaction	1	60 Minutes	6,000 Words

Name	Interview object	Interview content	Frequency	Interview duration	Record the word count
	Manager of the sales public vertical department	Characteristics of B end customers, influencing factors of B end customer satisfaction	1	40 Minutes	4,000 Words
	The Sr.Director of the Enterprise service department	The influence of product quality and service quality on customer satisfaction	1	60 Minutes	8,000 Words
	The Director of the Enterprise service department	The influence of product quality and service quality on customer satisfaction	2	90 Minutes	10,000 Words
	The Director of the Enterprise service department	The influence of product quality and service quality on customer satisfaction	1	30 Minutes	5,000 Words
	The Sr.Manager of the Enterprise service department	The influence of product quality and service quality on customer satisfaction	1	60 Minutes	9,000 Words
	The Manager of the Enterprise service department	The influence of product quality and service quality on customer satisfaction	1	60 Minutes	8000 Words
	The Sr.consultant of the Enterprise service department	The influence of product quality and service quality on customer satisfaction	1	45 Minutes	6,000 Words
	The consultant of the Enterprise service department	The influence of product quality and service quality on customer satisfaction	1	45 Minutes	4,000 Words
	The Sr.Director of the Datacenter Sales department	The current situation and development of enterprise marketing, existing problems, customer satisfaction	1	60 Minutes	8,000 Words
	The Director of the Datacenter Sales department	The current situation and development of enterprise marketing, existing problems, customer satisfaction	2	90 Minutes	9,000 Words
	The Sr.Manager of the Datacenter Sales department	The current situation and development of enterprise marketing, existing problems, customer satisfaction	1	60 Minutes	9,000 Words

Name	Interview object	Interview content	Frequency	Interview duration	Record the word count
	The Sr.Consultant of the Datacenter Sales department	The current situation and development of enterprise marketing, existing problems, customer satisfaction	1	30 Minutes	5,000 Words
	The Manager of the Datacenter Sales department	The current situation and development of enterprise marketing, existing problems, customer satisfaction	1	50 Minutes	7,000 Words
	The Consulatant of the Datacenter Sales department	The current situation and development of enterprise marketing, existing problems, customer satisfaction	1	45 Minutes	5,000 Words
	General Manager of the Regional Marketing Center (A)	The current situation and development of enterprise marketing, existing problems, customer satisfaction	1	60 Minutes	6,000 Words
	Deputy General Manager, Regional Marketing Center (B)	The current situation and development of enterprise marketing, existing problems, customer satisfaction	1	45 Minutes	4,000 Words
	General Manager of the Regional Marketing Center (C)	The current situation and development of enterprise marketing, existing problems, customer satisfaction	1	45 Minutes	5,000 Words
	Deputy General Manager of Marketing Center (D)	The current situation and development of enterprise marketing, existing problems, customer satisfaction	1	50 Minutes	5,000 Words
	Deputy General Manager of Marketing Center (E)	The current situation and development of enterprise marketing, existing problems, customer satisfaction	1	50 Minutes	6,000 Words
Enterprise customers	Enterprise customer leaders, procurement personnel, marketing personnel	The factors that affect customer satisfaction of company D in China, the satisfaction with its products and services, and the perception of product sustainability and service digitization of company D in China	25	600Minutes	50000Words
subtotal	A total of 31 middle and senior executives in Company D in China and 25 enterprise		58Times	2265 Minutes	246,000 Words

Name	Interview object	Interview content	Frequency	Interview duration	Record the word count
	customers were interviewed.				

(2) Data processing

Single case studies require "tell a good story", and systematic conceptual coding. According to the method proposed by Patton (2002), study data were obtained from different sources and analyzed by different researchers. Hierarchical structured coding was adopted and corresponding data analysis procedures were followed to ensure the reliability of conclusions. In the coding process, we classify the data from different channels.

First of all, considering the large number of primary data, we coded the primary data from different sources respectively. The data obtained from the formal semi-structured interview were coded as A, which were coded as A1-X and A2-X according to the senior and middle levels of the company. The personnel coding order was consistent with the interview information sheet. We coded the data obtained from informal interviews as B, and the three informal interviews were coded as B1, B2 and B3, respectively. The data obtained from field observation and participatory observation were coded as C (C1 and C2). Then, for the secondary data, we coded the internal work documents, work records and publicity materials provided by the company as G1 (G1-1 -- G1-4), the information queried from the official website and the official account of the company as G2 (G2-1, G2-2), and the media reports and other data queried from the Internet as G3. The data coding results are shown in the above table. In terms of data analysis, in order to better explore the research data from these multi-channel sources, there are five steps in the data analysis process, and in this process, we continuously iterated the data and the research constructs in the theoretical framework, and finally reached theoretical saturation.

The coding team of this study is composed of a professor of marketing management and entrepreneurial management and three doctoral students. Before coding, the coding team had an in-depth study of marketing management theory, with certain understanding of relevant theories. In the coding process, the research team first performed the primary coding on the case data according to the original data, secondary data and other data. Secondly, the team coded the data based on the in-depth study of literature and repeated reading of case materials, and carried out conceptualizing coding for marketing strategies, influencing factors, customer satisfaction and other constructs of Company D in China in the B2B market, so as to form the database. After coding, the two groups of coding personnel summarized and checked the disputed coding results. Both parties were invited to discuss the results and kept the agreed ones to form a set of scientific and complete coding results. In addition, in the process from

data analysis to theoretical framework formation, we also adopted repeated iterative demonstration, repeated tests among data analysis results, literature review and theoretical framework to find potential theoretical connections between different constructs, improved the research process and matched case data and theoretical framework in the end.

3.2.5 Nvivo qualitative analysis

The collected data should be sorted out and analyzed after summarization, and in further research, relevant data will be filtered, coded, classified and selected. This process is written into the case studies. In addition, relevant arguments and modifications to the study design were made in order to obtain the corresponding results. Content analysis is very suitable for the following three types of research topics: First, content analysis is helpful when data acquisition is difficult and researchers can only obtain documents or when the topic is difficult to locate. Certainly, content analysis can also be used as a supplementary source of data or as an auxiliary measurement. Second, when the terminology and presentation of the topic are critical to the study, some types of content analysis are necessary. Last, when it is beyond the ability of a single researcher to make an objective and systematic evaluation of materials, content analysis will be prominently useful. Considering the role of content analysis, content analysis was mainly adopted when the data obtained from the in-depth interview were analyzed. Nvivo qualitative analysis software was used to analyze the primary data obtained from the interview survey.

Qualitative data are made in the form of text, written words, phrases or descriptive symbols or representative figures, behaviors and events in social life (Neuman & Rossman, 2006). Qualitative data cannot be expressed by numerical values, which puts difficulty on the statistical analysis. In addition, qualitative data are often imprecise, scattered and determined based on the context. Under the guidance of Miles and Huberman (1984) and Neuman and Rossman (2006), we adopted a three-step method for the analysis of qualitative data, namely, data reduction, data display and content analysis. Data can be reduced through summarization and coded programs. Open coding was then performed, and a coding sheet was used to enable it to identify common topics that emerged from individual interviews and summaries of focus group sessions.

Coding is the core technology of qualitative research. It is the operational process of decomposing collected or translated text data, identifying and conceptualizing phenomena, and re-abstracting, upgrading and synthesizing concepts into generics (also called categories)

and core categories in an appropriate way. NVivo is a powerful qualitative analysis software that can help collect, organize and analyze interviews, discussions of focus groups, and questionnaires. It also can effectively analyze a variety of different types of data in form of texts, pictures, audios, and videos. It is an effective tool to realize qualitative research. Nvivo qualitative analysis software supports manual coding and fast automatic coding, which spares traditional data analysis processes, such as classification, ordering and sorting, and can explore the development trend and build theoretical models effectively, and finally obtain conclusions.

Nvivo qualitative analysis software generally involves the following processes: 1. Preparation, including project adding, original data establishment, and original data sorting. 2. Coding, including node establishment and encoding with case attributes and keywords. Nodes include free nodes established by exploratory qualitative analysis and tree nodes that can be classified and have a tree structure. It is required to browse the primary data and encode the required content into the specified nodes. 3. Qualitative analysis, including tree node analysis and matrix node analysis. 4. Integration, including combination and model building.

3.3 Empirical research method

Empirical research is based on a large-scale sample analysis to verify the universality and robustness of the research model and form a general and propagable research conclusion. The basic principle of empirical research is the objectivity and universality of scientific conclusions. It emphasizes that knowledge must be based on observation and experience. The general conclusion is revealed by means of empirical observation data and experimental research, and the conclusion is required to be verifiable under the same conditions. According to the above principle, the empirical research can be summarized as a research method that obtains objective materials through many observations, experiments and investigations of the research objects, and summarizes the essential attributes and development rules from individuals to the general.

Empirical research method is a method of quantitative analysis of social phenomena based on a large number of facts and data obtained by observation and experiment through the empirical test, and the introduction of the quantitative model by applying theory and technology, aiming to reveal the essential connection of various social phenomena. The empirical research method mainly carries on the quantitative analysis and demonstrates with data, which makes the research more accurate and scientific.

Generally, empirical research is bound to three elements:

First, scientific theory. Theoretical development is the basis of empirical research. Empirical research cannot be succeeded without theories in all aspects, like putting forward hypotheses, designing research variables, building models and analyzing results. This research is based on the following theories: Marketing strategy theory, marketing combinatorial theory and customer satisfaction theory.

Second, data. In empirical research, the more complete and accurate the data, the higher the reliability of empirical research will be.

Third, methods. The empirical research is mainly based on econometric analysis method, which integrates modern statistical knowledge, such as statistical inference and parameter estimation.

Chapter 4: Case study on Marketing Strategy of Company D in China

4.1 Profile of company D in China

4.1.1 Development history of company D in China

Company D aims to promote human progress through scientific innovation and tries to become one of the most important scientific and technological companies in the data era. The company is committed to building a digital world for the government, enterprises and individuals to improve their work, life and amusement and providing the customers with comprehensive and innovative product and technology solutions and service. In the fiscal year of 2021, Company D gained a total revenue of 94.4 billion U.S. dollars, ranking 28th on the Fortune 500 list of 2021, 12th on the Forbes' 2020 list of the World's 100 Best Employers, and 4th in the list of Top 100 Best Places to Work for Innovators in 2020 of Fast Company which is a famous business journal in the U.S. At present, Company D has about 158,000 employees around the world and runs business in 180 nations and regions around the globe. It provides service to 98% of the Fortune 500 companies, keeps carrying out technological innovation and has gained more than 32,000 patents in accumulation all over the world. Since its entry into China in 1998, Company D has over 12,500 employees in Greater China and has established a comprehensive system of design, research and development, manufacturing, supply chain management, sales and services to support its business development in China and all over the world. Its business scale in China keeps enlarging and now it has two manufacturing plants, one global command center and the headquarter of service business in Xiamen, one global purchasing center in Shanghai, one international service center in Dalian, one global operation center under construction in Chengdu, and over 7,000 sales networks, covering more than 1,600 cities in China. The annual purchase of Company D in China reaches to 25 billion U.S. dollars, which makes it one of the largest exporters of this country. Based on the study and reports made by Peking University on Company D's contribution to the economic development of China, its direct and indirect business has provided over 50 billion U.S. dollars for the GDP and about 2,000,000 jobs in China. In the next 10 years, the

company will make an investment of over 100 billion U.S. dollars in China (Source: Company D Announces China 4.0 Planning Report). Data of PC shipments and market share of China D Company from 2013 to 2021 are shown as per Figure 4.1, and server shipments of Company D in China from 2011 to 2021 are shown as per Figure 4.2.

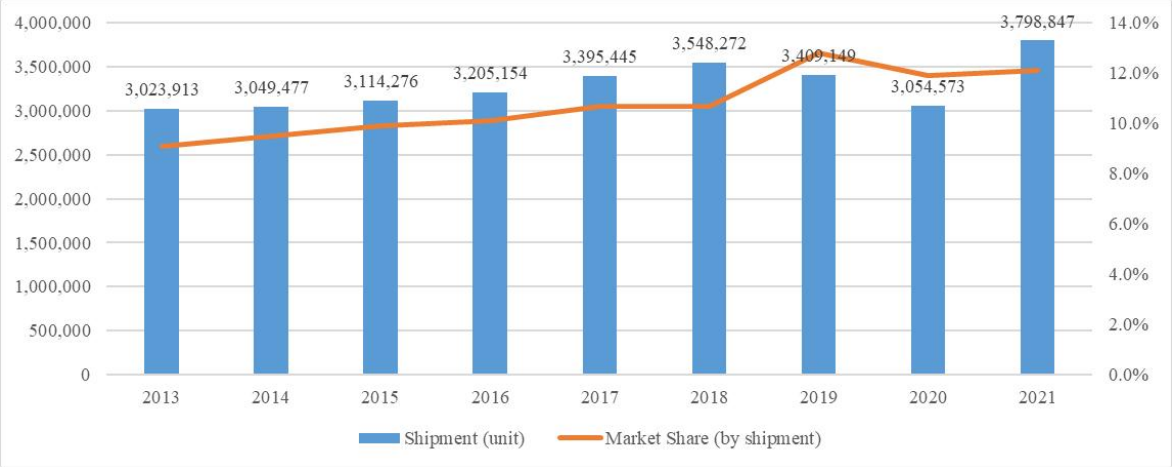


Figure 4.1 Data of PC shipments and market share of D Company from 2013 to 2021

Source: IDC in China

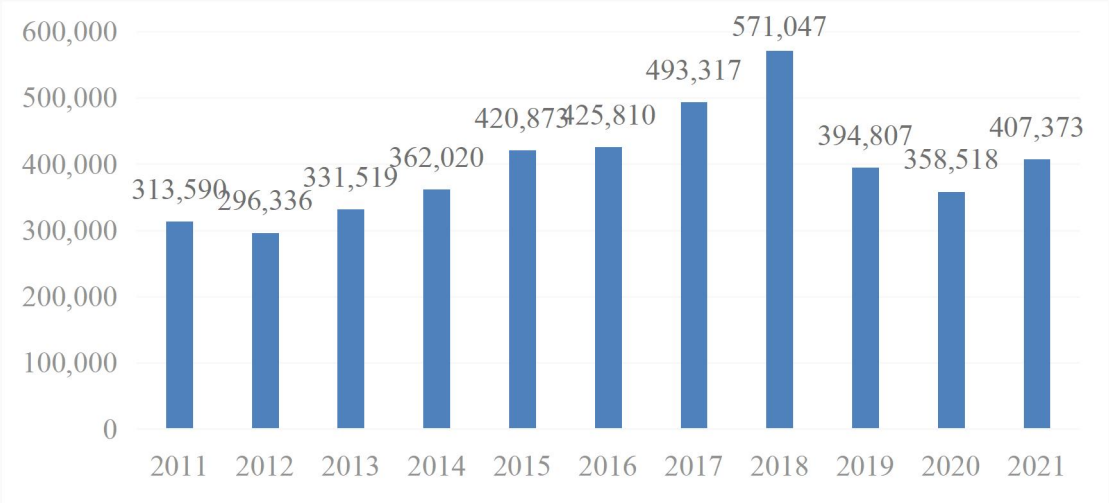


Figure.4.2 Server shipments of Company D in China from 2011 to 2021

Source: IDC in China

From 1998 when it entered China to 2015, the development of Company D in China mainly included the following stages:

The first stage was from 1995 to 2000, or "stage 1.0 of Company D in China". In this stage, it entered China market through the way of franchise distribution and brought the direct sales model of the company to China.

The second stage was from the year 2000 to 2007, or "stage 2.0 of Company D in China". In this stage, it realized localization of purchasing, manufacturing, and supply chain management through the establishment of Xiamen plant, the client service center for Chinese

customers in Xiamen, and the international service center in Dalian.

The third stage was from the year 2007 to 2014, or "stage 3.0 of Company D in China". In this stage, it established a number of stores on the basis of its direct sales, and vigorously developed channels and partners. It established the global operating base in Chengdu, increased enterprise solutions and service products, servers, storage, and networks, and started the earliest enterprise network and IT solutions such as cloud computing and big data in China.

In September 2015, the founder of Company D visited China and announced the idea of "In China, for China", or strategy 4.0 of Company D in China, which aimed to realize its own sustainable growth, exploit its advantages in IT industry, integrate into the local IT ecosystem and become the most trusted partner of customers, help customers to make success in the digital era, support China with its industrial upgrading and high-quality economic development, make scientific and technological innovations to promote human progress, and fulfill its long-term commitment to communities, employees and the environment. At present, Company D in China has come to the stage of 4.0+. Company D in China will gather the comprehensive strength of the group, further deepen the development strategy of "In China, for China", further contribute to the economic development of China, further promote the digital transformation and actively integrate into "intelligence+" and other national strategies to play its part in the economic transformation and upgrading of China. Facing the revolutionary changes brought by digitization to various industries, as a visionary, enabler, and practitioner of digital transformation, Company D in China will escort customers with its leading scientific and technological power and rich practical experience, become the customers' reliable partners and assist them seize the opportunity to achieve digital transformation in different aspects of life.

In 23 years since its entry into China, Company D in China has been always developing with its cooperation partners, not only promoting the local economic development and industry progress, but also contributing to the progress of society and people's livelihood. It keeps fulfilling its long-term promises to the society, employees and environment though welfare items, enterprise cultural development and green environmental protection activities. Now, Company D in China takes 2030 social influence as its development objective and has made great progress. It has reached or even exceeded the global goal in advance in many fields.

4.1.2 B2B transformation of company D in China

Company D in China started its digital transformation very early. In the 1990s, the company started its automation transformation in the interior of the company based on the office software and operating system. It improved the working efficiency by promoting the application of information technology in the interior of enterprise. This early digital transformation provided great convenience for its marketing transformation afterwards. Specifically, Company D in China started its marketing transformation at the beginning of the 21st century and experienced several important events of great significance.

Early in 2009, Company D in China started its transformation from PC manufacturer to solution provider. During the three years from 2009 to 2012, the company launches a series of acquisition and integration plans (according to incomplete statistics, it acquired more than 20 enterprise manufacturers). It has built a product portfolio with solution capabilities, especially in the four directions, software, storage, networking and security. In 2013, the company realized privatization. It acquired stakes of 25 billion U.S. dollars jointly with Silver Lake. In this way, Company D in China gave up short-term interests to realize its long-term strategic transformation. Besides, it emphasized the transformation to high-margin services and solutions and took this as its development goal in the long term. In 2015, Company D acquired an EMC storage giant whose customers mainly consisted of enterprises with 67 billion U.S. dollars, which was an acquisition of the largest scale in the global scientific and technological market. In this way, it enriches its product solutions for enterprises. All these measures represented that Company D transformed from the marketing pattern of B2C to B2B.

4.2 SWOT i analysis of Company D in China

4.2.1 Strengths

1. Brand strength: As a famous IT software, hardware and solutions provider in the world, Company D in China has brand accumulation of several decades. For the requirement of commercial market in China, Company D in China is a symbol of high-quality product and service. At present, nearly all the top 500 enterprises in the world have their own important developing plans in China. But the commercial market has steady and solid cooperation foundation with Company D which is also a foreign company. With the growth of China's economy, the foreign enterprises that have taken root in China are also expanding their brand

influence on Company D in the commercial market.

2. Product strength: As one of the several providers which can provide end-to-end overall solutions, its potential one-stop shopping experience can simplify the purchasing process of the decision makers, which provides better shopping experience for customers of the commercial market and improves their work efficiency. The testing standard for military use which has been measured for a long time in Company D in China has also improved the overall reliability of commercial products.

3. Direct selling strength: Direct selling is the foundation for success of Company D in China. In current commercial market, buyers are more and more sensitive to the price, the removal of intermediate links in the whole purchasing activity will better satisfy the new commercial customers' requirements for operational cost control.

4. Service strength: The pre-sales services and after-sales services provided by China Company are more direct than those provided by other competitors. Anyone who uses the equipment produced by this company will find the person responsible for sales or the after-sales service engineer through the service phone number marked on the equipment. In this way, the response speed for customer service is improved and meanwhile, customer's sense of belonging is also strengthened.

4.2.2 Weaknesses

The main weakness for Company D in China in commercial market is the disadvantages in localized competition. The company faces not only long-term competition from other international brands, but also fierce competition from domestic brands. The demographic dividend of China ensures its rapid economic growth. Domestic brands Lenovo, Huawei, H3C and Inspur have benefited from policy support in the recent years. Large state-owned enterprises and government units generally prefer products of domestic brands. In 2016, Cisco cooperated with Inspur Group and they established the joint venture company Inspur Cisco Network Technology Co., Ltd. In 2018, Inspur and IBM established the joint venture company Inspur Power Commercial Systems Co., Ltd.; HP acquired Aruba network equipment plant and enterprise-level IT products of H3C to enlarge its market shares of enterprise-level customers.

Company D in China faces complicated and fierce competition in the market. And the competition can be seen from the following two aspects:

1. Product competition: Although the market has been divided into different segments, the

harsh reality is that there are more than 3 providers for each segment. So, there is almost no blank in the market. Buyers usually have many choices. The products of different brands are like a large extent and the major manufacturers have always been in competition.

2. Service competition: As to the commercial market in which product homogenization becomes more and more severe day by day, if the enterprise plans to expand its market while maintaining its original market share, it must highlight the characteristics of its service. While the buyers' awareness keeps increasing, they begin to make stricter requirements for the services.

Besides, many products manufactured by Company D in China are combined, which makes the management more difficult, and the execution efficiency has declined.

Through interviews with the senior-level and medium-level leaders of the enterprise and secondary materials provided by Company D in China, including annual reports and interior work reports, we think that the following three interior factors have mainly driven the marketing transformation of the enterprise.

(1) Reducing management cost and uncontrollable business. Company D in China has a vast distribution of business in B2C market, covering all regions in China. Under this marketing mode, the management cost, including personnel cost and office cost, is high; on the contrary, the management cost and personnel cost of B2B business is lower, the business scope is relatively concentrated, and the risks are low; therefore, it is convenient for management.

(2) The profit of 2C business is in a decline and the business is unstable. For traditional B2C business, with the full development of computer technology, the product profit in 2C business is small. Besides, since the homogeneity competition is severe, B2C business still requires cash flow investment of large amount in a short term, but the business value is not big and the overall risk is high.

(3) New profit growth points are required for the strategic development of enterprise. Although Company D in China has established mature business system in B2C business, the competition in this business market is fierce. For example, Tsinghua Tongfang launched market in this business, IBM sold its PC business, while Xiaomi and Huawei entered this business market. In such situation, Company D in China needs to find new profit growth points to lay a foundation for the long-term development of the enterprise.

4.2.3 Opportunities

4.2.3.1 Political environment

As to the domestic political environment, the industrial internet will develop fast in the next five years. According to *Industrial Internet Innovation and Development Action Plan (2021-2023)*, the industrial internet industry has finished the early exploration and is now on the way of rapid development in large scale. Besides, 5 development goals, 11 major tasks, 10 projects and four supporting measures have been made for the development of industrial internet. China is now advocating the construction of a panoramic view of industrial internet which covers all prefecture-level cities and key industrial categories, and constructing characteristic and professional industrial internet platforms in key industries. The development of industrial internet will promote the integration and development of industrialization and information technology in a wider range, to a larger extent and on a higher level. Besides, China has proposed to accelerate the digital transformation of enterprises, make full use of the market in optimizing resource allocation and providing positive guidance in digital transformation and upgrading of industry to guide the enterprises to develop the sense of digital economy and accelerate the pace of digital transformation and upgrading. The digital transformation and upgrading of industry will show its great vitality in the "14th Five-year Plan"(2021) period and promote the digital and intelligent development of industry. The B2B business market based on digital technology will also enter a period of rapid development.

4.2.3.2 Social environment

Intelligent manufacturing is the inevitable trend of social progress and development, and developing emerging technology is what most internet enterprises will choose to do. With the integrated application of artificial intelligence, internet of things, big data analysis, cloud platform and other digital technologies and key manufacturing process, intelligent manufacturing transformation and development enter into a new era, that is, the automation, informatization, network, and intellectualization enabled by digital technology, which is called "new four modernizations of intelligent manufacturing (or "new four modernizations" for short). The goal of "new four modernizations" is to realize dynamic and need-driven intellectual manufacturing through interconnection of internal and external value chains of enterprises. The process of realizing this goal is divided into different stages according to the extent to which the digital technology and key manufacturing process of enterprises are

integrated.

4.2.3.3 Technology environment

The great progress of information infrastructure, especially the marketization of 5G technology has promoted high data rate, reduction of delay, energy saving, cost reduction, system capacity improvement and large-scale device connection, laying a foundation for great "interconnection". Fundamentally speaking, 5G is not a single technology, but a comprehensive technology system, including self-organizing network, information center network, mobile cloud computing, edge computing, context awareness technology and network slice. For actual application in the future, 5G makes it possible that everything can be interconnected and it will promote the rapid development of artificial intelligence, internet of things, cloud computing, blockchain and other new technologies, which will impact the industrial internet greatly.

Technologies will break through the information bottleneck. Internet of things, blockchain, cloud computing, artificial intelligence and other technologies continue to make innovations in the information field. Support from enterprises on products and services of cloud technology has laid foundation for industrial internet; artificial intelligence integrates human and machine and creates more ways for interconnection; digital technologies will interconnect in development and promote the intellectualization of the whole manufacturing and service system.

4.2.3.4 Economic environment

In the post-pandemic era, the economies of various countries have been impacted to varying degrees, with public health, finance, logistics, and tourism being among the most affected industries. The outbreak of COVID-19 has led to significant divergence in world trade, largely related to the features of the pandemic and the anti-epidemic policies of governments. The lockdown and other restrictions have had a significant impact on national economies at the supply level. Meanwhile, stable monetary and fiscal incomes and the relaxation of lockdowns will prompt a rebound in consumption and imports. In its latest World Economic Outlook report, the International Monetary Fund (IMF) predicts that the global economy will grow by 2.8% in 2023 and 3.0% in 2024, while the average growth rate of emerging and developing economies will be 3.9% in 2023 and 4.2% in 2024, surpassing that of developed economies. In particular, since the beginning of this year, the Chinese government has taken multiple measures to stimulate the economy, resulting in a rapid recovery of economic

indicators such as retail sales and tourism. It is expected that the Chinese economy will grow by 5.2% in 2023 and that the growth may have positive spillover effects on other countries. The economic development of China has entered a new steady state; the economic growth has shifted from a high speed to a medium-high speed, the economic structure has been undergoing continuous optimization and upgrading, and the development impetus has shifted from factor-driven and investment-driven to innovation-driven. Changes of China's GDP from 2003 to 2022 are shown as per Figure 4.3.

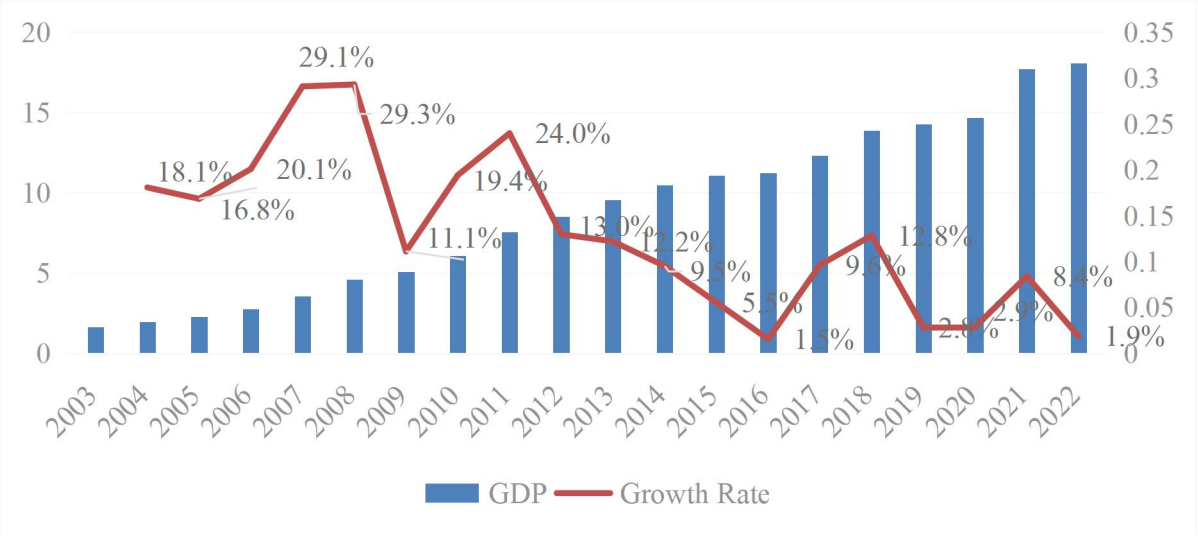


Figure 4.3 Changes of China's GDP from 2003 to 2022

Source: Chinese government website

Through analysis of political, social, technological, and economic environment, we consider that in the marketing transformation process of Company D in China for over ten years, changes in external environment have played a great part in driving. The core driving factors include:

(1) Industry development trend. When the traditional computer business comes into development bottleneck, Company D in China actively plans the development of terminal server business and storage business to cope with the development trend of new emerging technologies, which is a choice of important significance in the era of digitization.

(2) B2B market has broad prospects and great potential. Compared with business in B2C market, B2B business has great market potential, has longer cycle of market development and relevant technologies are still in their early stages. If the enterprise can master the core technologies and customers, it will possess great potential in future development.

As a whole, as to the macro environment of B-end market Company D in China faces, there is stable political environment, increasingly sound legal policies, continuously growing economy, emerging internet, digital, and intellectual applications as well as technological

changes in the frontier of IT field.

4.2.4 Threats

As to the political environment overseas, the international environment becomes more and more complicated day by day and uncertainty increases obviously. The COVID-19 pandemic impacts the world greatly, the economic globalization is facing a backlash, and the world is in turbulence. Unilateralism, protectionism, and hegemony pose a threat to world peace and development. The uncertainties brought by geopolitical tensions such as Brexit, civil war in Burma have slowed the economic growth in developed economies, emerging markets and developing economies. The world economy is facing big challenges. China is also facing complicated situations, including trade friction at home and abroad, and more and more severe risks and challenges.

The increasingly concentrated buying willingness of customers in commercial market creates their strong bargaining ability. Low cost of brand switching makes it difficult to take 4P as the basic marketing strategy. The difficulty in multi-brand integration management will influence the executive ability of Company D in China in the future. The complex management structure will lead to high management cost.

For Company D in China, since products of Chinese domestic brands are of greater market affinity, it will face greater pressure when competing with local competitors as their product line keeps improving. The first threat is the competition threat brought by potential entrants. Especially in the field of server, the most likely entrants are the foundries. Such enterprises have accumulated rich experience in production and management, so the foundries are the most likely entrants. Besides, some manufacturers of traditional home appliances, such as Haier and Hisense have also entered the competitive field of commercial laptop. As to desktop, since its production cost is lower, there is almost no entry barrier for enterprises. Therefore, the competition in this field is fiercer. Many domestic manufacturers have participated in production and sales of desktops. In the field of enterprise products, Huawei entered the market of enterprise server in 2010. In product research and development, Huawei has made a series of innovation. At the same time, the great achievement Huawei has made in the fields of network equipment and mobile phone have contributed to its low-price strategy of Huawei server. The price of its server product of the equal performance is much lower than that manufactured by other competitors and it is regarded as an attack below cost by the industry. Due to its special strategy, Huawei has indeed become a strong competitor in the

commercial market. Therefore, Company D in China should invest in cloud computing, big data, storage, virtual reality, terminal management, safety, and other fields with high technological quality and entry barrier to eliminate potential competitors and become a pioneer in industry reform. In this way, it will improve its competitiveness and bargaining level.

4.2.5 SWOT i

In the current complicated and continuously changing environment, the market has also changed greatly. Sustainability and environmental awareness become especially important for enterprises. So, it is necessary to make new strategies to cope with these new trends to ensure the organization's competitiveness in the market and construct new sustainable enterprises. So, scholars proposed SWOT i analysis method to adapt to a forward-looking sustainable world (Pereira et al., 2021). The model has polymerizability and is an important tool of open innovation. "SWOT i" takes sustainability as one of its pillars, places the value and influence each decision may bring in the center of strategy making to make use of its performance, which can help companies to make new strategies to cope with new trends while maintaining their competitiveness.

Since the release of "double carbon" strategy by China, building green data center and developing "green" computing power have become the most important in reform of the data center field. Under guidance of the "double carbon" goal, the green data center under construction actively use high-efficiency and energy-saving technological products to increase consumption of renewable energies and speed up efficient, clean, low-carbon and circular development. To promote the construction of green data center, the Ministry of Industry and Information Technology issued a three-year Action Plan of New Data Center Development (2021-2023) in July 2021, proposing that by the end of 2021, PUE (The PUE value refers to the ratio of all energy consumed by the data center to the energy consumed by the IT load. The closer the PUE value is to 1, the higher the degree of greening in a data center.) of newly constructed large or above data center should be reduced to less than 1.35; by the end of 2023, PUE of newly constructed large or above data center should be reduced to 1.3 and that of freezing and cold area should be reduced to less than 1.25. Under the "double carbon" strategy, the technical architecture of data center will become more diversified and the planning design will become more elaborate. Enterprises must incorporate the idea of sustainable development into the process of site selection, optimize the power supply and distribution architecture and

the cooling architecture, and design high-efficient operational system through the planning and designing process of digital tools and selection of green and low-carbon intellectual products. As the most important participants in social economic activities, enterprises are the backbone forces to promote the low-carbon transformation. Company D in China conforms to the construction and development trend of green center and keeps making green innovation, not only promoting the green supply chain management to a strategic height and incorporating it into the group development plan, but also developing green and energy-saving innovative technologies, products and solutions, which helps the enterprise smoothly achieve green and low-carbon transformation. In product design, on one hand, Company D in China uses innovative liquid cooling technology, air duct design, adaptive heat dissipation technology to ensure strong computing power and excellent energy performance; on the other hand, the company improves resource utilization and reduces energy consumption through combination of high-efficient data analysis, artificial intelligence, internet of things and other digital technologies. In data center design, the modular data center solution of Company D in China relies on its modular architecture and standardized components to practice the green concept. For a long time, Company D in China has been committed to providing end-to-end digital transformation solutions and innovative and low-carbon product services to customers. In green data center construction, Company D in China focuses on planning, construction, operation and other links of data center from the angle of full life cycle of data center to provide enterprises with full-stack solutions. With the rapid development of the data center industry from air cooling to liquid cooling, the data center not only changes the energy conservation and emission reduction method, but also reshapes the product form, business mode and even ecology. The exploration and innovation on "intelligent cooling" technology conducted by Company D in China will further promote the energy conservation and consumption reduction of data center and help to realize green development.

Therefore, under the overall analytic framework of SWOT i, Company D in China must continue to shape the value of the enterprise with the sustainable development concept and grab the trend opportunities of economic society digitization to promote the transformation upgrading of digital office, digital management, digital operation and data management of enterprise customers; besides, it must solve the disadvantage of more severe product and service competition caused by the multi-product strategy by making use of its strength in product, brand, direct selling and service to transform the sustainable products into competitive advantages to avoid threats posed by potential entrants; only in this way, can

Company D in China build sustained core advantages. The SWOT i analysis tool is shown as per Figure 4.4.

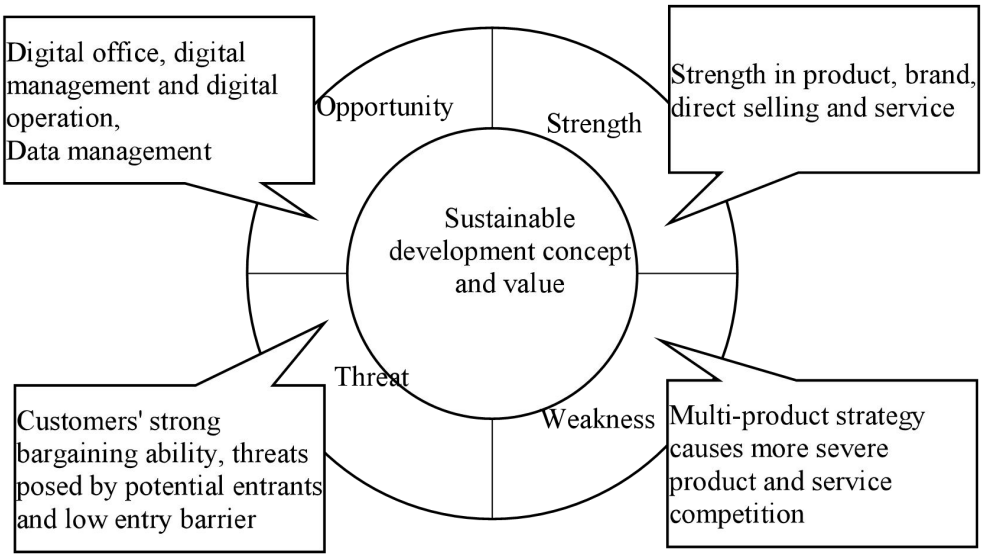


Figure 4.4 SWOT i analysis tool

4.3 Case study of B2B marketing planning of Company D in China

4.3.1 Case code analysis

The grounded theory is used to analyze the data across cases in the study. Grounded theory is a qualitative research method that does not rely on existing research hypotheses but pays more attention to discovering and revealing the essence of problems from practice and solving problems (Wang et al., 2021). In essence, grounded theory is a method to explore and construct theoretical essence from the bottom up. It systematically collects case data without theoretical assumptions and brings out core concepts and categories through the full mining of case data. Finally, these concepts and categories are connected to form relevant social theories (Tang & Li, 2022).

There are three steps in the study: First, summarize and extract the core concepts of Company D's product and service strategy and its impact on customer satisfaction. Second, construct the relevant theoretical models by means of open coding, axial coding and selective coding. Third, constantly modify and optimize the theoretical model to achieve a saturation state. In this study, three doctoral students and their supervisors participated in the coding. Open coding was adopted, which is to carry out preliminary processing, classification, reduction, induction, and integration of the primary and secondary data collected, to form the

initial concept and determine its category. The second is axial coding, that is, based on open coding, the categories obtained by open coding are clustered to find the internal relations between categories and build the relationship network between categories. Then, it is core coding, which is to apply the canonical model to link the categories, define the core categories and connect the main categories to the storyline. Coding personnel carefully considered and summarized the relationship between the original data, the study subject, and the theoretical basis, for example, developing and discussing coding and comparing coding and several repeated verification and iteration of coding through the author and the other two doctoral students in the team. If there is any contradiction in the analysis results, the results would be discussed repeatedly, and the advice of tutors and experts would be consulted until a more uniform coding result is reached.

4.3.1.1 Open coding

Open coding refers to the classification, reduction and labeling of the primary or secondary case data collected, the initial concept forming, and summarization and integration of the abstract concept to determine its category. In terms of specific operation processes, two members of the study group selected and named the sentences related to the subject. The coding was to compare the initial concepts with the initial data, merge the related initial concepts, and then repeat this step for induction and integration of the initial concepts. Through inductions and comparisons, a total of 453 initial statements were selected and 65 initial concepts were obtained at this stage. After that, further induction and integration were carried out based on the connections and attributes between the initial concepts, and finally, the 65 concepts were refined to 41. Part of the open coding process in this study is shown in Table 4.1.

Table 4.1 Examples of open coding process

Initial Categories	Typical Examples
Product innovation	Company D actively layouts quantum computing and AI, maintains the leading technological advantages, carries out innovation and practice, and launches the hybrid quantum simulation platform and the hybrid system of quantum and classical computing.
Product functions	Customers have high requirements for functional stability, reliability and management of products.
Leading edge	Company D continues to enhance its product portfolio to make its industry-leading products more intelligent, automated, network resilient and multi-cloud flexible.
Product supply	Stable product supply reduces management difficulty of managers and improves operation efficiency as far as possible.
Update and optimization	Company D launched more than 500 software updates and optimizations for its storage product portfolio at one time
Product change	Driving transformative results requires an infrastructure partner that is also

Initial Categories	Typical Examples
	focused on innovation.
Services channel	Company D has the largest ecosystem of direct sales and channel partners in the industry.
Service continuity	Company D has a world-class global supply chain that achieves cost advantage, speed, safety, sustainability and, most importantly, the continuity of supply, and it is able to serve its customers at a time when many competitors cannot.
Service capability	The products and solutions of terminal deployment services of Company D can help customers improve deployment productivity.
Professional service	Company D has 7 patents for deployment services worldwide, and the project managers of the management team are all certified with PMP professional accreditation.
Service convenience	Company D has more than 1,000 offline stores and solution centers in China.
Service response	The small business website mall of Company D also provides such services as "service response in seconds" and "engineer-level customer service personnel connection", and there will be more than 600 professional consultants/engineers available for customer services.
Flexible service	With FOD, enterprise users can pay according to usage (time or capacity) when using the enterprise infrastructure services of Company D, and realize pay-as-you-go.
Digital service	Cooperate with Company D to continue to improve the digital service capability, push the business online, build the digital product ecology of the whole life cycle of customers, and realize the visual management of the whole process of orders.
Online sales	Open up the online sales link, and provide solid digital support for product promotion, promotional activities, task delivery, and after-sales service.
Low-carbon products	Company D is committed to providing customers with end-to-end digital transformation solutions, innovative and low-carbon products and services.
Energy conservation and consumption reduction	Company D's exploration and innovation in the "intelligent cooling" technology will also further promote the data center energy saving and consumption reduction, leading to the path of green development.
Green production	The company actively advocates and practices sustainable innovation and environmental responsibility through the practice of green production, green packaging, recycling and reuse, and other important issues of sustainable development.
Material recycling	The package will be made of 100% recycled or renewable materials.

4.3.1.2 Axial coding

Axial coding refers to the linkage between the categories obtained by open coding in the previous step and the search for logical relations between them. Generally, there are three kinds of relations between categories, namely, causal relationship, process relationship and structural relationship. The categories extracted in open coding can be merged according to their mutual relations and logic, and then the linkage between the categories can be realized through the typical analysis paradigm of "causal condition → intermediary condition → result" (Strauss & Corbin, 1990). In the study process, the causal conditions are the influencing factors of customer satisfaction in the B2B environment of Company D in China, mainly including product quality and service quality. Intermediary conditions refer to the fact

that under the social background of digitalization and sustainability, Company D actively practices social responsibility, adopts sustainable product strategies, and provides digital transformation services in line with the development of the times. Then, the result refers to the improvement of the satisfaction of customers at terminal B of Company D and the improvement of enterprise performance in the end. For example, the initial categories of "low-carbon products, energy saving and consumption reduction, green production, recycled materials, product recycling, reuse, energy saving and emission reduction, renewable materials, green packaging" formed through open coding can be integrated into the axis logic through the paradigm, that is: the sustainability of the product meets the needs of customers and can further improve customer satisfaction on the basis of the original product. According to the logical sorting of these three steps, the 41 initial categories obtained by open coding were further summarized into 7 primary categories, and the theoretical model of this study gradually formed, as shown in Table 4.2.

Table 4.2 Examples of primary and initial categories

S/N	Initial Categories	Primary Categories
1	Comprehensive functions, product portfolio, product supply, function stability, and reliable quality	Product functionality
2	Product innovation, leading edge, update, optimization, product reform, and novel and unique products	Product innovation
3	Smooth channel, continuous service, convenient service, service response, and service flexibility	Service convenience
4	Service capability, service professionalism, problem solving, and efficiency improvement	Service reliability
5	Digital services, digital support, online sales, online services, and digital transformation	Digitization
6	Low-carbon products, energy saving and consumption reduction, green production, material and product recycling, energy saving, emission reduction, renewable materials, green packaging, and social responsibility	Sustainability
7	Satisfaction with demands, good mood, smooth communication, satisfaction, value promotion, willingness to cooperate, and cost reduction	Customer satisfaction

4.3.1.3 Core coding

Based on the above axial coding, the seven main categories were concluded through the in-depth study of axial coding. Among them, the primary category "product functionality" is a summary of the product functions of Company D in China. The five initial categories of "comprehensive function, product portfolio, product supply, stable function and reliable quality" all represent the core and auxiliary functions of the products of Company D to meet the needs of customers. Meanwhile, the primary category of "product innovation" is a

summary of the product characteristics and advantages of D Company in China. Its six initial categories of "product innovation, leading edge, update, optimization, product reform, and novel and unique products" are the performance of R&D and innovation of products of Company D to form competitive advantages and leading advantages. The primary category "service convenience" is a summary of the service characteristics of Company D. Its five initial categories of "smooth channel, continuous service, convenient service, service response, and service flexibility" are the characteristics of the enterprise to use its own advantages to provide convenient services for customers. The primary category of “service reliability” is a summary of the service functions of Company D. Its four initial categories of "service capability, service professionalism, problem solving, and efficiency improvement" are that Company D can use professional service abilities to solve practical problems for customers so as to improve customer satisfaction.

According to the analysis results of the above axial coding and the influencing factors of customer satisfaction, a storyline connecting all categories and their logical relations is formed, that is, product function and product innovation in product quality will affect customer satisfaction and are also the matters that customers care about the most. In terms of service quality, service convenience and service reliability are also the most vital factors for clients at terminal B, which will affect customer satisfaction. The values and concepts of corporate sustainability are reflected in all aspects. As Company D adopts the sustainable product strategy, green, environmentally friendly, low-carbon and energy-saving products can better play the advantages of product quality and improve customer satisfaction. In the digitized context, the client at terminal B has the need for digital transformation and digital services. Therefore, compared with traditional services, Company D provides digital services and digital transformation support, which is easier to obtain customer recognition and satisfaction. In summary, the core category of this study is "the impact of product quality and service quality on customer satisfaction" through the open coding, axial coding, and selective coding of grounded theory. The subdivision dimension of product quality and service quality was introduced, and sustainability and digitalization were taken as the regulating mechanism. On this basis, the composition and interrelationship model diagram of each core category is constructed, as shown in Figure 4.5.

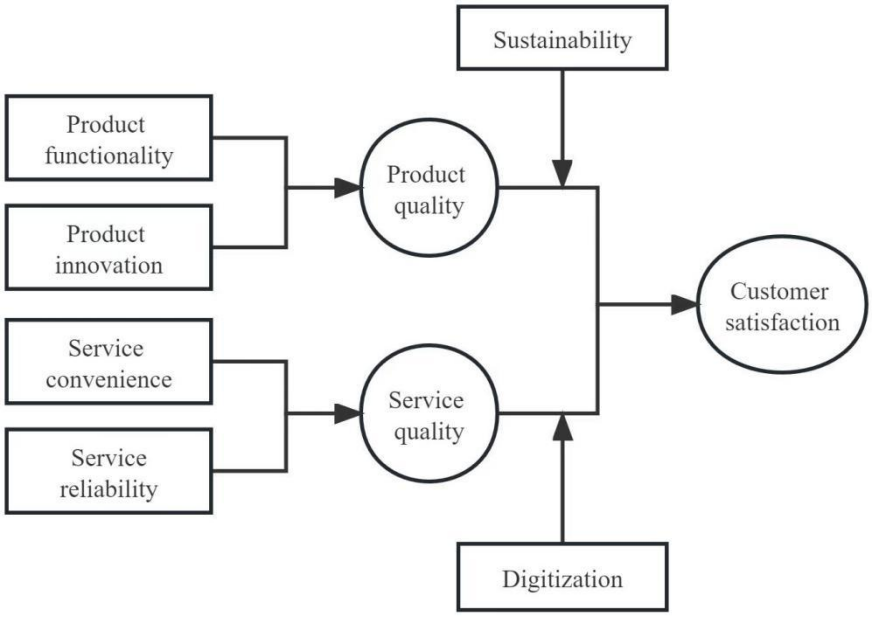


Figure 4.5 Relationship between core and spindle categories

4.3.2 Discussion of exploratory case and proposition of conceptual model

4.3.2.1 Product functionality and customer satisfaction

The main need of B-end market for Company D in China is client and enterprise product. The requirements for the stability, reliability and management of the product function are high and powerful performance support is needed. Therefore, the product performance is directly related to the purchase intention and satisfaction of B-end customers. Customers of commercial market have their own requirements for products and these requirements are of obvious characteristics. First, the products must be of good quality. Any problem in product quality may affect the user's normal work and thus lead to the stagnation of enterprise operation. Besides, the products must be more compatible. The organizational structure of large enterprises is huge, the amount of its background data is very complex, and the application systems are of a wide variety. So, different office environment requires the equipment to possess superior compatibility. In addition, the products must have a longer supply cycle. A huge amount of storage equipment makes it more difficult for the management personnel to manage the equipment. Frequent changes of equipment models will greatly reduce the maintenance efficiency of the equipment. Stable product supply reduces management difficulty of managers and improves operation efficiency as far as possible.

Company D in China continues to enhance its product portfolio to make its

industry-leading products more intelligent, automated, network resilient and multi-cloud flexible. A typical example is the product function strategy on data production adopted by Company D in China. Data protection has always been a major concern for enterprises. In the multi-cloud environment, the data protection challenge for enterprises is more complex than before. As one of the leaders in this field, Company D in China group has diversified, stable and reliable data protection solutions which enable customers to have modernized data protection ability. Enterprise backup and recovery software solutions aim to capture the point-in-time copies (backup) of various enterprise workload in local, hybrid, multi-cloud and SaaS environment, and write the data in the secondary storage target to recover the data immediately in the event of a failure. In August 2022, Gartner Group released Magic Quadrant for Enterprise Backup and Recovery Software Solutions, Company D in China played a stable role in the "leader" quadrant. Company D in China has entered the "leader" quadrant most of the time. Since the first time when Gartner released Magic Quadrant for Enterprise Backup and Recovery Software Solutions, this is the 17th time that Company D in China is awarded the honor of "Leader"! Company D in China Group attaches great importance to the construction of network resilience and B-end customers are also using PowerProtect Cyber Recovery actively to improve their network resilience, which confirms the correctness of this choice. As the only one solution which meets the Sheltered Harbor standard, PowerProtect Cyber Recovery of Company D in China Group proposed the idea of "Three-in-one" for data protection for the first time. It provides users with comprehensive, safe and reliable data protection in the method of "Cyber Recovery+ cross-edge/ core/ multi-cloud disaster tolerance+ backup" to improve the network security resilience for enterprises effectively. Besides, through AI technology and machine learning function, PowerProtect Cyber Recovery can actively recover the backup data, determine the type of attack and implement active defense for data backup to further improve the network security resilience for enterprises.

The stability and reliability of product functions are crucial to B-end customers. The rapidly increasing data volume brought by digital transformation leads to a demand surge for computing and storage capability, which promotes further popularization and development of high-performance computing (HPC). At the same time, the rapid development of cloud computing, big data, internet of things, AI and other new technologies has injected new vitality into HPC and stimulated a wider range of applications. As a key productivity factor, computing power has become a core support and driving force for the development of digital economy. Computing power equipment, solutions, services and other computing power

products are heterogeneous and diverse. But the lack of systematic computing power evaluation standards in the industry brings troubles to demanders when they select computing products. China Academy of Information and Communications Technology (CAICT) and China Communications Standards Association Convergence of Computing Promotion Committee (CCSA TC621) jointly launched the "HighPerf Ready" evaluation activity for high performance computing products. As the one of the first participating units, Company D in China group participated the "HighPerf Ready" evaluation activity for high computing power products organized by CAICT and passed the test for high performance storage equipment. Within the computing power equipment, the high-performance storage equipment provides high performance storage service capability to computing equipment, and it is an important equipment to support the computing power service performance. With the rapid improvement of computing performance, the storage performance has gradually become the bottleneck that restricts the overall system performance, and the performance of high-performance storage equipment has become the main focus of the industry. Therefore, obtaining the "HighPerf Ready 1.0" certificate successfully represents that the high-performance distributed storage server solution of PowerEdge R750 Intel DAOS launched by Company D in China has won authoritative recognition and the equipment performance has reached the "high performance" level of the industry. High performance computing (HPC) requires high throughput sequential access of large chunks of data block. Company D in China provides storage server solutions specifically configured to meet requirements of demanding workloads. These solutions have the advantages of excellent performance, flexible use, and horizontal expansion and can provide comprehensive HPC products and solutions to customers, including infrastructure, computing, storage, network and management, which integrates IT systems and key infrastructure, provides computing power traditional IT architecture cannot provide, and meet the high performance requirements for opening, reliability, high extensibility, low power consumption, easy deployment and management proposed by users of different industries to help them accelerate computing and processing and guarantee the reliability and security of HPC key data. The key role of HPC is to output computing power traditional IT architecture cannot provide. So, it is crucially important to select key infrastructure with reliable performance. As the cornerstone of data center defined by modern software, servers are the key to construct a flexible, highly effective and cloud-enabled infrastructure. Targeted on the field of HPC applications, PowerEdge server provides rich product portfolio for users to choose. It provides higher performance for a wider range of applications with its highly extensible architecture and flexible internal storage. Relying on its innovation and opening of

many years, Company D in China Group has formed a complete ecosystem which can provide users with full life cycle management services from procurement to deployment, and from application to operation and maintenance and release the strong potential of high-performance computing to help users devote their energy to business.

In addition, in MLPerf™ performance benchmark test in 2022, Company D in China submitted 167 item results for different categories and ranked second within manufacturers of the closed data center category. MLPerf™ was initiated and established in 2018 by the Turing Award winner David Patterson in collaboration with some leading academic institutions. It is the most authoritative and influential international AI performance benchmark test and is also an important reference for users when they purchase AI systems. The performance benchmark test covers the two fields of training and inference and it is divided into closed track and open track. The open optimization capability mainly tests the participating manufacturers' ability in AI technology innovation, while the fixed task tests their ability in hardware system and software optimization more fairly and becomes a more valuable AI performance benchmark test for reference. The servers of 5 types provided by Company D in China ranked first in their respective category, including acceleration card performance, server performance based on PCIe, minimum multi-stream delay, T4 induction result and energy consumption performance. These indicators fully show that the product functionality of Company D in China has strong competitive advantages and is also a necessary condition for Company D in China to provide good products to B-end customers, meet their needs and improve their satisfaction.

Enterprises are increasingly seeking IT infrastructure to provide cloud-like experience in any places where their data covers. Company D in China has designed these comprehensive software and hardware enhancement function in its extensive multi-cloud infrastructure portfolio to provide more automation, security and control power experiences. ——says Eric Burgener, Research Vice President of the Business Department of IDC Infrastructure System, Platform and Technology

Therefore, based on the above analysis, we propose the following proposition:

Proposition 1: The product functionality can help to improve B-end customers' satisfaction.

4.3.2.2 Product innovation and customer satisfaction

Products of various brands in the current computer market are of a high degree of homogeneity, but there are still some differences in the product quality and content. These

differences will reduce B-end customers' sensitivity to price and make them willing to pay for the product innovation. As to their need for cloud computing, big data, network security and mobile internet and other frontier commercial IT products, B-end customers emphasize more on problem solving ability and product innovation and their sensitivity to price is low. Company D in China continuously promotes product innovation relying on its strength in technology. In the global summit of Company D Group held in May 2022, Company D unveiled over 500 software update optimizations for the storage product portfolio, including the newly released PowerStore 3.0, two new models PowerMax 2500 and PowerMax 8500, as well as PowerFlex. These over 500 software update and hardware upgrades undoubtedly raise the storage development to a new level. This not only improves the intellectualization, automation, data mobility and security of storage system in cloud, local and edge environment, but also better copes with the challenges of fast delivery, multi-cloud ecology and modern network security. With the explosive growth of digital business and data volume of enterprise organizations, more unstructured and semi-structured data forms are surging. In data type, volume, performance and other aspects of data storage and planning, Company D in China develops its storage infrastructure capability to meet the development needs through using the fifth-generation storage technology and capability and lay a solid foundation for transformation and upgrading of enterprise organizations.

Besides, in frontier quantum technology, Company D in China launched the simulation platform for operation of "hybrid" quantum algorithms developed by the research team of CTO office in September 2021. This platform provides a shortcut to run quantum algorithms on classical computing hardware. At present, research in quantum field is mainly about quantum communication, quantum computing and quantum precision measurement. Once there is a technological breakthrough, it will promote the scientific and technological progress greatly. As a new technology of revolutionary significance, quantum computing is getting wide attention from the scientific and technological circles. The server on which the simulation platform of Company D in China is based has two central processing units of Intel's second-generation Xeon scalable chip family and is equipped with up to 24 high speed NVMe flash drives. Part of the information can also be stored in the persistent memory of Intel Optane DC. The simulation platform provides a more realistic development environment which can recreate the quantum computing factors and classical computing factors for quantum computers. The hybrid simulation platform of Company D in China Group allows users to use Qiskit Runtime in their classical computing resources. Both new users and mature quantum developing personnel can construct and improve their algorithm more easily and

efficiently. Through the development test conducted by the research team of CTO office of Company D Group, when this hybrid simulation platform operates classical and quantum computing on the cloud native platform (such as Kubernetes), users can easily deploy the on-premises infrastructure. The product innovation brings the following benefits to customers and continuously improve customer satisfaction.

● Shorter time for result: each quantum circuit no longer needs to be executed individually and queue up to wait. The classical components of algorithm are tightly integrated with quantum resources, which improves the performance and shortens the development time.

● Higher security: classical computing, including data processing, optimization, and algorithm execution, can be executed locally to provide higher privacy and security. Thus, the data and workload do not need to be submitted to a third party.

● Cost efficiency and choice: through the infrastructure solutions deployed in the interior of enterprise, cost efficiency and effectiveness higher than that provided by traditional cloud service supplier will be provided. In addition, this simulation platform provides flexibility when choosing the quantum solutions, because it can also be executed by using the Qiskit Aer simulator or other similar solutions.

Driving transformative results requires an infrastructure partner that is also focused on innovation. The storage system of Company D provides the automation, security, performance and scale we need to re-imagine the life sciences. —— says Ken Boyer, Global Storage Director of IQVIA

The reason why our customers choose the storage of Company D is that it is reliable and provides meaningful innovation to help enterprises adapt to the continuously changing business and IT environment. The important software innovation brought into the storage product portfolio of Company D will help organizations simplify IT operation and security innovation and obtain more value from the data. ——says Mike Heintzelman, Vice President of Advanced Solutions of TD Synnex (*Advanced Solutions of TD Synnex is a customer of Company D in China*)

Therefore, based on the above analysis, we propose the following proposition:

Proposition 2: The product innovation can help to improve B-end customers' satisfaction.

4.3.2.3 Service reliability and customer satisfaction

For a long time, Company D in China has brought increase and created value for stakeholders with its high-quality service and special capability and competitive strength. Company D in

China provides end-to-end solution portfolio to enterprise customers and cooperates with customers in ways other companies cannot provide. Company D in China has the largest ecosystem of direct selling and channel partner in the industry and has the unmatched market range and profit potential compared with its non-direct selling competitors. The company provides services around the globe and supports the complex and continuously changing IT needs proposed by customers of Company D in China. Company D in China has a world-level supply chain and possesses the cost advantage, speed, security, sustainability and supply continuity which is the most important. So, it can provide customers with services when many competitors are unable to provide such services. The leading financial service capability of Company D in China enables customers to obtain innovative technologies and cultivate customers' deep trust and support for the company. The unique business alliance between Company D in China and VMware and the solutions jointly designed make the time to market shorter. These are all key measures taken by Company D in China to provide customer-centered and result-lead high-quality services. In this way, the company makes use of its differentiated ability and scale advantage to bring value to customers, partners, team members and stakeholders around the world.

The simplified process, optimized mode and leading solutions are the core advantages for terminal deployment service of Company D in China. Over the years, Company D in China has also been working hard to make its terminal deployment service a "gold service". The deployment efficiency should be fully optimized by making use of the company's advantages in the supply chain and the latest deployment technology of the industry. It is also hoped that the products and solutions of the terminal deployment service of Company D in China can help customers to improve the deployment productivity and help them devote to more IT innovation and strategy transformation work with more value by making use of the limited IT resources. The terminal deployment service of Company D in China has been awarded Microsoft Partner of the Year Awards for 8 years consecutively. The company has 7 global patents on deployment service, and all the project managers who manage the team have obtained the PMP professional certification. Besides, the terminal deployment service of Company D in China has also been listed as a leader of the IT industry by Gartner. In the data field, the deployment service of Company D covers 135 countries and regions around the world. In mainland China, the service covers more than 2,000 cities. The number of systems ordered in the plants of Greater China exceeds over 1,000,000, and the number of systems installed and deployed exceeds 100,000. Facing the current epidemic situation, Company D is also making efforts to change its terminal deployment service. According to relevant

information, Company D has developed some leading solutions for remote deployment, including the three solutions of plant deployment, networking deployment and cloud deployment. These solutions integrate the supply chain and cloud technology to help customers to achieve deployment of "contact minimization" and enjoy remote telecommuting. Customers' needs and suggestions have always been the most factors considered by Company D to upgrade and improve the products and solutions of terminal deployment service. Besides, the company also keeps upgrading and optimize the solutions according to the requirements of the market and customers. To help customers to achieve productivity transformation is the ultimate goal of Company D in its terminal deployment service. The company has professional delivery capability in the terminal deployment service, which can solve customers' headaches with one-stop solutions through optimization of the supply chain combined with factory image preinstallation, networking and cloud configuration service. The terminal deployment service of the company helps to further improve enterprises' core competitiveness by releasing their pressure in the process of productivity transformation and thereby boost their business development.

Therefore, based on the above analysis, we propose the following proposition:

Proposition 3: Service reliability helps to improve B-end customers' satisfaction.

4.3.2.4 Service convenience and customer satisfaction

Company D in China has experience of 20 years in service for small enterprises. Based on its experience accumulated in its long-term service for small enterprises, it established the Department of Consumer & Small Business (CSB) in China to provide leading information technology consulting service, software and hardware products, solutions and full life cycle service. As an international scientific and technological brand which focuses on services for small business, Company D has more than 1,000 offline stores and solution centers, covering over 2,100 cities and districts, as well as more than 10 work teams in the field of small business. Company D provides enterprise products, such as server, storage and relevant technology support. Besides, it provides services related to server, storage, basic service and network products for 24 hours a day and 7 days a week.

Every PC and server sold by Company D is equipped with maintenance service for different periods of years. If any IT problem of hardware or software appears as the use time goes by, the devices within the warranty period can enjoy the following services for free, as shown in Table 3 in Annex D.

The official website mall of Company D in China for small business provides more than

400 products including business desktops and all-in-one machines, workstations and all kinds of peripherals which can meet customers' needs in a one-stop manner. Over 10,000 product configuration and combination solutions can provide small and medium-sized enterprises with full service from hardware combination to software preinstallation which not only meet their needs of personalized customization, but also reserve space for hardware upgrading of these enterprises in their future growth. There is no quantity limitation on customized service provided by the official website mall of Company D in China for small business. The mall advocates "customizing service even for one device", which means even customers buy only one device, they will still enjoy professional customizing service. Besides, since there is no third party participating in the business, the final price of each device is subject to the principle of "factory price for all products", which is a practical measure to help small and medium-sized enterprises to achieve digital transformation. In addition, the official website mall of Company D in China also provides services of " response in seconds" and "answers from engineer-level customer service staff". There are more than 600 professional consultants or engineer-level customer service staff providing small and medium-sized enterprises with online 1V1 before-sale and after-sale services for 24 hours a day, 7 days a week. The services cover the full life cycle of products, including planning and consulting, deployment and integration, operation and maintenance, as well as support, which helps small and medium-sized enterprises solve the actual difficulties and problems in the process of digital transformation.

With upgrading of information consumption and high-quality development of digital economy as well as innovative development of enterprise business, it is required to make greater reform in supply side. In the past, the service supply focuses on products, but now it should focus on customers and ecological development to promote refinement of service supply and find the key points on which services should mainly focus. As consumption evolves towards the trend of high-end oriented, high quality and intellectualization, the business mode of "As a Service" will expand to more fields and scenes. This is an inevitable trend from CapEx to OpEx for enterprises and an inevitable choice to accelerate the digital transformation. The reason why this mode is welcomed is that the administration authorities of enterprises want to better control the IT cost through this innovative mode to cope with the unpredictable situations and improve operation efficiency while gaining first-class IT capabilities. The mode of "As a Service" can better support business-driven IT and it proposes higher requirements for IT infrastructure and operation, as well as the business personnel. For example, it allows business personnel to order and adjust the business support and service

level according to the business needs to realize accurate demand and capacity management, to meet the requirements for security and compliance, to support agile development method and to achieve better operation. The mode of "As a Service" can realize the flexible delivery of digital infrastructure and the use of it as needed with lower cost and higher efficiency, which can ensure enterprise customers evolve to hybrid cloud infrastructure smoothly. Based on this background and trend, Company D in China has accelerated the implementation of the mode of "As a Service" in markets of China and around the world and launched the customized solution of APEX Flex On Demand (FOD). Through the mode of billing on demand of FOD when enterprise customers use the enterprise-level infrastructure service, they can pay according to the usage amount (using time or capacity), realizing the goal of "pay-as-you-go". By using the resilient service method of FOD, on one hand, enterprises can adapt to the change of IT status under different business loads to strengthen the budget flexibility and to make better use of the budget control function, avoiding frequent changes to budget when the actual situation changes; on the other hand, it can establish the use assessment of funds on an objective and comparable basis. Here is a typical case. Global Data Solutions Limited (GDS) procured the PowerStore storage of Company D in China, and this resilient solution is quite suitable for the project expenditure of GDS which varies with the changes of business volume. For GDS, the servers, storage, network firewall, and backup system all belonged to capital expenditure (CapEx), and financial processing such as depreciation of fixed assets and amortization of related assets is required with high initial cost; now, CapEx is transformed to OpEx through the resilient payment mode of FOD and the annual capital utilization efficiency of relevant system is increased by 5 times.

The FOD solution of Company D has a very professional charging system. In this system, Company D calculates the service capacity of data storage for many times during a day, and the final service capacity is the average daily value of the measured values; the total measuring cost of each month is calculated on the basis of average daily value. Company D will provide an account bill of RAM and storage as well as a report of detailed using status and give us 15 days for review to ensure the accuracy of billing; at the same time, the resilient payment mode transforms CapEx to OpEx to use the annual funds effectively, which is a considerate service. —— says Vice President of GDS

Therefore, based on the above analysis, we propose the following proposition:

Proposition 4: Service convenience helps to improve B-end customers' satisfaction.

4.3.2.5 Enterprises' value of sustainability and customer satisfaction

To promote the sustainable development of society with the power of science and technology is a mission for Company D in China. Social responsibility is an important part of the strategy of Company D in China Group. During the 20 years since its entry into China, Company D keeps fulfilling its commitment to communities, employees and the environment through welfare items, enterprise cultural construction and green environmental protection activities. In 2013, Company D in China proposed the plan of "Legacy of Good 2020" which is used as the guiding philosophy of the Group. In recent years, the company actively advocates and practices the sustainable innovation and environmental protection responsibility through its practice in green production, green packaging, recycling and reuse and other important issues of sustainable issues. The company realizes the goal of sustainable development confidently with solutions and products that aim to reduce the global carbon emission. Company D in China integrates the idea of sustainable development and ethical practice into all aspects. From materials used for products and packaging to the strong and complete supply chain, Company D fully considers the whole life cycle when designing the devices. Company D plans to realize the following goals by 2030: for each product purchased by customers, Company D will reuse or recycle one equivalent product; its packaging will be made from 100% recovered materials or renewable materials, and more than half of the ingredients of products will be made from recovered materials or renewable materials. According to the latest ESG (states for what?) report of fiscal year 2022 released by Company D Group, the sustainable materials used for products and packaging in this fiscal year reached 179,800 tons; 90.2% of the packaging is made from renewable materials, 3.2% higher than that of last year; the recovered or recycled materials used in products sold out have also increased by 26% compared with that of last year. At present, 55% of the electric power used by factories of Company D is from renewable energy; by 2030, 75% of the electric power used by factories of Company D will be from renewable energy; by 2040, this proportion will rise to 100%.

Company D is the largest electronic recycling enterprise in the world. Its waste electronic products recycling service covers more than 75 countries and regions. Company D is the first science and technology company that has obtained the certification of environmental cyclic utilization granted by UL and it uses the recycled plastic for production of new computers. Company D is also the first enterprise to recycle gold. Since 2013, 100 million pounds of recovered materials have been used for over 125 products manufactured by Company D Group. Company D is the first enterprise to use innovative database management and new

technology and process optimization, and also the first to reduce the volatile organic compounds (VOC) in the process of laptop manufacturing with a reduction rate of 30%. Except its attention on sustainable development of itself, Company D has always paid attention to the manufacturing practice of supply chain which is in accordance with the ethics and has actively pushed forward the development of green supply chain. By the end of 2018, a total of 201 suppliers that are from water-shortage areas or that are water-intensive have participated in the water risk control item of Company D. Three hundred and seventy water risk control measures haven been taken in accumulation, which has saved fresh water of 560,000 tons and reduced discharge of wastewater of 420,000 tons. At the same time, Company D has also actively promoted and helped suppliers to obtain certification from Alliance for Water Stewardship (AWS). Through its cooperation with AWS, Company D is sharing the practice of wastewater treatment mechanism with other stakeholders. Ninety-five percent of the direct purchasing suppliers and logistics suppliers of Company D will set the greenhouse gas (GHG) reduction target at the end of 2020 and make it known to the public. Due to its integration of innovation and environmental protection and excellent performance in the field of supply chain environment responsibility, Company D ranked top three of the Green Supply Chain (originally called "Environmental Information") Corporate Information Transparency Index (CITI) released by Institute of Public and Environmental Affairs (IPE) consecutively for the three years from 2016 to 2018. In 2019, Company D went one step further and ranked first in the list of Green Supply Chain CITI among 438 brands of the industry. At the same time, Company D passed the five-star requirement of *Technical Requirement for Green Supply Chain Evaluation, Computers and Displays* (2016-2017) released by China Environmental United Certification Center (CEC), and became the first computer company that obtained the green supply chain certification in China. In 2019, Company D was selected into the national green manufacturing list of the fourth batch released by Ministry of Industry and Information Technology of the PRC, and became one of the model enterprises of green supply chain management. Now, we are in an era of rapid development of digital transformation. AI, VR/AR, big data and other new technologies are driving the development of all industries. As a science and technology company, except for its financial donation, Company D also continuously contributes to the balanced and inclusive development with its scientific and technological innovative power from its excellent products and solutions.

The vision of Company D is to promote human progress, bring benefit to everyone through its business and social influence, create a better future, promote innovation,

cooperation and technological progress, help people seize opportunities, and continuously improve environmental influence and build up trust. Therefore, Company D pays high attention to Environmental, Social and Governance (ESG) measures, and it brings positive results to all the stakeholders while ensuring realization of its business objectives. In 1998, Company D released its first technological and environmental report which mentioned the relationship among production, environment and nature. From 2007, Company D renamed the technological and environmental report as social responsibility report and releases it every year. During the period from 1998 to 2007, Company D once changed the name of relevant report as sustainable technological development report. Thus, it is obvious that at the beginning, Company D mainly paid attention to the relationship between company development and environment; but then, it gradually expanded its attention to the relationship among environment, society and company governance. Meanwhile, the relationship between enterprise development and its consciousness has also expanded little by little. At present, Company D not only provides equal work opportunities to people from all over the world, but also sticks to the principle of gender equality to encourage all the employees to fully develop their potential, realize their own value, and thereby promote development of the company. By the fiscal year of 2022, 33.9% of the employees are women; in the global management team, 28.2% of them are women. By 2030, women will account for 50% of the global employees and 40% of the employees on leadership positions. To better promote cultural integration and strengthen communication among employees around the globe, in the fiscal year of 2022, through its innovative working method, Company D supported flexible working method and remote collaboration, and strengthened communication among working teams all over the world to help them learn more about their respective working habits and cultural difference, so as to improve their working efficiency and build an excellent global team thereby.

Therefore, based on the above analysis, we propose the following proposition:

Proposition 5: The concept of sustainability has strengthened the effect of product quality in promoting B-end customers' satisfaction.

4.3.2.6 Digitization and customer satisfaction

The digital wave is sweeping the globe. To achieve digital transformation and promote enterprises' operation level and competitiveness have become very important factors for enterprises from different countries to win in the global market. Thus, the governments of many countries have made relevant policies to encourage and promote their enterprises to achieve digital transformation. In China, since the old way of economic growth is not suitable

for enterprises' development now, they are facing urgent pressure to make transformation. In this background, business transformation driven by digital transformation has become an important method for Chinese enterprises to improve their operation level and achieve a new economic growth mode. The impetus to drive Chinese enterprises to make digital transformation mainly includes two aspects. On one hand, since new technologies begin to reshape the industry, market and rules, enterprises face great competitive pressure from other countries; on the other hand, enterprises need to actively make transformation and innovation to meet requirements posed by the new economic development stage. Chinese economy is now in a key stage of transformation from high-speed growth to high-quality development. Except for traditional factors to boost economic growth, such as land, labor force, capital and technology, digitization has become the core factor for economic growth and industry reform. Besides, it also signifies the enterprises' competitiveness. As the social and market environments have become more and more unstable, especially after the "Black swan" incident of COVID-19 pandemic, traditional industries in China all begin to explore digital transformation to forge a second economic growth curve, and digital transformation of enterprises is in full swing. The purpose of enterprise digital transformation is to realize integration of capital chain, information chain, supply chain, and innovation chain through new technologies, and to realize the goal of improving quality, reducing cost, and enhancing efficiency through management and control of personnel, products, process, organization and business driven by digital transformation. To help traditional enterprises solve the problems in digital transformation, the first task is to achieve digitization of IT infrastructure and working process, build a digital base and lay a solid foundation for digital infrastructure.

Company D uses scientific and technological innovation to help Chinese "pioneers" in digital transformation from various industries to build digital bases and innovative platforms of intellectual business with cloud, improve business agility, promote innovation in a wider range and well prepare for development in the long run. The enterprise-level consistent hybrid multi-cloud platform of Company D helps enterprises build agile digital bases, break information barriers and realize innovative development. The VCF on VxRail hybrid multi-cloud platform breaks the barrier between public cloud and private cloud even edge computing, helps enterprise customers quickly achieve integration of data and business from interior to exterior to meet requirements of key business and ensure the resilience of current business. In continuous business expansion, such data platform architecture can help enterprises well prepare for future development and ensure smooth IT transition. With the automated and all-inclusive hybrid cloud architecture, Company D has helped customers

realize simple, concentrated, unified and automated multi-cloud management and monitoring. Besides, it has also ensured the extreme security and compliance of data under the multi-cloud conditions. Take General Electric Company (GE) which has subsidiaries in over 170 countries as an example. Facing diversified businesses around the globe, the infrastructure is especially important for it. We can even say that a slight move in one part may affect the situation as a whole. Thus, even a slight change will lead to the domino effect and cause complex impact. By using the cloud platform of Company D, GE can meet the business needs through rapid transformation of IT resources and become more agile, while it does not need to make major reconstructing of its infrastructure. Besides, the automatic configuration and intelligent data service of the system can provide users with seamless use experience to accelerate deployment of application program and service.

The technology platform built by Company D based on container/ microservice can provide automated and intellect operation across the core, multi-cloud and edge and shorten the time between data generation and innovation. Whether the data is in data center, edge, core or cloud, PowerScale of Company D can enable automatic storage management, operation and maintenance in the same method with the OneFS operating system, single namespace, single file system environment and enterprise-level data service advantage. PowerFlex simplifies multi-cloud and DevOps through providing extensive document and block support to major Kubernetes and container orchestration platforms, including Amazon, Google, Microsoft, Red Hat, SUSE, and VMware. By using unified data block and file storage service in bare-metal and virtualization deployments to integrate traditional and containerized workloads, optimization of IT cost can be achieved. At the same time, the unified management of PowerFlex Manager also bring extensive automation of storage, LCM and IT operation. Besides, through the "Alpine Project", Company D can extend the capabilities of all its core storage software, including enterprise-level capacity, performance and protective capability to all public cloud platforms, which can help to improve the automation and intellectualization level of production and operation process.

The "As a Service" mode of APEX of Company D provides enterprises with flexible IT service to reduce cost and improve efficiency. APEX is created to help enterprise to construct "resilient" and agile digitization capabilities. It can provide enterprises with simple, flexible and controllable consistent digitization experience in cross-core, edge and cloud environment. While reducing the cost and risks in enterprise transformation, it can also promote enterprises' capabilities to cope with the unknown future digitization. At the same time, it points out a new direction for the digital transformation and upgrading of enterprises, provides them with a

new choice and lays a solid foundation for them to become "future enterprises". In addition, APEX cloud service enables enterprise customers to operate relevant key workloads more efficiently and safely in the hybrid multi-cloud world and manage the whole cloud and 'As a Service" trip of the enterprises with unified experience.

As a digital transformation service provider, Company D in China was very successful in the case of Lei Shing Hong Machinery. Through cooperation with Company D in China, Lei Shing Hong Machinery built a digital service ecosystem in which the basic platform of cloud computing and storage, container and data center, and middleware and business applications are closely integrated. As the base of digitization, the data center infrastructure has been comprehensively improved in its stability, flexibility and security. Especially in the post-epidemic era, as business continuously develops into online mode, all the business systems and core databases have operated steadily, safely and reliably, improved their risk-resilient and cross-cycle IT service capabilities, strengthened their business resilience and laid a solid foundation for steady development in the future. With the digital and intelligent services provided by Company D, Lei Shing Hong Machinery has realized upgrading of the enterprise marketing ideas, empowered online sales, accumulated strength for the future while ensuring steady business growth, and found new value coordinates to seek more valuable development space.

Under the epidemic, we cooperate with Company D, keep improving our digital service capability, promote our online business, build a full life cycle digital product ecosystem for customers and conduct visual management of the whole process of orders. Besides, through integrating the online sales sections, we have provided solid digitization support to product promotion, sales activities, task distribution and after-sales service, expanded the sales boundary and improved the sales channel system. We are very satisfied with this. —— Director of IT Department, Lei Shing Hong Machinery (Beijing) Co., Ltd.

Therefore, based on the above analysis, we propose the following proposition:

*Proposition 6: Digitization has strengthened the effect of service quality in improving B-end customers' satisfaction***.**

4.3.3 Summary of this chapter

A proposition refers to the semantics (the actual expressed concept) of a judgment (statement), and the concept is a phenomenon that can be defined and observed. A proposition does not refer to the judgment (statement) itself, but to the semantics it conveys. In a thesis, a

proposition usually refers to a fundamental viewpoint or question that is discussed or argued for, presenting a question or proposition in response to a certain issue or theme. In a thesis, a proposition is about nailing down the topic or issue of research and pinpointing the direction and objectives of the research. Unlike research hypotheses, propositions are usually derived from experience or cases and are a universal phenomenon summarized from a large number of facts, thus requiring practical arguments to support them. The six propositions presented in Section 4.3.3 of this chapter are summarized from a large number of real-life cases of Company D in China, so there is reason to believe that these six propositions are fact-based. However, these propositions are only initial propositions and require further theoretical validation. Therefore, we will propose research hypotheses and conduct empirical validation in Chapter 5. Research hypotheses are derived from theoretical deductions. In a thesis, it is usually necessary to use empirical research methods to validate the research hypotheses, which is an important distinction between research hypotheses and propositions.

In summary, the propositions of this research are initially summarized based on the cases of Company D in China. The formulation of the six propositions is supported by evidence and their correctness can be preliminarily affirmed.

Chapter 5: Empirical Study on Marketing Strategy of Company D in China

5.1 Proposal of conceptual models

Based on the above theoretical deduction, this study believes that in the context of the IT industry where Company D is, customer satisfaction in the B2B marketing model is the focus of Company D and the key factor affecting the business performance of Company D. As for clients at terminal B, their satisfaction is affected by the product quality and service quality provided by Company D. Different from clients at terminal C, those at terminal B pay more attention to product functionality, product innovation, service convenience and service reliability, and pay more attention to the values of enterprise sustainability and enterprise digital services. In other words, products reflecting the values of sustainability are more likely to be recognized by customers and providing digital services and support for clients at terminal B will improve customer satisfaction.

Based on the above understanding, this study includes product functionality, product innovation in the product quality dimension, service convenience, service reliability in the service quality dimension, and customer satisfaction into an analytical framework, and includes the value of enterprise sustainability and enterprise digital service as moderating variables. The conceptual model of "Product quality + service quality - customer satisfaction" is proposed, as shown in Figure 5.1.

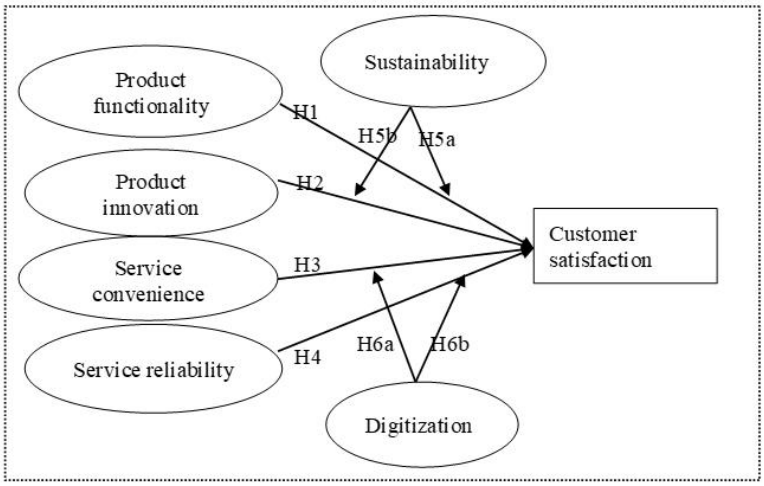


Figure 5.1 Conceptual model in the study

5.2 Hypothesis of the study

5.2.1 Relationship between product functionality and customer satisfaction

In today's competitive business environment, an enterprise's ability to provide high-quality products and services is one of the main factors to gain a competitive advantage (Yu, 2013). Product quality is "the comprehensive embodiment of product function and performance", the generalized product quality is equivalent to the overall function and performance. The product function includes the main function and auxiliary function, and the comprehensive performance of the product includes the structural performance, working performance, and technical performance (Chen et al., 2013). An important aspect of a company's responsibility to its customers is to ensure the right transfer of value through the quality and price of its products and to measure the value and quality provided to its customers through the use of customer satisfaction (Pitic & Pitic, 2014). Customers regard the products as a series of different functions, also known as features or attributes. The most important function is the basic or core function that represents the initial use of the product. Customers always expect the product to realize its core function. Due to the stability of product expectations, customer satisfaction with core functions should be relatively unaffected by short-term fluctuations in economic expectations. When a product fails and no longer performs its core functions, customer dissatisfaction will naturally occur. In addition, with the development of the economy and the increasing business pressure of clients at terminal B, the requirement for a large amount of data processing makes clients at terminal B need to buy products with higher quality and robustness, so as to improve customer satisfaction (Frank & Enkawa, 2008). Customer satisfaction has increasingly become an important non-financial index to evaluate the performance of innovative products. How to improve customer satisfaction with innovative products in domestic and foreign markets is a strategic measure to determine the survival and development of enterprises. Many companies' business decisions involve choosing products that provide high customer satisfaction to meet multiple goals. In particular, global competitiveness has recently become a top concern for many companies as they consider “continuous improvement” to catch up with rapidly changing developments around the world spurred by technological innovation and changing customer needs. In general, poor product definition often leads to failure in the market or prolonged product development time (Kahraman et al., 2006). In the process of purchasing or consuming products provided by enterprises, customers will have a psychological feeling or cognition about whether their

requirements have been met. This feeling or cognition directly reflects the customer satisfaction with the products (Kaswengi & Lambey-Checchin, 2020). Therefore, product functionality directly affects customer satisfaction.

Based on the above analysis and discussion, the following hypotheses are proposed:

H1: There is a positive correlation between product functionality and customer satisfaction.

5.2.2 Relationship between product innovation and customer satisfaction

Product innovation is a marketing strategy often used in the process of new product development and upgrading of old products. The development of innovative new products is the basis of the success of many enterprises. Product innovation can promote the purchase intention of customers and customer satisfaction, and increase the financial performance of enterprises (McNally et al., 2010). Product features and performance attributes will have a direct impact on customer satisfaction. The novelty and uniqueness of innovative products allow for greater opportunities for differentiation and possible patentability, perhaps providing a sustainable advantage over competitors (Song & Parry, 1996). From the customer's perspective, product innovation depends on attributes of innovation, including relative product advantage, performance advantage, compatibility, complexity, experiment ability and observability, risks associated with adoption, and the level of behavioral change required to adopt the innovation, among others (Danneels & Kleinschmidtb, 2001). Especially when considering innovation from the perspective of customers, the measurement standard of product superiority is often tied to product innovation. Product superiority refers to the advantage of a product over other products in the eyes of customers, which has long been regarded as a key driving factor for the performance of new products. Previous studies have shown that product innovation is significantly correlated with product superiority (Calantone et al., 2006). Products that have significant advantages over competitors' products also tend to be unique. Radical new products are more distinct from competitors' products and have greater product advantages (Gatignon & Xuereb, 1997). It is found that product innovation constitutes product advantage (uniqueness and superiority), which is one of the most important dimensions leading to the success of new products and has a positive and significant impact on enterprise performance. Innovative products can better meet the needs of customers in market segments, improve customer satisfaction, and ultimately achieve market success. Product innovation will enable enterprises to adapt to different "customer

satisfaction" indicators and narrow the gap between customers' perceived benefits and expectations through product innovation. Customer demand is constantly changing, and in order to satisfy customers, it is necessary to provide products that satisfy customers, enterprises must provide innovative new products in accordance with customer demand to achieve good benefits (Veldhuizen et al., 2006).

Based on the above analysis and discussion, the following hypotheses are proposed:

H2: There is a positive correlation between product innovation and customer satisfaction.

5.2.3 Relationship between service convenience and customer satisfaction

Service quality and customer satisfaction are important aspects of the business because a company's growth depends largely on its ability to maintain customers through service and how well they keep them satisfied (Edward & Sahadev, 2011). Customer satisfaction is important because it has a direct impact on customer retention, spending levels, and the long-term competitiveness of an organization, and service quality has a direct impact on customer satisfaction. Good service efficiency will increase customer satisfaction, which will improve customer engagement and interrelationships (M. Chang et al., 2017). Customer satisfaction is associated with high service quality, which makes enterprises more competitive in the market (González et al., 2007). Since the 1980s, the concept of service was defined, and by measuring the consistency between the company's actual service delivery and customer expectations, the theory of customer satisfaction was promoted, which was to meet customers' desires and needs and exceed their expectations (Asubonteng et al., 1996). On this premise, by extending the concept of service to the five dimensions of service quality, including tangibility, reliability, responsiveness, assurance and empathy, that is, the SERVQUAL framework. Identifying problems in service and customer satisfaction can improve service quality (Armstrong et al., 1997). In addition, service quality can be characterized by analyzing the differences between planned and perceived services. There is a positive relationship between service quality and customer satisfaction (Armstrong et al., 1997). Recognizing and meeting customer expectations through a high level of service quality helps differentiate a company's services from those of its competitors (Dominic et al., 2010). There is a strong correlation between the SERVQUAL dimension and perceived service quality, and the perception of higher service quality leads to higher customer satisfaction (Zygiaris et al., 2022). Therefore, it is believed that the five dimensions of service quality are significant antecedents of customer satisfaction in the study. The SERVQUAL framework is not static,

different authors have modified the definitions associated with these variables, and the relationship between the dimensions of service quality varies from service to service and environment to environment.

First, in terms of the relationship between service convenience and customer satisfaction (Roy et al., 2016), service convenience refers to the "time and effort saved by the customer in purchasing and using the service" (Berry et al., 2002). Meanwhile, service convenience is defined as the customer's judgment based on their sense of control over managing, utilizing, and converting time and effort to achieve goals related to service acquisition and usage (Farquhar & Rowley, 2009). These definitions emphasize the two dimensions of service convenience, namely, time and effort. The time cost is highly expensive for clients at terminal B, and customers tend to choose companies that provide convenience and value during the search, acquisition, purchase, and use of services. Five dimensions of customer convenience are proposed, namely time, place, acquisition, use and execution based on economic utility theory (Brown & Fisk, 1984). In addition, the following five types of service convenience are proposed: decision convenience (save time and energy perceptively when deciding whether to utilize a service and from which service provider), access convenience (save time and energy perceptively when making connections with service providers), transaction convenience (save time and energy perceptively when completing transactions with service providers), benefit convenience (save time and effort in obtaining the core benefits of the service) and post-benefit convenience (Save time and effort when receiving after service or service failure) (Berry et al., 2002). Customers are driven by information gathering and money. Customers pay attention to convenience not only when making chase decisions, but also when accessing, receiving and completing services. Since convenience will save them time and effort costs, customers can use service convenience to evaluate service quality. Reducing customer time and effort spent in service acquisition and delivery can improve service quality perception and customer satisfaction. Company D needs to provide clients at terminal B with fast service response, convenient service channels and service solutions that facilitate decision making, which requires minimizing the waiting time for all interactions between customers and service providers, and responsiveness is crucial for improving customers' perception of service quality. Enterprises should respond quickly and professionally to failures and suggest alternative measures to meet customer needs (H. Lee et al., 2000). To this end, responses to four key actions were summarized, namely, giving personal attention to customers, providing services in time, taking the initiative to help guests, and the availability of staff when needed. These aspects help companies improve customer perception of service quality (Nambisan et

al., 2016).

Therefore, we integrated several indexes of service quality, including responsiveness, assurance and empathy of service quality based on the SERVQUAL framework in this study, and unify them into the service convenience, and believe that service convenience can promote the improvement of customer satisfaction.

Based on the above analysis and discussion, the following hypotheses are proposed:

H3: There is a positive correlation between service convenience and customer satisfaction.

5.2.4 Relationship between service reliability and customer satisfaction

With economic development, the far-reaching influence of service quality and the role of customer satisfaction in consumer decision-making have been recognized to a large extent, and attention has shifted sharply to customer-centered service marketing, and the academic circle has gradually increased the study related to customer behavior in service. Many issues in the study seem to reflect the pursuit of perceived anthems and dimensions of service quality, especially service reliability, which refers to the degree to which specific services are correctly provided. High service reliability can make customers perceive the perfect performance of services in advance and are willing to make purchase decisions for this reason. Reliability is attributed to responsibility and quality, including professionalism of service and identification of producibility, quality of communication and customer care, information presentation, customer respect, proficiency of staff, the ability of representatives to adjust customer inquiries and respond to their needs and protests, safety, reliability of workers, more limited waiting time and speed, practical tips, administrative costs, accessibility of the problem recovery framework, accountability, and responsibility, guarantee, and reliability is crucial to improve customer perception of service quality (Omar et al., 2015). Customer evaluation of the service depends on whether the service specification and implementation meet expectations. Service specification is an agreement between a customer and a service provider on the type of service to be provided, including price, design, quality, time, and other service characteristics. The compliance of services to service specifications is an issue of reliability. Service realization is not only about the outcome of the service process, but also about the actual creation and execution of the service, which involves service encounter, human contact, operation, time, and environmental factors (Van Raaij & Pruyn, 1998).

Assurance refers to the skills and capabilities used to provide service to the customer. It is

explained that the skills and abilities of employees help inspire trust and confidence in customers, which in turn inspires a sense of security and comfort in the service delivery process (Y. Wu et al., 2015). If customers are confident in their employees' ability to complete tasks, they will have higher customer satisfaction and will be more likely to make buybacks (Y. Wu et al., 2015). In addition, in the process of interacting with customers, service providers should do more from the perspective of customers to make them feel special and valuable (Bahadur et al., 2018).

Based on the above analysis and discussion, the following hypotheses are proposed:

H4: There is a positive correlation between service reliability and customer satisfaction.

5.2.5 The moderating effect of sustainability on the relationship between product quality and customer satisfaction

As customers are increasingly concerned about environmental issues, they are paying more attention to the sustainability of the products and services. More and more companies are also committed to improving the sustainability of their products and services to build a close customer relationship (Kim et al., 2015). Generally, sustainability includes three dimensions: economic, social and environmental, among which economic sustainability research focuses on the financial performance of enterprises, social sustainability research centers on the social responsibility of enterprises, and environmental sustainability focuses on the nature protection of the environment (Dyllick & Rost, 2017). We are more concerned about whether the company's products are made of environmentally friendly materials and whether they can ensure the sustainable development of the environment. Sustainability is defined as the customer's perception of the environment-related characteristics and performance of the product and/or service. As more and more businesses offer sustainable products in response to environmental protection issues, numerous studies have shown that the impact of product sustainability on customer satisfaction is significant. When customers recognize and perceive the sustainability of the enterprise's products, they are more likely to show their loyalty to the enterprise's products and are willing to pay for the sustainable development of the products, thus improving customer satisfaction (M. Huang et al., 2017). Sashi built a customer participation cycle model. First, the enterprise provides the customers with product information, such as the environmental protection material of the product, and delivers it to customers. Customers will process the information they receive, and then evaluate the function and performance of the product. In this process, the customers evaluate the

sustainability of the product, and if they decide to buy the product, satisfaction or disappointment will show naturally. If the sustainability of the product meets the demands of the customer, the customer would be satisfied and keep in touch with the company (Sashi, 2012). Customer satisfaction is often defined as "the customer's overall assessment of the product's performance", and as customers become more concerned about the sustainability of the product, it becomes the primary driver of customer satisfaction. Among products of similar quality and price, products that use more sustainable materials lead to higher customer satisfaction (Magnier et al., 2016). In addition to environmentally friendly products, customers also want authentic product displays from companies and packaging materials to be recycled (Kianpour et al., 2014).

Based on the above analysis and discussion, the following hypotheses are proposed:

H5a: Sustainability positively moderates the relationship between product functionality and customer satisfaction.

H5b: Sustainability positively moderates the relationship between product innovation and customer satisfaction.

5.2.6 The moderating effect of digitization on the relationship between service quality and customer satisfaction

With the development of the digital economy, advanced technology enables people to access goods and services through a variety of channels, including the Internet, mobile devices, social media, as well as physical stores (Aswani et al., 2018). Existing research shows that enterprises can enjoy the benefits of digitization in different ways, including improving efficiency, achieving enterprise agility, creating value and improving organizational performance (Balci, 2021). Digitalization has promoted the integration of various channels for enterprises, launched unique marketing strategies for enterprises, realizing better channel allocation and resource allocation, and profoundly changing the interactive behavior pattern between enterprises and customers (Singh & Swait, 2017). In general, digital services are described as the process by which an enterprise adopts digital technologies to provide services to its customers in a broader personal and social environment (Legner et al., 2017). Digital enterprise services integrating informatization, SaaS, mobile and AI can help entity enterprises unleash new driving forces constantly. Digitization has created new functions and promoted the management of enterprises. On the one hand, digital technology allows companies to improve management operations and reduce costs (Bell et al., 2018), and on the

other hand, digital technology improves customer satisfaction by saving time of customers and improving product and service evaluation and acquisition (F. Gao & Su, 2017). Digital services are vital to guide users to order products, protect users' rights and interests, and enable users to have better experiences. Through digital services, customers can be directly contacted through more channels to better understand their needs and product evaluation, and product design can be quickly adjusted according to their feedback. Digital technology can provide more detailed information, which greatly reduces the miscellaneous work contents and working time and improves work efficiency. Meanwhile, analyze the irrationality in the working process according to the data and optimize it (Gu & Tayi, 2017).

Based on the above analysis and discussion, the following hypotheses are proposed:

H6a: Digitization positively moderates the relationship between service convenience and customer satisfaction.

H6b: Digitization positively moderates the relationship between service reliability and customer satisfaction.

5.3 Questionnaire design and variable measurement

5.3.1 Questionnaire method

By referring to relevant literature, the original scale of product functionality, product innovation, service convenience, service reliability, sustainability, digitalization, customer satisfaction and other variables was collected, and then the scale was improved and pre-tested by comparing the Chinese context and the actual situation of the B2B marketing model of IT industry. Through continuous iteration and improvement, the final scale in this study was formed. The questionnaire survey was conducted in a reasonable and effective way, and questionnaires were collected for the relevant enterprises served by Company D in China to ensure the effective conduct of the study. These enterprises belong to manufacturing, construction, transportation, information technology, retail and other industries, and have been established for 0-20 years. Most of the respondents are the key personnel responsible for purchasing, production and operation of the enterprise customers, who are familiar with the products and services of Company D and can give objective evaluation.

5.3.2 Questionnaire design steps

The variables finally determined by theoretical review and case study in the previous study

are the generalization and description, which are some relatively abstract concepts. In order to make variables materialized and measurable, first of all, read English literature on related variables, including literature written by scholars who proposed the concept and literature cited frequently in this field, to have a deeper understanding of related variables and concepts. Secondly, due to the Chinese situation involved in the study topic, the content of the study should be in line with China's national conditions and culture and be applicable to the IT industry where D Company is located. The high frequency cited literature of relevant variables in China has been studied and sorted out in this study. The scale design went through the following process: 1. Through the "back translation method", the original English questionnaires and scales are used for reference and translation (Baird et al., 1990). In order to improve the accuracy of English scale translation, translators were divided into two groups for the translation, of which, one group was responsible for translating English into Chinese, while the other group was responsible for translating Chinese done by the first group into English. Then, compare the differences between the translation of the two groups, make changes to the differences, and finally, form a relatively perfect measurement scale and the first draft of the B2B Business Customer Satisfaction Questionnaire of Company D in China.

5.3.3 Variable measurement

Great importance was attached to the scientificity and effectiveness of questionnaire design in the study. First of all, in the scale design process, due to the differences between countries, industries and studies, this study focuses on the differences between the measurement scales of the study objects. Secondly, the reliability and validity of the scale are mainly considered. The rationality of some questions in the questionnaire was studied and the scale needed for the study was summarized. In order to ensure that the items in the scale can fully explain the various situations that may occur to variables, a measure item database of related variables on this basis was established and the selected items were selected and filtered according to the study content. The items with high reliability and validity that have been verified by previous studies are the first choice. Moreover, make a comprehensive consideration combined with the actual needs of this study. Thirdly, on the basis of literature study and scale screening, we should not only fully reflect the research theme, but also focus on the endogeneity of variables in the process of questionnaire design. Through the matching of research methods and measurement questionnaires, it is required to solve the endogenous problem between variables from the source. Therefore, this study proposed a preliminary questionnaire scale on

the basis of comprehensive consideration of the Chinese situation, industry and relevant study content of Company D.

In order to improve the normalization of the study and the reliability and validity of the measured variables, product functionality, product innovation, service convenience and service reliability are taken as independent variables, customer satisfaction is taken as dependent variables, and sustainability and digitalization are taken as moderating variables to study the influencing mechanism of customer satisfaction based on the research and classification of previous scholars. All variables were measured with a 7-point Likert scale, with 1 being strongly disagreed and 7 being highly agreed. The questionnaire scale of the study is shown as per Table 5.1.

Table 5.1 Questionnaire scale of the study

S/N	Variables	Variables shorten	Measurement Items	Source
Q1	Product functionality	P1	The products provided by Company D have comprehensive functions and can meet the functional requirements of the enterprise.	It was adapted from Yoo et al. (2000) and Ngobo and Jean (2012)
Q2	Product functionality	P1	The products provided by D company have good quality and stable and reliable functions.	It was adapted from Yoo et al. (2000) and Ngobo and Jean (2012)
Q3	Product innovation	P2	Company D's products offer customers unique attributes not available in competitive products.	It was adapted from Yoo et al. (2000), Ngobo and Jean (2012) and Cooper and Kleinschmidt (1987)
Q4	Product innovation	P2	The performance of products provided by Company D is superior to that of other similar enterprises	It was adapted from Yoo et al. (2000), Ngobo and Jean (2012) and Cooper and Kleinschmidt (1987)
Q5	Service reliability	S1	I think the service purchased from Company D is worth it.	It was adapted from Yoo et al. (2000), Ngobo and Jean (2012) and Cooper and Kleinschmidt (1987)
Q6	Service reliability	S1	The services provided by Company D can effectively meet the needs of the enterprise and solve the problems encountered.	It was adapted from Yoo et al. (2000), Ngobo and Jean (2012) and Cooper and Kleinschmidt (1987)
Q7	Service convenience	S2	The product solutions provided by Company D are very clear, which makes it easy for me to choose and make a decision.	It was adapted from Colwell et al. (2008) and Seiders et al. (2007)
Q8	Service convenience	S2	Company D can make quick responses to the customers' requirements, and offer	It was adapted from DeWitt et al. (2008)

			services by different means.	
Q9	Service convenience	S2	Purchasing services from Company D saved me time cost	It was adapted from Colwell et al. (2008) and Seiders et al. (2007)
Q10	Service convenience	S2	Company D can provide personalized service solutions on demand.	It was adapted from Colwell et al. (2008) and Seiders et al. (2007)
Q11	Digitization	DI	Company D provides digital services to its customers	Y. Lee et al. (2009) and Ramkumar et al. (2019)
Q12	Digitization	DI	Company D's digital services can effectively improve the efficiency, productivity and performance of customers	It was adapted from Y. Lee et al. (2009) and Ramkumar et al. (2019)
Q13	Sustainability	SU	I recognize the corporate values and concepts of sustainability of Company D.	It was adapted from Sashi (2012) and Kianpour et al. (2014)
Q14	Sustainability	SU	The products provided by Company D are sustainable, such as environmental protection and energy saving.	It was adapted from Sashi (2012) and Kianpour et al. (2014)
Q15	Customer satisfaction	CS	On the whole, I am satisfied with the products and services provided by Company D	It was adapted from Ryu et al. (2008).
Q16	Customer satisfaction	CS	I am willing to continue using the products and services provided by Company D	It was adapted from Bayol et al. (2000) and Fornell et al. (1996)

Note: The table is organized from literature research, enterprise interviews and expert discussions.

The variables are calculated in the following methods. In actual regression analysis, the data is standardized:

(1) Dependent variable:

Customer satisfaction CS=(Q15+Q16)/2

(2) Independent variable:

Product functionality P1=(Q1+Q2)/2

Product innovation P2=(Q3+Q4)/2

Service reliability S1=(Q5+Q6)/2

Service convenience S2=(Q7+Q8+Q9+Q10)/4

(3) Moderating variable

Digitization DI=(Q11+Q12)/2

Sustainability CS=(Q13+Q14)/2

Interaction item between product functionality and sustainability P1SU=P1*SU

Interaction item between product innovation and sustainability P2SU=P2*SU

Interaction item between service reliability and digitization S1DI=S1*DI

Interaction item between service convenience and digitization S2DI=S2*DI

To verify the moderating effect of digitization and sustainability, the interaction item

between product functionality and sustainability, the interaction item between product innovation and sustainability, the interaction item between service reliability and digitization, and the interaction item between service convenience and digitization are incorporated into the regression model to verify the significance level. If the results are significant, it means there is moderating effect.

5.4 Data collection

5.4.1 Pre-research

The pre-research stage aims to make the questionnaire design more reasonable from the angle of academic sector and conduct a preliminary test for the questionnaire. First, we listened to suggestions made by experts and scholars in relevant fields, identified the rationality and logicality of the scale related questions, and made appropriate slight changes. Second, we paid special attention to the reliability and validity of the questionnaire, consulted personnel of IT industry, and judged if the scale measurement was reasonable. Third, we consulted experts who are good at collecting first-hand data and improved the logicality and rationality of the questionnaire again from the method level to avoid the endogeneity problem of the questionnaire.

It is necessary to conduct a pre-survey of the questionnaire before collecting a large quantity of questionnaire data. In this stage, the most important task is to improve the measurement scale questionnaire from the angle of respondents and upgrade the rationality, reliability and validity of the questionnaire. This stage consisted of two steps. In the first step, we distributed about 100 questionnaires to enterprises which Company D has served and contacted with for pre-research. In this way, we got a preliminary learning of the scientificity and applicability of the questionnaire. Among the 100 questionnaires distributed, 80 were returned and 66 of them were valid. In the second step, we revised the questionnaire according to the feedback results. We mainly focused on whether there was ambiguity in the expression of items, and whether there was semantic repetition of the items. We also made pre-test for the reliability and validity of the questionnaire, improved the items with poor effect and formed a relatively perfect and reasonable questionnaire.

After the questionnaire went through the three stages of literature reading and combing, pre-test, as well as pre-research and revision, and after we controlled the scientificity, rationality, logicality and applicability of the questionnaire, the final draft of the questionnaire

was formed.

5.4.2 Process of data collection

The objects of this research are the business customers of Company D in China. The samples selected are directly related to the authenticity and validity of the empirical results. In this research, we abide by the following principles in the selection of samples:

First, the data should be accessible. Since the writer has been working in Company D in China for many years and has many contacts in this field. So he can make full use of his social network to ensure the availability of data.

Second, the data collected should be accurate. The data accuracy will directly influence the research authenticity. Therefore, in the questionnaire design, we have made prompts for the length of time respondents should use to fill in the questionnaire. At the same time, we have also used some interference items in the questionnaire to identify the accuracy of the sample.

Third, the sample attributes should be diversified. Since the study objects of this thesis are the business customers of Company D in China, to make the data more universal and valid, the objects selected cover many different industries. Those who fill in the questionnaire are all key personnel of the business customers. To describe the influence exerted by product and service quality on customer satisfaction more comprehensively, the control variables selected include the years of establishment of enterprise, the scale of enterprise and the number of employees of enterprise.

The study objects of the questionnaire are the B-end customers of Company D in China. The respondents were required to answer the questions in a serious, objective and fair attitude according to the fact they knew. The questionnaires were filled in anonymously to ensure information and data confidentiality for the respondents. In this research, the questionnaires were distributed online through the WJX platform in the following ways: (1) Contact the responsible persons of the B-end customers of Company D in China by attaching the WJX link to the text message, and ask them to cooperate to fill in the questionnaires; (2) Contact enterprises that have once cooperated with Company D in China with the assistance of the marketing team, and before-sales and after-sales service teams of the company, and ask them to fill in the questionnaires; (3) Distribute questionnaires to the responsible persons of relevant enterprises by using personal relationships through the writer's social network, and ask them to help forward the questionnaires. After the questionnaires were returned, we

mainly did the following work to eliminate invalid questionnaires: (1) We judged whether the respondents answered the questions carefully according to the interference items and eliminated the questionnaires in which the answers to the interference items were wrong; (2) We eliminated some questionnaires according to the time used by respondents to answer them; if the time used was too long or too short, then the questionnaires were invalid. We considered the quantity and difficulty of questions, the questionnaires which were answered in less than 100 seconds or more than 1,200 seconds were eliminated.

5.4.3 Descriptive statistics of data results

Through questionnaire collection of big samples, the questionnaire sample information of 188 enterprises has been collected. These enterprises are from different industries, including IT, fast-moving consumer goods, and manufacturing. Due to the epidemic, many small and medium-sized enterprises are in a state of half shutdown, which makes it difficult to collect the information. In such special situation, we have collected information from 188 enterprises through online communication, business contact and some other channels.

(1) Basic information of the enterprises

According to the collected sample information of the 188 enterprises, the years of establishment of enterprises are relatively average in each category. Among them, enterprises which have been established for over 20 years take the largest proportion and account for 29.79%. As to the registered capital, there are 61 enterprises with registered capital of "RMB 10,000,000 to RMB 100,000,000" which take the most proportion and account for 32.45%. As to the number of employees, there are 57 enterprises with “50 to 500” employees and they account for 30.32%; there are 56 enterprises with “no more than 50” employees and they account for 29.79%. As to the average annual revenue of the last five years, there are 75 enterprises with an annual revenue of “more than RMB 100,000,000”, and they account for 39.89%, as shown in Table 4 in Annex D.

(2) Information of the respondents

Among the collected questionnaire sample information of the 188 enterprises, 142 respondents are male, accounting for 75.53%. As to the age of the respondents, 95 of them are "31~40" years old and 52 are "41~50" years old, accounting for 50.53% and 27.66% respectively; employees of this age group are the core human resources of enterprises. As to their jobs, 70 of them are "sales personnel" and 49 are "technology/ research and development personnel", accounting for 37.23% and 26.06% respectively; when Company D deals with

business customers, it needs to contact employees of these positions in most occasions. As to the industry, customers of Company D in China come from almost all industries, with most of them from “IT/ software and hardware service/ e-commerce/ internet operation”; one hundred and fifteen are from these industries, accounting for 61.17%, as shown in Table 5 in Annex D.

5.5 Hypothesis testing

In this study, the method of multiple linear regression is used to validate the theoretical model of this study. Besides, the interaction terms between sustainability and product quality, and the interaction terms between digitization and service quality are used as independent variables to conduct regression to verify the moderating effect.

5.5.1 Reliability and validity analysis

(1) Reliability analysis

The rationality and validity of the scale will determine the credibility and usability of the evaluation results, and the reliability analysis is a study on the scale validity. There are many different ways for reliability analysis. In this thesis, Cronbach’s Alpha coefficient is used, and Cronbach's Alpha coefficient index and the corrected overall correlation coefficient (CITC) index are investigated. According to experience, the Cronbach's Alpha coefficient is determined as follows: if $\alpha>0.9$, the internal reliability of the scale is considered very high; if $0.8<\alpha<0.9$, the reliability is relatively high; if $0.7<\alpha<0.8$, the reliability of the scale is acceptable; if $0.6<\alpha<0.7$, it indicates that the scale has shortcomings, but it still has reference value. The criterion of CITC value is that it should not be less than 0.5, and items less than 0.5 should be deleted. The reliability test result is shown in the following table. The Cronbach's Alpha coefficient is 0.980, which is higher than the commonly recommended threshold value of 0.7. Therefore, this measurement model has a satisfactory reliability. The reliability analysis of the questionnaire is shown as per Table 5.2.

Table 5.2 Reliability analysis of the questionnaire

Reliability Analysis		
Alpha Cronbach's Alpha Coefficient	Alpha Cronbach’s Alpha Coefficient Based on Standardized Items	Number of items
0.978	0.980	16

At the same time, we purify the items of the scale, which is the premise of factor analysis,

and the purpose is to eliminate junk items. The method is to test the reliability of the scale and find out the item, the deletion of which can improve the overall reliability of the questionnaire. The reliability refers to the extent of consistency of the results obtained in the same method by different researchers. It indicates whether the items are stable and reliable. The Cronbach's Alpha coefficient is the method most widely used to measure reliability. The larger the value of α is, the higher the reliability of the questionnaire is and the higher the consistency of the questionnaire items is; conversely, the reliability of the questionnaire is low. After measuring the reliability of the questionnaire in the method of Cronbach's Alpha coefficient (see Table 5.3), it is found that the α value after each item is deleted is no higher than the α value before the deletion, which indicates that the items do not need to be modified as a whole and all the items can be retained. In the analysis of the consistency reliability of all the items, the Cronbacha's α values of all the items are higher than 0.8, which indicates that the consistency reliability of the above scales is very high. The factor analysis of the questionnaire is shown as per Table 5.3.

Table 5.3 Factor analysis of the questionnaire

Item	Average Value of the Scales after Deleting the Item	Variance of the Scales after Deleting the Item	Alpha Cronbach's Alpha Coefficient after Deleting the Item
(1) The products provided by Company D in China have comprehensive functions and can meet this enterprise's needs on functions.	91.15	222.438	0.977
(2) The quality of products provided by Company D in China is relatively good and the functions are relatively stable and reliable.	91.03	222.855	0.977
(3) The products of Company D in China provide the customers with unique attributes that other competitive products do not have.	91.61	216.816	0.978
(4) The performance of products provided by Company D in China is superior compared with that provided by other competitive enterprises of the industry.	91.33	216.778	0.977
(5) The services purchased from Company D in China are worthwhile.	91.14	221.788	0.977
(6) The services provided by Company D in China can effectively meet this enterprise's needs and solve relevant problems.	91.13	221.695	0.976
(7) The product solutions provided by Company D in China are very clear, which makes it easy to make choice and decision.	91.16	221.012	0.976
	91.13	220.469	0.976

Item	Average Value of the Scales after Deleting the Item	Variance of the Scales after Deleting the Item	Alpha Cronbach's Alpha Coefficient after Deleting the Item
(8) Company D in China can response quickly to customers' needs and can provide service in various methods.			
(9) The services purchased from Company D in China save the time cost for me.	91.15	219.571	0.976
(10) Company D in China can provide personalized services according to customers' needs.	91.14	218.616	0.976
(11) Company D in China provides digital service for customers.	91.07	220.920	0.976
(12) The digital service provided by Company D in China can effectively improve customers' efficiency, productivity and performance.	91.04	221.405	0.976
(13) I agree with the sustainable enterprise values and ideas of Company D in China.	91.04	222.336	0.976
(14) The products provided by Company D in China are sustainable. For example, they are environmentally friendly and energy-efficient.	91.03	222.234	0.977
(15) As a whole, I am satisfied with the products and services provided by Company D in China.	91.04	222.496	0.976
(16) I would like to continue to use the products and services provided by Company D in China.	91.09	221.971	0.976

(2) Validity Analysis

Validity is also called effectiveness. It refers to the degree to which the content expressed in the scales fit the actual content.

1) Content validity

In this study, the content validity of scales is ensured mainly through the following procedures: first, the measurement items are collected based on the research achievement of relevant scholars; then, the items are determined through interviews with customers on important issues and analysis and discussion made by experts.

2) Construct validity

Exploratory factor analysis is an important method to test the construct validity. First, through KMO test (see Table 5.4), the KMO value is 0.948 and the significance P value of Bartlett's test of sphericity is 0, which indicates that factor analysis can be conducted for the scales. The result shows that each item has a high load on the factor, which can better distinguish the measurement between each dimension. Thus, the discriminant validity and convergent validity among all the variables are relatively good.

Table 5.4 KMO (Kaiser-Meyer-Olkin) test and Bartlett's test of sphericity of the questionnaire

KMO and Bartlett's Test		
KMO sampling applicableness measures		0.948
Bartlett's Test of Sphericity	Approximate Chi-square	4296.272
	Degree of freedom	120
	Significance	0.000

5.5.2 Product functionality and customer satisfaction- moderating effect of sustainability

To verity the hypothesis H1 (relationship between product functionality and customer satisfaction) and the hypothesis H5a (moderating effect of sustainability between product functionality and customer satisfaction), we take customer satisfaction CS as the dependent variable, take product functionality P1 and interaction item P1SU as the independent variables, and conduct stepwise regression. The results of descriptive statistics are shown in Table 6 in Annex D. The average value of customer satisfaction CS is 6.16, the average value of P1 is 6.13, and the average value of interaction item P1SU is 38.6955.

Through verifying the correlation of the variables with the method of Pearson bivariate correlation analysis, it can be seen that the correlation of the variables is significant, and thus there is basis for regression analysis, as shown in Table 7 in Annex D. The correlation coefficient between product functionality P1 and customer satisfaction CS is 0.787, the correlation coefficient between the interaction item P1SU and customer satisfaction CS is 0.866, and the significance level is smaller than 0.001.

This study conducts modeling of multiple linear regression for the relationship between product functionality and customer satisfaction as well as the moderating effect of sustainability; besides, it also analyzes the overall situation of the model, including model fitting (R^2), and whether it passed F test. Through the multiple linear regression analysis tool of the SPSS software, we can see that the R^2 value of the model is 0.620, which means the product functionality (P1) can explain 62% of the reasons for the change of customer satisfaction and the model fitting degree is high. After the interaction item between product functionality and sustainability (P1SU) is added, R^2 changes to 0.75, and the variation is 0.130, which means the explanation for customer satisfaction is higher, and the significance level is smaller than 0.001; thus, there is moderating effect. The model summary for product functionality and customer satisfaction is shown as per Table 5.5.

Table 5.5 Model summary for product functionality and customer satisfaction

Model Summary

Model	R	R^2	Adjusted R^2	Error in Standard Estimates	Change Statistics: Variation of R^2	Variation of F	Degree of Freedom 1	Degree of Freedom 2	Variation of Significance F
1	.787[a]	.620	.618	.61919	.620	303.367	1	186	.000
2	.866[b]	.750	.748	.50326	.130	96.565	1	185	.000

a. Predictive variable: (constant), P1; b. Predictive variable: (constant), P1, P1SU

In the multiple linear regression model, through F test (P<0.001), it indicates that the result of the overall multiple linear regression model is significant, as shown in Table 8 in Annex D.

From the regression result of the specific product functionality (P1) and the interaction item of product functionality and sustainability (P1SU) on customer satisfaction (CS), we can see that in the dimension of independent variable product quality, the regression coefficient of product functionality P1 is 0.725, the significance is P<0.001, which certifies that there is a positive correlation between product functionality and customer satisfaction, and thus the hypothesis H1 is verified; After the interaction item between product functionality and sustainability (P1SU) is added, the regression coefficient of the interaction item (P1SU) is 0.086, the significance is P<0.001, all the regression coefficients of the indexes are positive, which certifies that sustainability positively moderates the relationship between product functionality and customer satisfaction, and thus the hypothesis H5a is not rejected. The regression coefficient of product functionality and customer satisfaction model is shown as per Table 5.6.

Table 5.6 Regression coefficient of product functionality and customer satisfaction model

Coefficient[a]

Model		Unstandardized Coefficient B	Unstandardized Coefficient Standardized Error	Standardized Coefficient Beta	t	Significance	95.0% Confidence Interval for B Lower Limit	95.0% Confidence Interval for B Upper Limit	Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)	1.716	.259		6.627	.000	1.205	2.227		
	P1	.725	.042	.787	17.417	.000	.643	.807	1.000	1.000
2	(Constant)	3.276	.264		12.427	.000	2.756	3.797		
	P1	-0.074	0.088	-0.080	-0.840	.000	-0.248	.100	.148	6.776
	P1SU	.086	.009	.940	9.827	.000	.069	.103	.148	6.776

a. Dependent variable: CS

5.5.3 Product innovation and customer satisfaction- moderating effect of sustainability

To verity the hypothesis H2 (relationship between product innovation and customer satisfaction) and the hypothesis H5b (moderating effect of sustainability between product functionality and customer satisfaction), we take customer satisfaction CS as the dependent variable, take product innovation P2 and interaction item P2SU as the independent variables, and conduct stepwise regression. The results of descriptive statistics are shown in Table 9 in Annex D. The average value of customer satisfaction CS is 6.16, the average value of P2 is 5.75, and the average value of interaction item P2SU is 36.54.

Through verifying the correlation of the variables with the method of Pearson bivariate correlation analysis, it can be seen that the correlation of the variables is significant, and thus there is basis for regression analysis, as shown in Table 10 in Annex D. The correlation coefficient between product innovation P2 and customer satisfaction CS is 0.744, the correlation coefficient between the interaction item P2SU and customer satisfaction CS is 0.812, and the significance level is smaller than 0.001.

This study conducts modeling of multiple linear regression for the relationship between product innovation and customer satisfaction as well as the moderating effect of sustainability; besides, it also analyzes the overall situation of the model, including model fitting (R^2), and whether it passed F test. Through the multiple linear regression analysis tool of the SPSS software, we can see that the R^2 value of the model is 0.554, which means the product innovation (P2) can explain 55.4% of the reasons for the change of customer satisfaction and the model fitting degree is high. After the interaction item between product innovation and sustainability (P2SU) is added, R^2 changes to 0.676, and the variation is 0.122, which means the explanation for customer satisfaction is higher, and the significance level is smaller than 0.001; thus, there is moderating effect. The model summary for product innovation and customer satisfaction is shown as per Table 5.7.

Table 5.7 Model summary for product innovation and customer satisfaction

Model Summary									
							Change Statistics		
Model	R	R^2	Adjusted R^2	Error in Standard Estimates	Variation of R^2	Variation of F	Degree of Freedom 1	Degree of Freedom 2	Variation of Significance F
1	.744[a]	.554	.552	.67078	.554	230.988	1	186	.000
2	.822[b]	.676	.672	.57341	.122	69.529	1	185	.000

a. Predictive variable: (constant), P2; b. Predictive variable: (constant), P2, P2SU

In the multiple linear regression model, through F test ($P<0.001$), it indicates that the result of the overall multiple linear regression model is significant, as shown in Table 11 in

Annex D.

From the regression result of the specific product innovation (P2) and the interaction item of product innovation and sustainability (P2SU) on customer satisfaction (CS), we can see that in the dimension of independent variable product quality, the regression coefficient of product innovation P2 is 0.563, the significance is P<0.001, which certifies that there is a positive correlation between product innovation and customer satisfaction, and thus the hypothesis H2 is not rejected; After the interaction item between product innovation and sustainability (P2SU) is added, the regression coefficient of the interaction item (P2SU) is 0.104, the significance is P<0.001, all the regression coefficients of the indexes are positive, which certifies that sustainability positively moderates the relationship between product innovation and customer satisfaction, and thus the hypothesis H5b is not rejected. The regression coefficient of product innovation and customer satisfaction model is shown as per Table 5.8.

Table 5.8 Regression coefficient of product innovation and customer satisfaction model

Coefficient[a]

Model		Unstandardized Coefficient B	Unstandardized Coefficient Standard-ized Error	Standard-ized Coefficient Beta	t	Signifi-cance	95.0% Confidence Interval for B Lower Limit	95.0% Confidence Interval for B Upper Limit	Collinearity Statistics Toler-ance	Collinearity Statistics VIF
1	(Constant)	2.923	.218		13.387	.000	2.492	3.354		
	P2	.563	.037	.744	15.198	.000	.490	.636	1.000	1.000
2	(Constant)	4.393	.257		17.110	.000	3.887	4.900		
	P2	-.355	.115	-.469	-3.100	.002	-.581	-.129	.141	7.090
	P2SU	.104	.012	.263	8.338	.000	.079	.129	.141	7.090

a. Dependent variable: CS

5.5.4 Service reliability and customer satisfaction- moderating effect of digitization

To verity the hypothesis H4 (relationship between service reliability and customer satisfaction) and the hypothesis H6b (moderating effect of digitization between service reliability and customer satisfaction), we take customer satisfaction CS as the dependent variable, take service reliability S1 and interaction item S1DI as the independent variables, and conduct stepwise regression. The results of descriptive statistics are shown in Table 12 in Annex D. The average value of customer satisfaction CS is 6.16, the average value of S1 is 6.09, and the average value of interaction item S1DI is 38.4043.

Through verifying the correlation of the variables with the method of Pearson bivariate correlation analysis, it can be seen that the correlation of the variables is significant, and thus

there is basis for regression analysis, as shown in Table 13 in Annex D. The correlation coefficient between service reliability S1 and customer satisfaction CS is 0.851, the correlation coefficient between the interaction item S1DI and customer satisfaction CS is 0.873, and the significance level is smaller than 0.001.

This study conducts modeling of multiple linear regression for the relationship between service reliability and customer satisfaction as well as the moderating effect of digitization; besides, it also analyzes the overall situation of the model, including model fitting (R^2), and whether it passed F test. Through the multiple linear regression analysis tool of the SPSS software, we can see that the R^2 value of the model is 0.724, which means the service reliability (S1) can explain 72.4% of the reasons for the change of customer satisfaction and the model fitting degree is high. After the interaction item between service reliability and digitization (S1DI) is added, R^2 changes to 0.768, and the variation is 0.044, which means the explanation for customer satisfaction is higher, and the significance level is smaller than 0.001; thus, there is moderating effect. The model summary for service reliability and customer satisfaction is shown as per Table 5.9.

Table 5.9 Model summary for service reliability and customer satisfaction

Model Summary

					Change Statistics				
Model	R	R^2	Adjusted R^2	Error in Standard Estimates	Variation of R^2	Variation of F	Degree of Freedom 1	Degree of Freedom 2	Variation of Significance F
1	.851[a]	.724	.722	.52785	.724	487.390	1	186	.000
2	.876[b]	.768	.766	.48482	.044	35.478	1	185	.000

a. Predictive variable: (constant), S1; b. Predictive variable: (constant), S1, S1DI

In the multiple linear regression model, through F test ($P<0.001$), it indicates that the result of the overall multiple linear regression model is significant, as shown in Table 14 in Annex D.

From the regression result of the specific service reliability (S1) and the interaction item of service reliability and digitization (S1DI) on customer satisfaction (CS), we can see that in the dimension of independent variable service quality, the regression coefficient of service reliability S1 is 0.827, the significance is $P<0.001$, which certifies that there is a positive correlation between service reliability and customer satisfaction, and thus the hypothesis H4 is not rejected; After the interaction item between service reliability and digitization (S1DI) is added, the regression coefficient of the interaction item (S1DI) is 0.059, the significance is $P<0.001$, all the regression coefficients of the indexes are positive, which certifies that digitization positively moderates the relationship between service reliability and customer

satisfaction, and thus the hypothesis H6b is not rejected. The regression coefficient of service reliability and customer satisfaction model is shown as per Table 5.10.

Table 5.10 Regression coefficient of service reliability and customer satisfaction model

Coefficient[a]									
	Unstandardized Coefficient		Standardized Coefficient			95.0% Confidence Interval for B		Collinearity Statistics	
Model	B	Standard-ized Error	Beta	t	Signifi-cance	Lower Limit	Upper Limit	Toler-ance	VIF
1 (Constant)	1.126	.231		4.870	.000	.670	1.582		
S1	.827	.037	.851	22.077	.000	.753	.901	1.000	1.000
2 (Constant)	2.463	.309		7.971	.000	1.854	3.073		
S1	.234	.105	.240	2.218	.001	.026	.442	.107	9.381
S1DI	.059	.010	.646	5.956	.000	.040	.079	.107	9.381

a. Dependent variable: CS

5.5.5 Service convenience and customer satisfaction- moderating effect of digitization

To verity the hypothesis H3 (relationship between service convenience and customer satisfaction) and the hypothesis H6a (moderating effect of digitization between service convenience and customer satisfaction), we take customer satisfaction CS as the dependent variable, take service convenience S2 and interaction item S2DI as the independent variables, and conduct stepwise regression. The results of descriptive statistics are shown in Table 15 in Annex D. The average value of customer satisfaction CS is 6.16, the average value of S2 is 6.07, and the average value of interaction item S2DI is 38.4162.

Through verifying the correlation of the variables with the method of Pearson bivariate correlation analysis, it can be seen that the correlation of the variables is significant, and thus there is basis for regression analysis, as shown in Table 16 in Annex D. The correlation coefficient between service convenience S2 and customer satisfaction CS is 0.901, the correlation coefficient between interaction item S2DI and customer satisfaction CS is 0.887, and the significance level is smaller than 0.001.

This study conducts modeling of multiple linear regression for the relationship between service convenience and customer satisfaction as well as the moderating effect of sustainability; besides, it also analyzes the overall situation of the model, including model fitting (R^2), and whether it passed F test. Through the multiple linear regression analysis tool of the SPSS software, we can see that the R^2 value of the model is 0.812, which means the service convenience (S2) can explain 81.2% of the reasons for the change of customer satisfaction and the model fitting degree is high. After the interaction item between service convenience and digitization (S2DI) is added, R^2 changes to 0.817, and the variation is 0.005,

which means the explanation for customer satisfaction is higher, and the significance level is smaller than 0.05; thus, there is moderating effect. The model summary for service convenience and customer satisfaction is shown as per Table 5.11.

Table 5.11 Model summary for service convenience and customer satisfaction

Model Summary									
					Change Statistics				
Model	R	R^2	Adjusted R^2	Error in Standard Estimates	Variation of R^2	Variation of F	Degree of Freedom 1	Degree of Freedom 2	Variation of Significance F
1	.901[a]	.812	.811	.43511	.812	805.025	1	186	.000
2	.904[b]	.817	.815	.43083	.005	4.710	1	185	.031

a. Predictive variable: (constant), S2; b. Predictive variable: (constant), S2, S2DI

In the multiple linear regression model, through F test (P<0.001), it indicates that the result of the overall multiple linear regression model is significant, as shown in Table 17 in Annex D.

From the regression result of the specific service convenience (S2) and the interaction item of service convenience and digitization (S2DI) on customer satisfaction (CS), we can see that in the dimension of independent variable service quality, the regression coefficient of service convenience S2 is 0.858, the significance is P<0.001, which certifies that there is a positive correlation between service convenience and customer satisfaction, and thus the hypothesis H3 is not rejected; After the interaction item between service convenience and digitization (S2DI) is added, the regression coefficient of the interaction item (S2DI) is 0.023, the significance is P<0.001, all the regression coefficients of the indexes are positive, which certifies that digitization positively moderates the relationship between service convenience and customer satisfaction, and thus the hypothesis H6a is not rejected. The regression coefficient of service convenience and customer satisfaction model is shown as per Table 5.12.

Table 5.12 Regression coefficient of service convenience and customer satisfaction model

Coefficient[a]									
		Unstandardized Coefficient		Standardized Coefficient			95.0% Confidence Interval for B		Collinearity Statistics	
Model		B	Standardized Error	Beta	t	Significance	Lower Limit	Upper Limit	Tolerance	VIF
1	(Constant)	.947	.186		5.084	.000	.580	1.315		
	S2	.858	.030	.901	28.373	.000	.798	.918	1.000	1.000
2	(Constant)	1.495	.313		4.783	.000	.878	2.112		
	S2	.622	.113	.653	5.503	.000	.399	.844	.121	8.232
	S2DI	.023	.011	.258	2.170	.000	.002	.044	.121	8.232

a. Dependent variable: CS

5.6 Hypothesis test results

After empirical testing, the hypothesis testing results proposed by this thesis are summarized in Table 5.13.

Table 5.13 Summary of hypothesis testing

Hypothesis	Result
H1: There is a positive correlation between product functionality and customer satisfaction.	Not rejected
H2: There is a positive correlation between product innovation and customer satisfaction.	Not rejected
H3: There is a positive correlation between service convenience and customer satisfaction.	Not rejected
H4: There is a positive correlation between service reliability and customer satisfaction.	Not rejected
H5a: Sustainability positively moderates the relationship between product functionality and customer satisfaction.	Not rejected
H5b: Sustainability positively moderates the relationship between product innovation and customer satisfaction.	Not rejected
H6a: Digitization positively moderates the relationship between service convenience and customer satisfaction.	Not rejected
H6b: Digitization positively moderates the relationship between service reliability and customer satisfaction.	Not rejected

Chapter 6: Conclusions and Recommendations

6.1 Conclusion of the study

This study first analyzes the marketing theory of 7Ps and the theory of customer satisfaction deeply, and summarizes the most important two factors that influence customer satisfaction, including product quality and service quality. Besides, in the method of exploratory case study, this study digs into the detailed dimensions of product quality and service quality, including product functionality and product innovation in the dimension of product quality, as well as service convenience and service reliability in the dimension of service quality. Then, the study incorporates these variables and customer satisfaction into an analytical framework and also incorporates the moderating variables, including the enterprise value of sustainability and digital service to propose the conceptual model of "product quality+ service quality- customer satisfaction". On this basis, we design questionnaires which take the business customers of Company D in China as respondents and cover different industries. The people who fill in the questionnaires are all key personnel of the business customers. Through large-sample questionnaire collection, a total of 188 enterprise-level questionnaires have been collected for the study. Based on the collected data, we use the method of multiple linear regression to verify the theoretical model of this study. In this method, product functionality (P1), product innovation (P2), service convenience (S1) and service reliability (S2) are taken as independent variables, customer satisfaction (CS) is taken as dependent variable, and sustainability (SU) and digitization (DI) are taken as moderating variables to analyze the influencing mechanism of customer satisfaction. According to the results, the six theoretical assumptions we propose have all been verified. The detailed conclusions of the study are as follows:

1. The product functionality has significant positive correlation with customer satisfaction and helps to improve customer satisfaction

The product functions are the most fundamental and most important motivations for customers to purchase the goods. Only when the product functions meet customers' basic needs, can they help to realize the customers' expectations and gain customers' satisfaction. Whether the customers are satisfied or not depends on the actual performance of the products

or service of enterprises as well as the marketing service; if the actual performance of enterprise products or service can satisfy customers' needs, then the customers will be satisfied psychologically; if the actual performance of enterprise products or service cannot meet customers' actual needs, then the customers will be dissatisfied and have a negative attitude toward the products and service. In the fiercely competitive business environment nowadays, an enterprise's ability to provide high-quality products and service is one of the main factors to gain competitive advantage. It is the enterprise's responsibility to ensure the correct value transfer with good product quality and prices and to evaluate the value and quality provided to customers by analyzing customers' satisfaction. Against the background of transformation to B2B of Company D in China, the business customers require that the products must possess the core functions to meet the needs of data processing. So, the enterprise should provide customers with products of higher quality and robustness to improve their satisfaction. Therefore, the product functionality positively influences customer satisfaction. So, it is necessary for Company D in China to follow the customers' needs and the development trend of the times and provide core functions of the products.

2. The product innovation has significant positive correlation with customer satisfaction and helps to improve customer satisfaction

In IT industry, the phenomenon of similarity exists in the products provided by different server manufacturers. To make customers select products produced by Company D in China and give up products produced by other competitors, the most important is that the products provided by Company D should have superiority in innovation, including superiority of performance and innovation in functions. The novelty and uniqueness of innovative products will guarantee greater opportunities for differentiation and provide sustainable advantages over competitors. Compared with products of the competitors, the products which have significant advantages are always unique. The product innovation ensures its advantages (uniqueness and superiority), and innovative products will better meet customers' needs of market segmentation, improve customer satisfaction, and win success in the market eventually. Product innovation helps the enterprise to adapt to different indexes of "customer satisfaction" and can also help to shorten the gap between benefits perceived by customers and their expectations. Customers' needs are always changing. To make customers satisfied, the enterprise should provide good products to meet their needs, and should also provide innovative products to gain more benefits. Thus, product innovation positively influences customer satisfaction. So Company D in China should keep enhancing its ability in product research and development to exceed customers' expectations and thereby improve customer

satisfaction.

3. Product functionality and innovation better help to improve customer satisfaction under the concept of sustainability

As our country's requirement for carbon emission becomes higher and higher, the business customers begin to pay more attention to environmental problems and energy conservation and emission reduction. Besides, the customers begin to attach more importance to the sustainability of products and to learn whether the IT server manufacturers use environment-friendly materials for their products and guarantee the sustainable development of environment. So, the product sustainability influences customer satisfaction significantly. When customers identify and perceive the product sustainability of the enterprise, they will show more loyalty to the products produced by this enterprise and be willing to pay for the sustainable products. In this way, customer satisfaction will be improved greatly. As customers become more concerned about product sustainability, it becomes a main factor to improve customer satisfaction. Among the products of similar quality and prices, those made of more sustainable materials will gain higher customer satisfaction. Therefore, under the same conditions, that is, the same product functions and innovation, the sustainable products will satisfy customers better. On this basis, Company D in China should pay more attention to product sustainability and develop products which can help to conserve energy and reduce emission and are also environment-friendly to improve customer satisfaction.

4. The service reliability has significant positive correlation with customer satisfaction and helps to improve customer satisfaction

In IT server industry, to provide products to business customers needs a complicated process. Different from service for consumers, for business customers, the products need to undergo many steps, including installation, debugging, trial operation, and daily maintenance. Therefore, reliable and professional service is more important for business customers. Service reliability means the degree in which special service is provided correctly can make customers perceive the perfect performance of the service in advance and willing to make decisions to purchase the products and services. Service reliability consists of the professional level, safety and management cost, which is very important to improve customers' perception of the service quality and their satisfaction. Customer evaluation of the service depends on whether the service specification and implementation meet expectations. Thus, providing reliable service can improve customer satisfaction significantly. So it is important for Company D in China to guarantee service reliability, provide customers with professional services, guarantee network and data safety for business customers and improve customer satisfaction.

5. The service convenience has significant positive correlation with customer satisfaction and helps to improve customer satisfaction

Under the B2B mode, Company D in China mainly provides service to enterprise-level business customers who usually pay more attention to the control of production cost and the improvement of work efficiency. So providing convenient service will better improve customer satisfaction. Good service efficiency will improve customer satisfaction and thereby improve customer engagement and mutual relationship. Service convenience guarantees that "customers will save time and energy when purchasing and using the service", and the customers will make judgment on satisfaction according to their sense of control in managing, utilizing, and transferring time and energy. For business customers, the time cost is very expensive, and customers tend to select companies which provide convenience and value in searching, obtaining, purchasing and using the service. Customers are driven by information gathering and money. Customers pay attention to convenience not only when making chase decisions, but also when accessing, receiving and completing services. Since convenience will save them time and effort costs, customers can use service convenience to evaluate service quality. Reducing customer time and effort spent in service acquisition and delivery can improve service quality perception and customer satisfaction. Thus, service convenience will improve customer satisfaction. Company D in China needs to provide business customers with fast service response, convenient service channels and service solutions which will facilitate decision making.

6. Service reliability and convenience better help to improve customer satisfaction under digital services

With the development of digital economy, digitization has started to influence various aspects of the enterprise, including the production mode, working mode, and purchase mode. The enterprise can enjoy the benefits brought by digitization in different ways, such as improving efficiency, realizing enterprise agility, creating value and improving organizational performance. Digitization improves enterprise integration in various channels, starts unique marketing strategies for the enterprise, achieves better channel allocation and resource distribution, and deeply changes the interactive behavior pattern between enterprises and customers. Digital enterprise services integrating informatization, SaaS, mobile and AI can help entity enterprises unleash new driving forces constantly. Digital technology allows enterprises to improve management and operation, reduce the cost, saves time for customers, improves the evaluation and obtaining of products and services, and thus improves customer satisfaction. For IT industry, the digital services provided by Company D in China to

customers mainly cover two aspects. One aspect is digitization of service, and the other aspect is to promote the transformation to digitization for business customers, which will help business customers reduce excess work content, reduce employees' working time, improve working efficiency, analyze the enterprises' irrationality in working process through data and optimize it. Thus, under the same level of service quality (including service reliability and convenience), digital services can better improve customer satisfaction. Company D in China needs to develop with the trend of the times and provide business customers with digital services to improve customer satisfaction.

6.2 Inspiration from optimized management of marketing strategy of Company D in China

6.2.1 Enriching combination of functions of products to meet customers' future needs

Product functionality is the most important factor business customers consider when they select products. With the thriving development of artificial intelligence, 5G network, and the Internet of Things, Company D in China should grasp five key trends, help business customers better improve their IT infrastructure plan, and provide rich product functions and corresponding solutions. Only in this way, will Company D win in the future competition.

(1) Multi-cloud strategy

Multi-cloud is the decisive infrastructure trend in 2023 and the future. But as many enterprises or organizations expand the running of workloads to data center, co-location, public cloud and edge position, the IT environment has become more complex than ever before. For many organizations, the accumulation of distributed systems result in the chaotic multi-cloud environment. Enterprises should implement the multi-cloud strategy consciously and arrange the workload reasonably according to the application program and data requirement, rather than expand or deploy randomly around the system to maximize its effect.

(2) Edge computing

To obtain the ability of agile analysis and quick insight, it is necessary to posses "fresh" data. The edge has great potential in generating business insights in real time. In the future, sensors, actuators, and gateways of Internet of Things with data analysis function will be popularized in enterprises. According to analysis and statistics made by Company D, by 2025, the data of more than half the enterprises in the globe will be established and processed outside the data center or cloud. According to the investigation made by Company D in China,

52% of the IT leaders say they will increase investment in edge workload over the next six to twelve months. Edge computing is used everywhere. It is necessary to focus on edge computing to grasp opportunities. Therefore, Company D in China should build an overall edge-end and enterprise-level product line.

(3) Artificial intelligence and machine learning

Artificial intelligence and machine learning are two of the strongest and most influential technologies. When these technologies are integrated into different fields, they will have more positive influences. Nowadays more and more enterprises wish to obtain more lasting insight with the help of AI and ML. As various industries strive to pay more attention to persistence and real-time performance of data, the function of AI or ML is more and more integrated into edge devices, and these information will be used to obtain insights continuously. This is what Company D in China needs to pay attention to concerning the functions of its products.

(4) High performance computing (HPC)

HPC is widely used in health care, energy, scientific research and other fields. These super computers or computing clusters with "explosive" performances can accelerate real-time data analysis and improve customers' efficiency in making decisions. HPC is put into use in many industries rapidly and is now in a period of application popularization. More and more HPC workloads become "popularized" and are used in more enterprises. In addition to traditional biological simulation and advanced modeling, many companies also adopt the AI/ML function, since HPC provides the ability to generate, process and analyze modern workloads. Company D in China aims to lead the industry in HPC and AI fields and commit itself to converting computing power into driving force for enterprise development.

(5) Cloud native development

Multi-cloud and cloud native development well complement each other. As the IT world begins to transform to the distributed model, more and more organizations begin to build their own cloud native development model and use co-location or open source of Kubernetes to help them deploy containerized applications in a large scale. The API-led composable micro-service model can transfer the development rapidly with the change of the business priority, which is an important ability to promote innovation currently.

Company D in China needs to enrich the product combination. Whether it is local, cloud or edge workload or storage, server or hyper-converged solution, the company needs to meet business customers' needs in a more reliable and flexible way.

6.2.2 Promoting innovation in product research and development to maintain sustainable competitive advantage

In IT industry, if Company D in China wants to achieve steady and sustainable development during the transformation process from B2C to B2B, it must have solid technology foundation and core technology advantage. Only when Company D in China masters the key technologies, can it have competitive advantage in the field of service for business customers in IT industry. Company D in China needs to maintain a strong momentum of research and development, as well as innovation. It should not only continuously upgrade the hardware, but also continuously optimize the software to meet the needs of customer market and future development of the industry. Company D in China should always be committed to promoting human progress with scientific and technological innovation, continue to meet the needs of the users with advanced comprehensive solutions, and help enterprises to achieve stable and long-term development. On one hand, Company D in China should improve its ability in independent research and development, as well as innovation, and continue to maintain its core technological advantage. For independent research and development, the company should mainly depend on its own ability in research and development to make technological breakthroughs in the newly emerging fields, such as new infrastructure, new energy, green data center and other fields. On the other hand, Company D in China should introduce some core technologies through purchasing from the outside world, which mainly includes purchasing some core technologies or directly obtaining the talents who master the core technologies to achieve acquisition and reorganization of core technologies. At the same time, Company D in China can also establish technology alliances to develop new technologies through agreement between two or more enterprises to reduce the development cost. Company D in China should keep making innovation in technologies and scenes concerning the technological frontier and trend which the industry concern to help more enterprises use new technologies in better ways and enable the customers to transform to digitization and intelligence in all aspects.

6.2.3 Strengthening the concept of product sustainability to obtain recognition from customers

With the promotion of "peak carbon dioxide emissions" and "carbon neutrality", more and more "famous corporates" or the star enterprises in various industries begin to pay more attention to their EGS reports, which has become a new trend in the business world. The

strategy of sustainable development is also closely related to the advanced technologies. Many enterprises have grasped opportunities to make investment in sustainable development and take it as an important strategy. In environment protection, the influences of enterprise on environment begin to gain more and more attention. To build green data center has definitely become a responsibility. In IT industry, data center has always been one of the most energy-intensive resources. Since 40% of the energies are used in the cooling systems to maintain the control of ambient temperature, data centers account for 5% of the emissions of greenhouse gases in the world. With the sharp increase of computing-intensive workloads, the scale of data center is increasing gradually, and the energy consumption and space requirement of data center also increase greatly. Therefore, increasing power and reducing emissions has become an important trend for data center designing. Company D in China should reduce the cost for customers, improve the energy efficiency, and make the sustainable development strategy comprehensively from high-efficiency hardware to infrastructure integration. As a leading supplier of digital solutions in the world, Company D in China should firmly adhere to the route of sustainable development, make overall planning and comprehensive sustainable development strategy, build green data center, realize ESG environmental protection, and integrate the sustainable development concept and more low-carbon and environment-friendly designing into every link of the product life cycle.

Company D in China should take sustainable development as the core of all its work, keep improving the standard of infrastructure solutions of data center, commit itself to reforming hardware, software and multi-cloud solutions, and bring intelligent and highly effective operational and environmental achievement to customers to help them realize the goal of sustainable development. In terms of storage solutions, Company D in China should promote innovation for all the modern storage solutions, including flash memory, data deduplication and compression, to help customers to integrate the hardware, save energy and reduce carbon footprint. Company D in China should integrate the infrastructure, reduce the quantity of servers needed by special workloads and integrate many workloads into a single environment to reduce the space usage and power consumption, help users monitor and manage the power consumption of server effectively and thereby determine in what aspects they should improve efficiency and reduce energy cost. Company D in China should not only commit itself to reducing the complete carbon footprint of each product in the combination of products, but also provide solutions which are good to the footprint of data center for the whole ecosystem, such as designing of data center, hot/cold channel containment, cooling method and energy. It should cover many aspects from designing of heat dissipation for

devices to energy consumption management, from integration of hardware and software to the application of various cooling technologies. Company D in China should provide different users with diversified heat dissipation solutions by relying on its own ability in technological service to help the industry optimize the application and improve the power utilization rate to promote the transformation to green and low-carbon development.

In implementing the responsibility of actively reducing pollution and carbon emissions, as well as promoting the transformation to green and low-carbon development, Company D in China should not only act as the data center, but also play its role in the whole upstream and downstream supply chain during the process of implementing the concept of green and sustainable development.

6.2.4 Guaranteeing reliable and secure service to enhance customer trust

Service reliability can enhance customer satisfaction significantly and drive customers to purchase. And reliable service includes two most important aspects:

The first is professional service. IT industry is intensive in human capital and knowledge capital and it is much stronger in terms of professionalism, knowledge and differentiation. Since the proportion of personnel engaged in activities related to service keeps increasing, the proportion of added value of products created by service activities is also increasing continuously and enterprises' demand for professional service is enhanced. As a result, with the help of information technology, professional and reliable IT information service becomes especially important. At the same time, IT industry is also knowledge intensive and characterized for differentiation. The original knowledge accumulation requires a larger investment in cost. With the continuous increase of knowledge, the efficiency of scale economy is highlighted. Thus, reliable service with the ability to achieve product differentiation will have stronger competitive advantage. Company D in China is always a reliable partner of enterprises and it commits itself to providing enterprises and entrepreneurs with end-to-end solutions which are leading in the industry. Company D has 17 service teams for small enterprises, 25 manufacturing sites and 87 technology support sites in the globe to provide enterprises with free service to optimize their demand for customization, including selection of laptop, cloud, Internet of Things, virtual office, etc., to help enterprises maintain their high efficiency and obtain cost-effective technologies. Company D in China has experience of 20 years in providing service to enterprises. Its products and service cover more than 2,100 cities and regions. Besides, it also has over 10 teams with rich experience in the

enterprise field and more than 600 professional counselors and elite engineers to provide special one-key-connection line service for operation and maintenance for 24 hours a day, and 7 days a week. Therefore, Company D in China should continue to provide enterprises with professional consulting guidance to promote their faster and better development. Besides, Company D should also enlarge its service scope and provide enterprises with professional service covering financing, laws, human resources, finance and taxation, as well as marketing to help them start their own business.

The second is secure service. Company D in China provides overall solutions to enterprises. It should guarantee the secure architecture and system to establish a defense line of security for business customers and lay a solid foundation for their development. Enterprises should adopt mature modern safety measures to deal with the current and newly emerging threatening environment, achieve expansion and intellectualization by using innovative technologies, conduct uniform adjustment targeting on business instead of threat, actively implementing the recovery planning and provide enterprises with protection in all aspects instead of taking isolated and one-sided protective measures. As large-scale network security attacks keep increasing, enterprises should prepare well to deal with the attacks at any time. Company D in China should provide professional knowledge and end-to-end tools to help enterprises implement modern security solutions, including protecting the data and system, providing inherent safety functions, expanding safety in the whole IT infrastructure, providing overall support for the whole ecosystem and thereby bring significant incremental value to the enterprises; enhancing network resilience, providing comprehensive technical solutions and service, helping enterprises of different scales enhance their network resilience, helping customers make relevant strategies so as to restore the data and normal operation before network attacks interrupt the operation; reducing the complexity of safety measures. Complexity is a big challenge to network security. Company D in China should provide products with inherent security and automatic functions and integrate the safety tools to help customers achieve intelligent expansion. Company D in China should become a reliable partner for enterprise customers, and help enterprises enhancing their security state with the most comprehensive data protection solutions and key technologies in the industry; in this way, enterprises can face the challenges calmly and obtain secure and resilient environment, and thereby can focus on their core competitiveness and make breakthroughs in business.

6.2.5 Simplifying process and providing convenient service to reduce cost for customers

Simplified process, optimized models and leading solutions should become core advantages of the service provided by Company D of China to improve customer satisfaction to the largest extent. In recent years, the implementation of "new infrastructure", "digital transformation" and other policies and measures has helped to improve efficiency and reduce cost for enterprises, which has become a consensus of the industry. IT server is a very important link for business customers to improve their efficiency to deal with competition. Efficiency improvement brought by IT server will promote the overall efficiency greatly for enterprises. Enterprise customers will make selection or choose customization according to the basic parameters of hardware when they purchase IT terminals. However, if the deployment such as data migration and backup, image, installation and update of hardware and software, networking, and settings of printer and other specified configuration is assigned to the IT department of the enterprise customers, it will not only cause a huge amount of work, but also reduce the efficiency of one-to-one deployment and daily maintenance. Company D in China should fully improve the deployment efficiency by making use of its advantages in the supply chain and the latest deployment technology of the industry; it should also provide products and solutions for terminal deployment service to help customers improve their deployment productivity, make use of their limited IT resources, devote themselves to more IT innovations of higher value and strategy transformation. Company D in China needs to develop the leading remote deployment solutions of the industry, including factory deployment, networking deployment and cloud deployment solutions, integrate the supply chain and cloud technology to help customers achieve the deployment of "minimal contact" and enjoy remote working. Company D should consider the IT management environment and the extent to which the overall deployment platform of the industry is used, and propose solutions according to the actual conditions of enterprises. It should achieve the automation and standardization through factory deployment to help customers reduce the large amount of manual operation and consumption of IT resources. In addition, the realization of these operations through batch automation can also avoid potential problems of inconsistency and and avoid manual errors; through networking deployment, real-time change control in rapid and centralized management will be achieved and the new equipment configured will make the work faster and easier than before; through cloud deployment, the company can help customers achieve IT cloud deployment, modern equipment deployment and management and achieve productivity transformation, which will provide customers with convenient

operational experience. Company D in China should make customers know they do not need to worry that the use of terminal service provided by Company D will incur additional cost in learning. Instead, the IT personnel of the enterprises will master the terminal service soon.

Company D in China should listen to customers' requirements and opinions, upgrade and optimize the solutions according to the actual needs of market and customers, and solve customers' headaches with one-stop solutions through optimization of the supply chain. The terminal deployment service of the company helps to further improve enterprises' core competitiveness by releasing their pressure in the process of productivity transformation and thereby boost their business development.

6.2.6 Providing digital service to help customers achieve transformation and upgrading

As the frontier technologies such as artificial intelligence, 5G, big data, and cloud computing are being used in various industries, the digital revolution has started all over the world. Enterprises can beat their competitors and avoid falling behind, and adapt to the fast-changing economic environment only by making progress in the digital wave. As one of the largest provider of digital solutions in the world, Company D in China should commit itself persistently to promoting the transformation to digital safety and reliability for customers. Up to now, Company D has provided approximately one third of the storage and one fifth of the servers around the world. With the comprehensive implementation of "digital China" and "smart society", digital transformation has become a core strategy in the economic system of the new era. Therefore, it is urgent for enterprises to achieve digital transformation facing the economic tide of the times. For enterprises, digital transformation has obviously become both an opportunity and a challenge in the new ecological system. In terms of opportunities, digital transformation will not only help enterprises improve their production and operation efficiency and reduce the operational cost, but also make the management more efficient and flexible by changing the internal cooperative mode and optimizing the work process. In terms of challenges, on one hand, enterprises often lack the overall cognition and macro control ability of digital ecology in the process of digital transformation due to the limitation of development scale, out-dated technologies and insufficient personnel; on the other hand, in the process of digital transformation, since the enterprises' purchase needs are scattered, and there is more demand for personalized customization, the cost of digital transformation is very high and it is difficult for them to achieve one-stop equipment upgrade.

Company D in China should provide customized solutions to help enterprises achieve

digital transformation and satisfy enterprises' diversifying and scenario-based need for equipment in the process of digital transformation. Company D in China should satisfy the needs of small and medium-sized enterprises in a one-stop manner, achieve the product configuration and combination solutions in consideration of the personalized customization requirements, provide comprehensive service from hardware combination to software pre-installation, achieve the environment constitution based on the actual needs in the process of digital transformation, and reserve enough space for hardware upgrade required by enterprises in their future growth. Besides, Company D should accurately learn about the enterprises' need for equipment purchase and actual transformation to drive the small and medium-sized enterprises to enter the fast track of digital transformation. In its digital service, Company D in China should cover the whole product life cycle of enterprises, including planning and counseling, deployment and integration, operational maintenance and support to solve the problems for enterprises in the process of digital transformation.

In addition, as one of the largest suppliers for IT solutions in the world, Company D in China should also promote home-based working/ remote working more widely. In the future, the work mode keeps evolving in every aspect of the economy. It is the technology rather than the physical working space that will increasingly define employees' experience. In the early stage of COVID-19 pandemic, the concept of "work everywhere" becomes popular, and we should mainly focus on the word "everywhere". So it is necessary to move our work, studying, and living to anywhere in consideration of the mobility of modern customers. The next stage of this journey is to further improve our "work". To achieve this goal, we need proper tools, equipment, collaborative workplaces and culture to ensure that we can work more smoothly. Thus, the correct client functions, appearance and dimensions, as well as the most important peripheral equipment ecosystem will create an excellent environment. This is also a field which company D in China should pay more attention to. So the company should adopt virtualization, software-defined architecture, open systems and interfaces more widely, adopt the concept of RAN (wireless access network) as soon as possible, and directly enter the field of telecommunications to achieve the goal. In a word, the digital transformation of every enterprise will indirectly benefit from the open communication system and faster innovation of Company D. The main focus of accelerating innovation in the future is to use the overall technological ecosystem as a platform to serve the digital transformation. Besides, Company D should also depend on the innovative technologies which will bring flexibility and openness and cooperate with the partners that will coordinate into an automatic working system without expansion. Digital transformation indexes for Company D in China from 2016

to 2020 (DTI) are shown as per Figure 6.1.

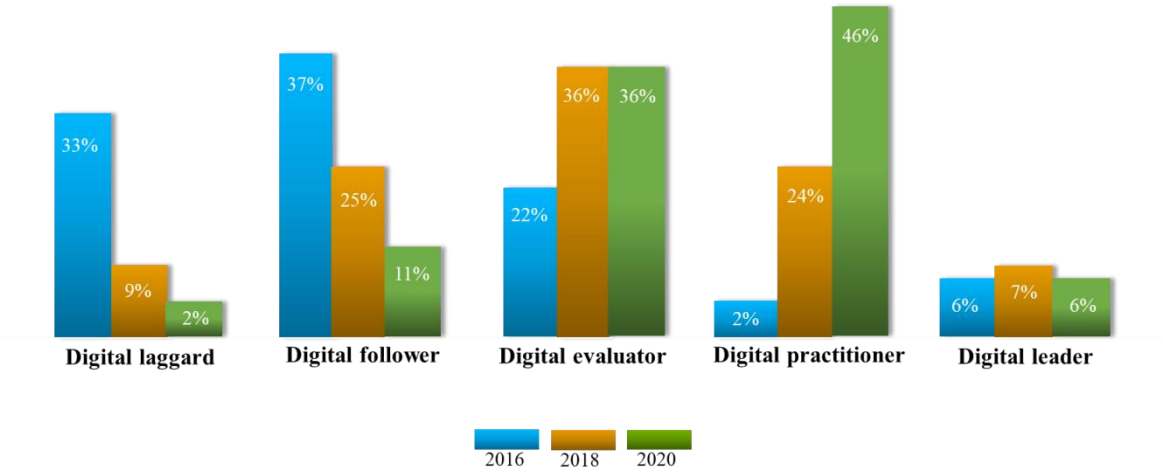


Figure 6.1 Digital transformation indexes for Company D in China from 2016 to 2020 (DTI)

According to analysis based on the digital transformation indexes of Company D in China, the company keeps making effort to become a digital leader. In the future, the company will commit itself to digitization and provide digital service to help customers with their digital transformation and help them step forward from digital laggard and digital follower toward digital evaluator, digital practitioner and digital leader.

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Annex A: Customer Satisfaction Survey

Customer Satisfaction Survey for B2B Business of Company D in China

Ladies and Gentlemen,

Greetings! You are participating in the customer satisfaction survey for B2B business of Company D. Over the years, Company D has been providing leading information technology consulting, hardware and software products, solutions, and full life-cycle services for enterprise-level customers with high quality services, unique capabilities, and competitive advantages, committing to creating value for them. Now, you are invited to answer the following questions based on your perception of Company D's product quality, service quality, and customer satisfaction. Thank you for your participation!

I. Personnel Information

Your company:_____Department:_____

Establishment year of your company:_____

Registered capital of your company:_____

Number of employees of your company:_____

Average revenue of your company in the last 5 years:_____

Your position/qualification:_____

Your working years:_____

Age:_____

Sex:_____

Education Background:_____

Note: Please CIRCLE the number alongside the answer that comes closest to your opinion or write your answer in the space provided.

II. **Product Quality**

1. Product Function innovation

1) Company D provides a full range of products that can achieve the functional needs of our company.

A. Completely disagree B. Disagree C. Somewhat disagree D. Neutral E. Somewhat agree F. Agree G. Completely agree

2) Company D provides better quality products which is more stable and reliable in use.

A. Completely disagree B. Disagree C. Somewhat disagree D. Neutral E. Somewhat agree F. Agree G. Completely agree

3) Company D's products are highly innovative and able to meet individualized functional demands.

A. Completely disagree B. Disagree C. Somewhat disagree D. Neutral E. Somewhat agree F. Agree G. Completely agree

2. Product Performance Innovation

4) D company’s product performance is superior and can meet the requirements of our company.

A. Completely disagree B. Disagree C. Somewhat disagree D. Neutral E. Somewhat agree F. Agree G. Completely agree

5) The products provided by Company D are better than other similar companies in terms of performance.

A. Completely disagree B. Disagree C. Somewhat disagree D. Neutral E. Somewhat agree F. Agree G. Completely agree

III. **Service Quality**

1. Service Reliability

6) I think the service purchased from Company D is worth it.

A. Completely disagree B. Disagree C. Somewhat disagree D. Neutral E. Somewhat agree F. Agree G. Completely agree

7) The services provided by Company D can effectively meet the needs of our company and solve the problems encountered.

A. Completely disagree B. Disagree C. Somewhat disagree D. Neutral E. Somewhat agree F. Agree G. Completely agree

2. Service Convenience

8) The product solutions provided by Company D are very clear, which makes it easy for me to choose and make a decision.

A. Completely disagree B. Disagree C. Somewhat disagree D. Neutral E. Somewhat agree F. Agree G. Completely agree

9) Company D can respond to customer needs quickly and can provide services in various ways.

A. Completely disagree B. Disagree C. Somewhat disagree D. Neutral E. Somewhat agree F. Agree G. Completely agree

10) Purchasing services from Company D has saved me time and cost.

A. Completely disagree B. Disagree C. Somewhat disagree D. Neutral E. Somewhat agree F. Agree G. Completely agree

11) Company D can provide personalized service solutions on demand.

A. Completely disagree B. Disagree C. Somewhat disagree D. Neutral E. Somewhat agree F. Agree G. Completely agree

IV. **Digitization**

13) Company D provides digital services to customers.

A. Completely disagree B. Disagree C. Somewhat disagree D. Neutral E. Somewhat agree F. Agree G. Completely agree

14) Company D's services can effectively help B-end customers to carry out digital transformation.

A. Completely disagree B. Disagree C. Somewhat disagree D. Neutral E. Somewhat agree F. Agree G. Completely agree

V. **Sustainability**

15) I recognize Company D's corporate values and concepts of sustainability.

A. Completely disagree B. Disagree C. Somewhat disagree D. Neutral E. Somewhat agree F. Agree G. Completely agree

16) The products provided by Company D are sustainable, environmental friendly and energy saving.

A. Completely disagree B. Disagree C. Somewhat disagree D. Neutral E. Somewhat agree F. Agree G. Completely agree

VI. **Customer Satisfaction**

17) Generally, I am satisfied with the products and services provided by Company D.

A. Completely disagree B. Disagree C. Somewhat disagree D. Neutral E. Somewhat agree F. Agree G. Completely agree

18) I am willing to continue using the products and services provided by Company D.

A. Completely disagree B. Disagree C. Somewhat disagree D. Neutral E. Somewhat agree F. Agree G. Completely agree

Thank you again for your participation!

Annex B: Interview Outline for Internal Employees

(I) Background for the transformation of Company D in China

1. What's the realistic background for China's Company D to shift its business from B2C to B2B (what's the drive for the shift, e.g., performance demands, a surge in corporate clients' demands, and social/economic/technological changes)?

2. Who are the major competitors of China's Company D? What are their cons and pros?

3. For corporate clients, what cons and pros does China's Company D have?

(II) Analysis of the B2B marketing mode

4. What products and services are China's Company D currently offering its corporate clients?

5. Marketing strategies of China's Company D for its corporate clients (e.g., what marketing methods have you adopted to reach new customers)

6. What are the problems with the current marketing method for corporate clients of China's Company D (fields for improvement)?

7. What do you think are the differences between corporate clients and individual clients? (e.g., corporate clients have higher requirements for services, more decisions to make, and a longer cycle for decision-making. Individual clients have a shorter cycle for decision-making and greater sensibility to price)

8. What aspects do you think China's Company D should focus more on when dealing with corporate clients?

9. What do you think are the factors in Company D's products and services that affect the satisfaction of corporate clients?

10. What do you think are the most satisfying aspects of Company D's products and services for the clients?

(III) 7P marketing portfolio and customer satisfaction

11. What do you think are the biggest advantages of Company D's products and the most satisfying aspects for clients?

12. What do you think are the biggest advantages of Company D's pricing and the most satisfying aspects for clients? (If you don't think there are any advantages, skip this question).

13. What do you think are the biggest advantages of Company D's place and the most satisfying aspects for clients? (If you don't think there are any advantages, skip this question).

14. What do you think are the biggest advantages of Company D's promotion and the most satisfying aspects for clients? (If you don't think there are any advantages, skip this question).

15. What do you think are the biggest advantages of Company D's services and the most satisfying aspects for clients? (e.g., professionalism of the marketing team, customer-perceived benefits, and process standardization)

(IV) Digitalization and sustainability

16. What are Company D's attempts in digital transformation, both in terms of transforming its own products and services and helping its corporate clients to transform?

17. Do you think Company D has effectively improved customer satisfaction by providing digital products and services? In what specific ways?

18. What are the attempts and efforts made by Company D in terms of sustainability, such as shaping corporate values, environmental protection, and providing emission-reduced and energy-saving products and services?

19. Do you think Company D's efforts in making sustainable development (e.g., shaping corporate values, contributing to environmental protection, and providing emission-reduced services/products) and providing sustainable products and services have been effective in increasing customer satisfaction? In what specific ways?

Annex C: Interview Outline for Enterprise Customers

(I) 7P marketing portfolio and customer satisfaction

1. What are the most satisfying aspects of Company D's products and services for you?
2. What factors in Company D's products and services are the most important to you in your purchasing decisions?
3. What are your reasons for choosing DELL products and services compared to the competitors?
4. What do you think are the biggest advantages and the most satisfying aspects of Company D's products for you?
5. What do you think are the biggest advantages and the most satisfying aspects of Company D's pricing for you?
6. What do you think are the biggest advantages and the most satisfying aspects of Company D's channel promotion for you?
7. What do you think are the biggest advantages and the most satisfying aspects of Company D's promotion for you?
8. What do you think are the biggest advantages and the most satisfying aspects of Company D's services for you?
9. What do you think are the biggest advantages and the most satisfying aspects of Company D's tangible display of products for you?
10. What do you think are the biggest advantages and the most satisfying aspects of Company D's logistics for you?

(II) Digitalization and sustainability

11. Do you think Company D offers digital products and services and has helped your company with its digital transformation?
12. Do you think the digital products and services provided by Company D have helped

your company effectively? Did it spur your decision to choose DELL products/services? In what specific ways?

13. Do you think Company D has made any attempts and efforts in terms of sustainability, such as shaping corporate values, contributing to environmental protection, and providing emission-reduced and energy-saving products and services? Do you agree with Company D's philosophy of sustainable development?

14. Do you think that Company D's seeking sustainable development and providing sustainable products and services have contributed to your final purchasing decision to choose Company D in China? In what specific ways?

Annex D: Relevant Tables and Figures

Table 1 Main business composition of Company D in its 2022 annual report

Name	Revenue (USD)	Proportion
Client Solutions Group	61.464 billion	60.74%
Infrastructure Solutions Group	34.366 billion	33.96%
Other	5.388 billion	5.32%
Others &Adjustments	-21 million	-0.02%

Table 2 PEST framework

Political	Economic	Socio-Cultural	Technological
political stability	economic growth	income distribution	government analysis
government/ attitude	Interest rates and currency policy	demography, population growth rate and age distribution	industrial technology
tax policy	government expenditure	labor & social mobility	inventions and technological developments
international trade regulations and restrictions	employment and unemployment policies	lifestyle, values	technology transfer rate
industrial policy	taxation	education and cultural level	technology update speed and life cycle
company law, employment law	exchange rate	occupational and leisure attitudes	patents and patent protection
Consumer Protection Act	rate of inflation	trends and fashions	energy utilization and cost
competition rules	business cycle	health awareness, social welfare and security	IT revolution
environmental protection system	investment environment	consumption ability & habits	internet revolution
security regulation	consumer index	natural environment	mobile technology revolution

Table 3 Service items for server devices of Company D in China

S/N	Service items
1	Remote 1V1 expert diagnosis on Wechat or telephone for 24 hours a day, 7 days a week (holidays included)
2	Automatic error reporting and auto repair for AI software and system problems
3	IT service consulting provided by senior technology manager of Company D (only for platinum customers)
4	Free on-site service (including hardware components replacement for unlimited times)
5	Free maintenance or replacement for damaged components or appearance caused by accident screen breaking or dropping
6	Original parts replaced due to hard disk failure will not be recovered

Table 4 Descriptive statistics of the basic information of enterprises

Item	Option	Subtotal	Proportion
The number of years the enterprise you work in has been established for	Within 5 years	49	26.06%
	5-10 years	34	18.09%
	10-20 years	49	26.06%
	Over 20 years	56	29.79%

Item	Option	Subtotal	Proportion
The registered capital of the enterprise you work in	Within RMB 1,000,000	16	8.51%
	RMB 1,000,000 to RMB 10,000,000	57	30.32%
	RMB 10,000,000 to RMB 100,000,000	61	32.45%
	Over RMB 100,000,000	54	28.72%
The number of employees of the enterprise your work in	Within 50	56	29.79%
	From 50 to 500	57	30.32%
	From 500 to 2,000	23	12.23%
	Over 2,000	52	27.66%
The average annual revenue of the enterprise you work in for the last five years	Within RMB 1,000,000	22	11.70%
	RMB 1,000,000 to RMB 10,000,000	50	26.60%
	RMB 10,000,000 to RMB 100,000,000	41	21.81%
	Over RMB 100,000,000	75	39.89%

Table 5 Descriptive statistics of personal basic information

Item	Option	Subtotal	Proportion
Gender	Male	142	75.53%
	Female	46	24.47%
Age	Under 18 years old	0	0%
	18~25	5	2.66%
	26~30	28	14.89%
	31~40	95	50.53%
	41~50	52	27.66%
	51~60	7	3.72%
	Over 60 years old	1	0.53%
Current Job	Production personnel	9	4.79%
	Sales personnel	70	37.23%
	Market/ public relations personnel	4	2.13%
	Customer service staff	1	0.53%
	Administrative/ logistic personnel	10	5.32%
	Human resource	1	0.53%
	Finance/ audit personnel	3	1.60%
	Clerical personnel	2	1.06%
	Technology/ R&D personnel	49	26.06%
	Management personnel	31	16.49%
	Others	8	4.26%
Industry	IT/ software and hardware service/ e-commerce/ internet operation	115	61.17%
	Fast-moving consumer goods (food/drinks/cosmetics)	6	3.19%
	Wholesale/ retail	4	2.13%
	Apparel/ textiles/ leather goods	1	0.53%
	Furniture/ artware/ toys	2	1.06%
	Education/ training/ research/ institutions	4	2.13%
	Home appliances	0	0%
	Communication/telecom operation/network equipment/value-added services	10	5.32%
	Manufacturing industry	11	5.85%
	Automobile and spare parts	1	0.53%
	Catering/entertainment/travel/hotel/life services	2	1.06%
	Office supplies and equipment	0	0%

Item	Option	Subtotal	Proportion
	Accounting/ audit	1	0.53%
	Law	0	0%
	Bank/insurance/securities/Investment bank/venture fund	4	2.13%
	Electronic technology/semiconductor/integrated circuit	3	1.60%
	Instruments and meters/ industrial automation	1	0.53%
	Trade/ import and export	2	1.06%
	Machinery/ equipment/ heavy industry	2	1.06%
	Pharmaceutical/ bioengineering/ medical equipment/ instruments	6	3.19%
	Medical/ nursing/ health care/ sanitation	2	1.06%
	Advertising/ public relations/ media/ art	0	0%
	Publishing/ printing/ packaging	1	0.53%
	Real estate development/ construction/ decoration/ design	1	0.53%
	Property management/ business center	0	0%
	Intermediary/ consulting/ headhunting/ certification	0	0%
	Traffic/ transportation/ logistics	3	1.60%
	Aerospace/ aviation/ energy/ chemical industry	2	1.06%
	Agriculture/ fishing/ forestry	1	0.53%
	Other industries	3	1.60%

Table 6 Descriptive statistics of analysis of product functionality and customer satisfaction

Descriptive Statistics			
	Average Value	Standard Deviation	Number of Cases
CS	6.1569	1.00166	188
P1	6.1277	1.08819	188
P1SU	38.6955	10.92708	188

Table 7 Analysis of correlation between product functionality and customer satisfaction

Correlation				
		CS	P1	P1SU
Pearson correlation	CS	1.000	.787	.866
	P1	.787	1.000	.923
	P1SU	.866	.923	1.000
Significance (single tail)	CS	.	.000	.000
	P1	.000	.	.000
	P1SU	.000	.000	.

Table 8 Variance analysis of the product functionality and customer satisfaction model

ANOVA[a]						
Model		Sum of squares	Degree of freedom	Mean Squares	F	Significance
1	Regression	116.309	1	116.309	303.367	.000[b]
	Residuals	71.312	186	.383		
	Total	187.621	187			
2	Regression	140.766	2	70.383	277.899	.000[c]
	Residuals	46.855	185	.253		
	Total	187.621	187			

a. Dependent variable: CS; b. Predictive variable: (constant), P1; c. Predictive variable: (constant), P1, P1SU

Table 9 Descriptive statistics of analysis of product innovation and customer satisfaction

Descriptive Statistics

	Average Value	Standard Deviation	Number of Cases
CS	6.1569	1.00166	188
P2	5.7473	1.32489	188
P2SU	36.5386	12.15209	188

Table 10 Analysis of correlation between product innovation and customer satisfaction

Correlation				
		CS	P2	P2SU
Pearson correlation	CS	1.000	.744	.812
	P2	.744	1.000	.961
	P2SU	.812	.961	1.000
Significance (single tail)	CS	.	.000	.000
	P2	.000	.	.000
	P2SU	.000	.000	.

Table 11 Variance analysis of the product innovation and customer satisfaction model

ANOVA[a]						
Model		Sum of squares	Degree of free -dom	Mean Squares	F	Signifi -cance
1	Regression	103.931	1	103.931	230.988	.000[b]
	Residuals	83.690	186	.450		
	Total	187.621	187			
2	Regression	126.793	2	63.396	192.810	.000[c]
	Residuals	60.828	185	.329		
	Total	187.621	187			

a. Dependent variable: CS; b. Predictive variable: (constant), P2; c. Predictive variable: (constant), P2, P2SU

Table 12 Descriptive statistics of analysis of service reliability and customer satisfaction

Descriptive Statistics			
	Average Value	Standard Deviation	Number of Cases
CS	6.1569	1.00166	188
S1	6.0851	1.03065	188
S1DI	38.4043	10.93366	188

Table 13 Analysis of correlation between service reliability and customer satisfaction

Correlation				
		CS	S1	S1DI
Pearson correlation	CS	1.000	.851	.873
	S1	.851	1.000	.945
	S1DI	.873	.945	1.000
Significance (single tail)	CS	.	.000	.000
	S1	.000	.	.000
	S1DI	.000	.000	.

Table 14 Variance analysis of the service reliability and customer satisfaction model

ANOVA[a]						
Model		Sum of squares	Degree of free -dom	Mean Squares	F	Signifi -cance
1	Regression	135.797	1	135.797	487.390	.000[b]
	Residuals	51.824	186	.279		
	Total	187.621	187			
2	Regression	144.137	2	72.068	306.607	.000[c]
	Residuals	43.484	185	.235		
	Total	187.621	187			

a. Dependent variable: CS; b. Predictive variable: (constant), S1; c. Predictive variable: (constant), S1, S1DI

Table 15 Descriptive statistics of analysis of service convenience and customer satisfaction

Descriptive Statistics			
	Average Value	Standard Deviation	Number of Cases
CS	6.1569	1.00166	188
S2	6.0718	1.05220	188
S2DI	38.4162	11.16306	188

Table 16 Analysis of correlation between service convenience and customer satisfaction

Correlation				
		CS	S2	S2DI
Pearson correlation	CS	1.000	.901	.887
	S2	.901	1.000	.964
	S2DI	.887	.964	1.000
Significance (single tail)	CS	.	.000	.000
	S2	.000	.	.000
	S2DI	.000	.000	.

Table 17 Variance analysis of the service convenience and customer satisfaction model

ANOVA[a]						
Model		Sum of squares	Degree of freedom	Mean Squares	F	Significance
1	Regression	152.407	1	152.407	805.025	.000[b]
	Residuals	35.214	186	.189		
	Total	187.621	187			
2	Regression	153.282	2	76.641	412.897	.000[c]
	Residuals	34.339	185	.186		
	Total	187.621	187			

a. Dependent variable: CS; b. Predictive variable: (constant), S2; c. Predictive variable: (constant), S2, S2DI

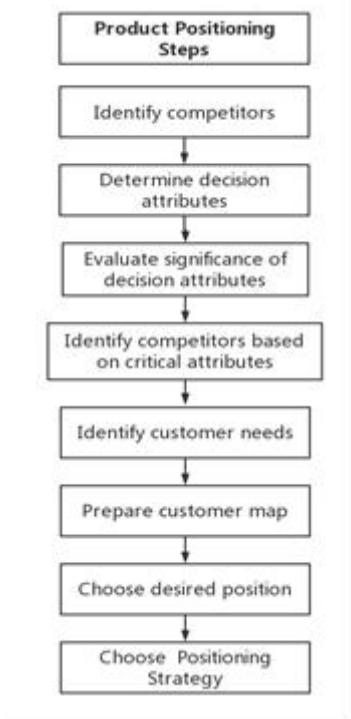


Figure 1 Product position steps

Source: Hooley et al. (2008)

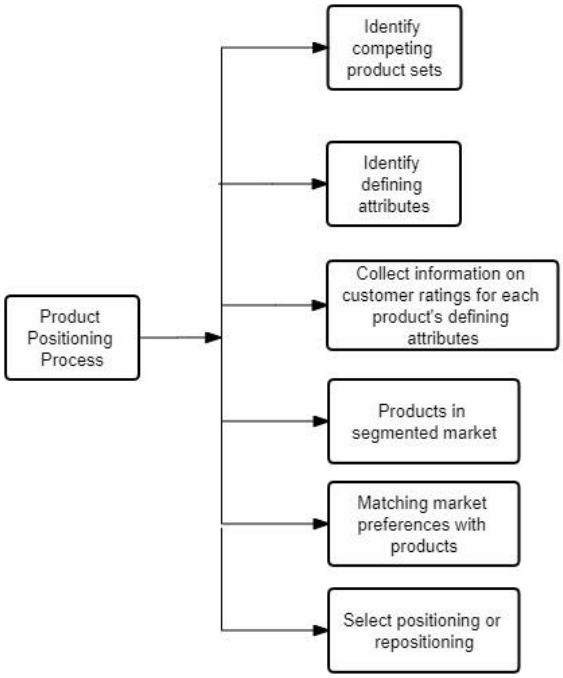


Figure 2 Product positioning process

Source: Hutt and Speh (2021)

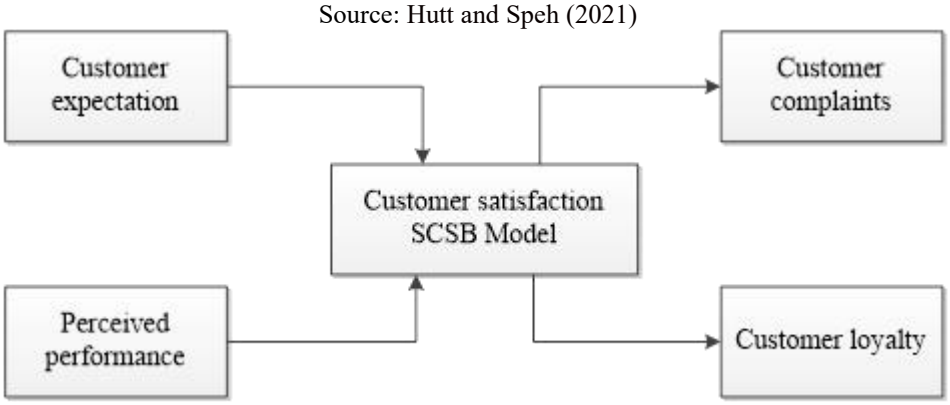


Figure 3 Sweden customer satisfaction barometer model (SCSB)

Source: Fornell et al. (1996)

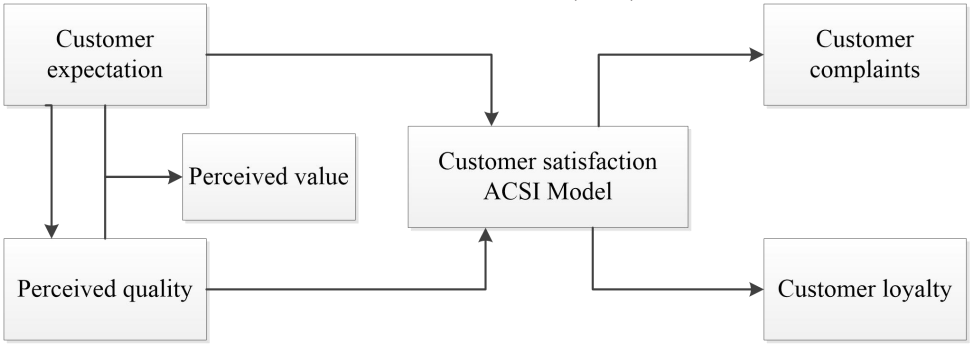


Figure 4 ACSI model

Source: M. D. Johnson and Fornell (1991)

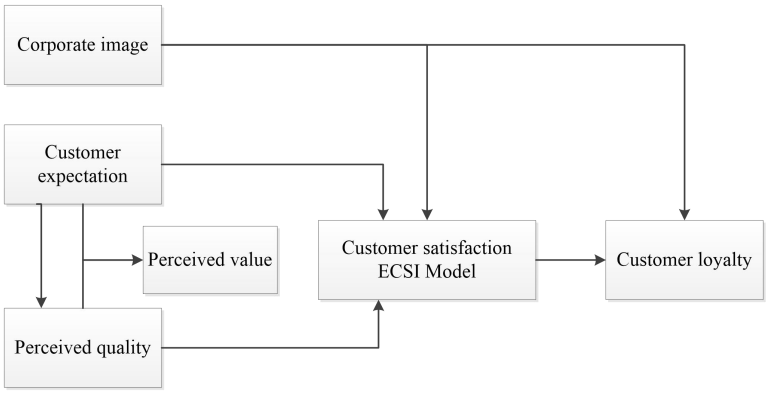


Figure 5 ECSI model

Source: The European Customer Satisfaction Index is a collaborative project between the European Quality Organization (EOQ) and the European Commission (DH III) (1999)

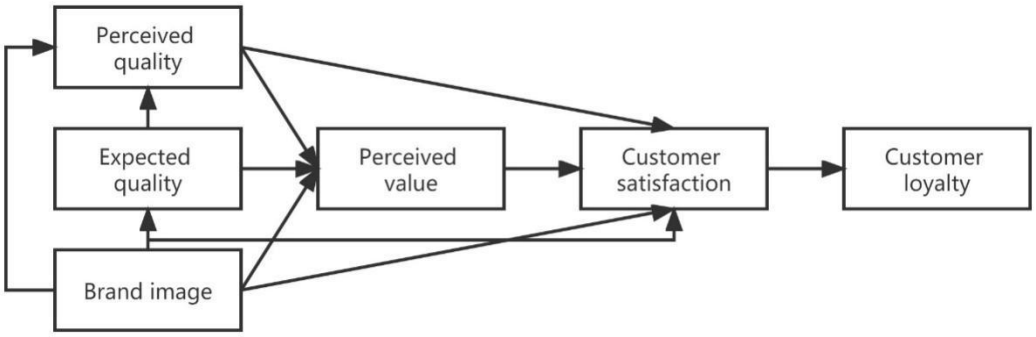


Figure 6 China consumer satisfaction index CCSI model

Source: N. Li (2016)

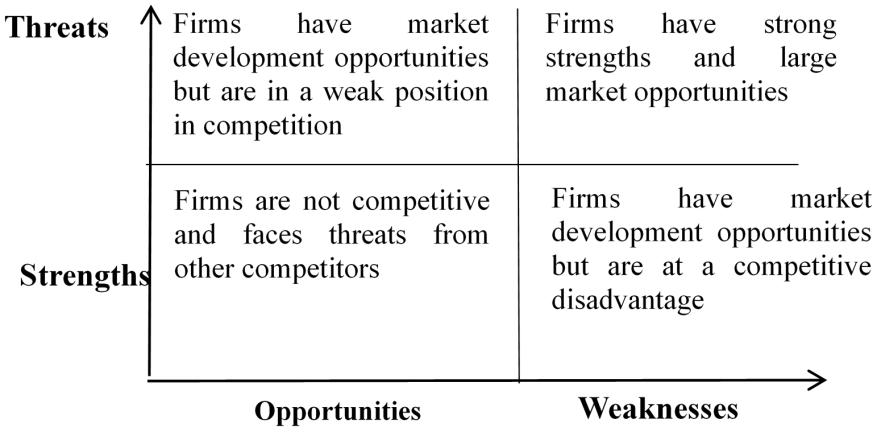


Figure 7 Quantitative SWOT improvement method

Source: Hsu (2000)