MARKETING STRATEGIES AND COMPETITIVENESS: A CASE OF PHARMACEUTICAL COMPANY IN CHINA

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ABSTRACT

This research study aimed to investigate the impact of marketing mix on the competitiveness of Chinese pharmaceutical company, with the target population comprising customers of a pharmaceutical company in China. The sample size of 120 respondents was determined using Taro Yamane's criteria with a confidence level of 0.95. The research method employed was quantitative, with data collected through simple random sampling. Mean values and standard deviations were computed for five variables: product, price, place, promotion, and competitiveness. The findings showed that product and price had a significant positive impact on the competitiveness of Chinese pharmaceutical company, while place and promotion did not exhibit any significant positive influence. These results suggest that Chinese pharmaceutical firm should prioritize the development of effective product and price strategies to enhance their competitiveness in the industry. The practical implications of these findings are significant for pharmaceutical companies in China, as they can help inform strategic decisions that contribute to long-term success and sustainability.

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Hong Zhang

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CHAPTER 1

INTRODUCTION

1.1 Research Background

In 2020, China aimed to build a moderately prosperous society in an all-round way as part of the 13th Five-Year Plan's conclusion. Additionally, China's medical reform continued to advance into deep waters, deepening the reform of the three medical linkages (Wang Zhifeng, 2002). Moreover, 2020 was an extraordinary year for China, as the country actively responded to COVID-19, rolling out a large number of epidemic prevention policies in the first half of the year. In July, a notice on the key tasks of deepening the reform of the medical and health system in the second half of 2020 was issued. In the latter half of the year, medical reform work was in full swing, and supporting policies were introduced one after another. These two factors resulted in 2020 having the largest number of healthcare reform policies.

As China's medical system reform continues to strengthen, pharmaceutical company supervision is also deepening. This development brings both challenges and opportunities for pharmaceutical companies, with the blood products industry being hit the hardest. Currently, China's blood products industry has high barriers to entry and limited participants, and the merger and acquisition process is coming to an end, resulting in high market concentration. Moreover, the blood products market size distribution is relatively balanced, leading to fierce market competition. In the future, as technical differentiation and product structure optimization occur, the advantages of leading companies are expected to gradually emerge, resulting in an expected increase in market concentration.

In developed countries, represented by the United States, the blood product market is gradually becoming saturated, and the market scale tends to develop steadily. However, in China, the blood products industry is still in a period of rapid development due to the shortage of market supply and the promotion of national policies. Since the State Council promulgated the Regulations on the Administration of Blood Products in 1996, the supervision of the blood products industry has become increasingly strict. Since 2001, the government has stopped approving new companies from entering the blood products industry and has updated supporting regulations. As a result, a large number of small and medium-sized blood products companies have withdrawn or merged. Currently, there are still about 30 enterprises engaged in the production of blood products. Strict control policies build a moat for industry companies. The Chinese government currently has very strict control over blood products. In 2020, domestic pulp production is expected to decline due to COVID-19. In the case of limited pulp sources, the policy has not been loosened, and has become even more stringent. Due to the

background of medical reform and strict policy pressure, higher requirements are being placed on relevant practitioners. Adopting excellent marketing strategies is gradually being valued by more and more enterprises.

Blood products have a wide range of indications and are effective in preventing and treating major diseases, which cannot be replaced by other drugs. As a substitute for whole blood, blood products have a longer shelf life and are easy to store and transport. As unique biological products from the human body, blood products play an irreplaceable role in the medical field. For a long time, China has implemented strict supervision on blood products and has successively formulated a batch issuance system, as well as implemented a quarantine period system for raw plasma. Blood products, especially intravenous immunoglobulin and human albumin, play a vital role in the prevention and treatment of novel coronavirus pneumonia. According to statistics, as of 2020, the number of blood product batches issued in China was 99.0697 million bottles, which was a 7.38% year-on-year increase.

1.2 Research Objectives

1. To study the level of competitiveness of pharmaceutical company.
2. To find the factors influencing competitiveness of pharmaceutical company.

1.3 Research Hypothesis

Hypothesis 1: Product strategy has a positive influence on competitiveness of Chinese pharmaceutical company.

Hypothesis 2: Price strategy has a positive influence on competitiveness of Chinese pharmaceutical company.

Hypothesis 3: Place strategy has a positive influence on competitiveness of Chinese pharmaceutical company.

Hypothesis 4: Promotion strategy has a positive influence on competitiveness of Chinese pharmaceutical company.

1.4 Conceptual Framework

Based on theoretical research, this study provides an overview of entrepreneurship research in the medical industry, focusing on product, price, channel, and promotion strategies. A competitive system model for medical enterprises is developed and used to analyze the relationship between each element and their competitiveness.

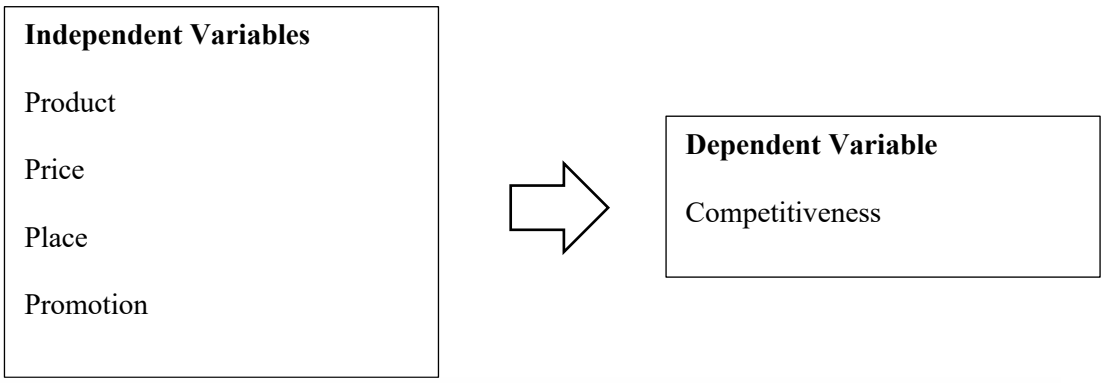

Figure 1.1 Conceptual Framework

1.5 Scope of the study

The research study targets customers of a pharmaceutical company in China, and the sample size was determined according to the criteria of Taro Yamane (1979) with a confidence level of 0.95. As a result, a sample of 120 respondents was identified.

1.5.1 Scope of Content. The information obtained in the study includes demographic data, as well as independent and dependent variables.

1.5.1.1 Independent variable: Product, Price, Place, Promotion

1.5.2.2 Dependent variable : Competitiveness

1.5.3 Timeframe of Research: October-November, 2022.

1.6 Significance

(1) theoretical significance

Currently, the research on the competitiveness of pharmaceutical enterprises after the medical reform in China is not yet comprehensive. This study aims to improve the competitiveness of pharmaceutical enterprises by proposing a competitive enhancement plan that aligns with the perspective of policy adjustment and growth, building on relevant research at home and abroad. The proposed plan aims to provide new reference points and theoretical guidance for the adjustment of the biological strategy of the Temple of Heaven. Furthermore, by identifying the factors that affect the competitiveness of pharmaceutical enterprises in the context of China's medical reform, this study can help improve the theoretical system of competitiveness of pharmaceutical enterprises in China, address any gaps, and enhance the anti-risk capability and international competitiveness of pharmaceutical enterprises.

(2) Practical significance

A well-developed theoretical system of competitiveness in medical enterprises can not only assist companies in adapting to the new medical reform environment, but also alleviate

the problem of insufficient competitiveness in some medical enterprises in China. Through an analysis of the effect of a company's 4P marketing, this study identifies the main influencing factors, and ultimately proposes specific and feasible optimization suggestions, providing a theoretical basis for the development and improvement of corporate marketing strategies. This can reduce unnecessary losses in market competition and have a positive impact on enterprise development, making it of significant practical significance.

This study summarizes the marketing strategy of TT Bio's blood products by analyzing and summarizing the internal and external environment of blood products in the Chinese market (Kuratko, 2014) and combining it with fieldwork experience. This paper proposes a more complete marketing strategy with the aim of increasing the sales volume of TT Bio in the Chinese market and thereby increasing its market share. It provides a useful reference for other blood products companies' marketing in the Chinese market.

In addition, this study analyzes the external marketing environment of TT Biological Company, and examines the industry competition environment faced by TT Biological Company by considering threats from main competitors and potential market entrants, as well as the substitution ability of TT Biological products with blood product substitutes, bargaining power of companies, demand-side, and supply-side factors.

This study analyzes the marketing status and problems of TT Biological Products Company and applies the 4P marketing strategy theory. By doing so, a series of marketing strategy development plans are proposed to optimize its marketing strategy for TT Bio blood products. The current pharmaceutical market is deeply analyzed, and the basic situation of competition in the blood products industry is expounded, taking into account the background of China's medical reform. The marketing status of TT biological products is studied, and the marketing strategy of TT Biological Products Company is formulated. Thus, TT Biological Products Company can optimize its marketing strategy in four aspects: product strategy optimization, price strategy optimization, channel strategy optimization, and promotion strategy optimization.

1.7 Definition of Term

Product is a term that refers to a good or service that is offered to the market and is designed to satisfy the needs and desires of consumers. The product should be able to capture the attention of potential buyers and should be able to meet their expectations once they have purchased or used it.

Price is the amount of money that is charged for a product or service, or the value that is exchanged by the consumer in return for owning or using the product or service. Pricing

strategies must be carefully considered in order to ensure that the price charged is competitive, reasonable and attractive to potential buyers.

Place refers to the location where a product is made available to consumers. This not only includes the physical location where the buyer and seller meet to negotiate a purchase and sale agreement, but also encompasses online channels. Ensuring that products are readily available in convenient locations is key to successful marketing.

Promotion is a marketing technique that involves communicating with prospective consumers and providing them with a persuasive and informative explanation of the benefits of a product or service. Effective promotional strategies help to create awareness of the product or service, increase interest, and encourage purchase.

Competitiveness refers to the ability of a business to produce goods and services that meet the requirements of the market, while simultaneously maintaining high and sustainable levels of income, and being able to withstand competition from other businesses. The ability to generate revenue and maintain profitability, even in the face of external competition, is a key aspect of competitiveness.

CHAPTER 2
LITERATURE REVIEW

This chapter provides a comprehensive literature review on the topic of Marketing Strategies and Competitiveness within the context of a Chinese pharmaceutical company. The chapter offers an in-depth account of relevant literature, concepts, and theories to provide a robust foundation for the study. The literature review is organized into the following sections:

2.1 Current Status of Research

2.2 Research in China

2.3 Factors Affecting Enterprise Competitiveness

2.4 Marketing Strategies

2.5 Introduction to Related Concepts

2.6 Business Marketing Analysis

2.7 Company Profile: TT Company

2.8 Environmental Analysis of TT Company

2.9 Framework System for Analyzing Medical Enterprise Competitiveness

2.1 Current Status of Research

Marketing theory originated in the United States during the early 20th century and has undergone significant development and refinement over time. Today, it has transformed from a traditional product-centered approach to a modern, customer-centric paradigm. The contributions of foreign scholars have played a significant role in the evolution of marketing theory, with seminal works such as Philip Kotler's "Marketing Management" and Michael Porter's "Competitive Advantage" serving as fundamental pillars of the discipline.

Notably, Neil Borden introduced the term "marketing mix" in his inaugural address to the American Academy of Marketing in 1953, emphasizing the importance of combining marketing elements to meet market demand and generate optimal profit. Jerome McCarthy's influential "4P" marketing theory, which outlines the key elements of product, price, place, and promotion, has since served as a cornerstone of marketing strategy.

In the mid-1980s, Philip Kotler expanded upon the 4P marketing theory, introducing the "big marketing" 6P theory, which included public relations and political power as key components of marketing success. Similarly, Robert Lauterborn's 1990 "4C" marketing theory emphasized the importance of customer satisfaction through a consumer-focused sales channel strategy and tailored product and service offerings.

Nevertheless, the 4C theory has limitations in cases where customer needs do not align with the market economy, necessitating the cultivation of long-term relationships with higher-level clients. Eliot Eidenberg's "4Rs" marketing theory, introduced in 2001, addresses this challenge by emphasizing relevance, reaction, relationship, and reward, with relationship marketing as a central tenet.

In overall, these theories have paved the way for marketing professionals to achieve business success through the application of effective marketing strategies that center on the customer and aim to foster loyalty and mutually beneficial interactions between companies and their customers.

2.2 Research in China

China's research on marketing strategies started relatively late. Particularly after the country's reform and opening up, domestic scholars began systematically studying marketing theories, which initially focused on introducing and translating foreign marketing theories. With the accelerated pace of national reform, marketing theories were rapidly disseminated, popularized, and applied, and Chinese marketing scholars have since developed marketing theories with distinct Chinese characteristics.

The development of science and technology has led to network marketing becoming the mainstream marketing method. China's network marketing development ranks among the best in the world, and domestic scholars have conducted in-depth research on network marketing. Scholars such as Zhu Haisong (2007), Liu Dongming (2009), and Jiang Xuping (2011) contend that the marketing theory has always been difficult to control. Based on this, the 4I theoretical model of network marketing with different connotations in network marketing has been proposed. One of the most prominent models is Liu Dongming's 4I model of network marketing theory, which focuses on the interaction between enterprises and consumers. Liu Dongming's model emphasizes the importance of the four principles of the new marketing mix, namely the principles of interest, interests, individuality, and interaction. It is through this interaction that consumers are guided to identify with enterprises and products.

With the continuous emergence of high-tech enterprises, high-tech products and services, domestic scholar Wu Jinming (2001) creatively proposed 4V marketing, where differentiation, functionality, and added value are the core components of marketing. Wu Jinming's 4V marketing theory emphasizes the importance of meeting individual consumer needs and highlights the significance of differentiated marketing.

Ding Xingliang, the chief consultant of IMSC Industrial Product Marketing Research Center, believes that the 4P marketing theory cannot be applied to the industrial product industry due to the market's continuous segmentation. Therefore, Ding Xingliang (2008)

proposed a new 4E marketing theory based on years of market practice experience. The 4E marketing theory, namely project (Project), value (Value), quick access (Quick access), and interactive (Interactive), places the customer first and considers the project's importance. This marketing theory is applicable to the industrial product marketing industry.

2.3 Factors Affecting Enterprise Competitiveness

Enterprise competitiveness is influenced by many factors, and there is a certain correlation between these factors, which can interact and influence each other. Although classification research has been conducted on this topic by many scholars, a unified theory and relevant definitions are yet to be established. Consequently, there is still a lack of systematic analysis of the specific classification of various factors that influence the competitiveness of enterprises.

Scholars both domestically and abroad have researched the competitiveness of enterprises from various perspectives such as innovation ability, enterprise scale, human resources, and financial ability. Among them, many representative studies have been conducted. For instance, Jin Pei, a Chinese scholar, studied the factors that affect the competitiveness of enterprises, and their marketing strategies from four aspects, which include relationship, ability, resources, and knowledge. The marketing strategy was researched from three aspects, including ability and resource benefit. The World Economic Forum categorized the influencing factors of enterprise competitiveness into four aspects, which include environmental impact, industrial order structure, change factors, and enterprise self-confidence. Michael Porter proposed the five forces model of enterprise competitiveness based on the bargaining power of suppliers and buyers, the ability of potential competitors to enter, the ability of substitutes to substitute, and the current competitiveness of competitors in the industry. This model helps promote the reform of enterprise marketing strategies.

Some scholars have classified the factors that affect enterprise competitiveness into three categories. The first category is scale, which primarily includes specific factors such as capital scale, income scale, and personnel scale. To a certain extent, it is the primary factor of enterprise competitiveness. A relatively large-scale industry can formulate a stable corporate marketing strategy by itself. The second type of factor is resources, which mainly includes manpower, technology, and capital, among others. Resources are an important guarantee for enterprise operation, and enterprises must use them as the basis to carry out various activities. The third type of factor is ability, which mainly includes technological innovation ability, resource allocation ability, financial turnover ability, and so on. These abilities are the embodiment of enterprises integrating various resources and producing more valuable products. From the connotation of the concept, the above-mentioned factors are not completely

independent, but are related to a certain extent. Under certain conditions, there may be a certain degree of convertibility between them, or they can be observed differently due to differences in observation angles. Nonetheless, they cover various factors that affect the competitiveness of enterprises, and are a simple summary of the research of many scholars.

2.4 Marketing Strategies

4P theory generally refers to 4P marketing theory. 4P marketing theory can be summed up as a combination of four basic strategies, namely product, price, promotion and place. Since the English prefix of these four words is p, plus strategy, it is referred to as "4P's". 4P (product, price, channel, promotion) marketing strategy has had a profound impact on marketing theory and practice since it was proposed by Jerome McCarthy in the late 1950s, and has been regarded as a classic in marketing theory by marketing managers.

The factors affecting the target market strategy of an enterprise mainly include four categories: enterprise resources, product characteristics, market characteristics and competitors' strategies.

Enterprises with abundant resources, such as large-scale production capacity, extensive distribution channels, a high degree of product standardization, good internal quality and brand reputation, etc., can consider implementing a non-differentiated marketing strategy; if the enterprise has strong design capabilities and Excellent management quality can be considered to implement differentiated marketing strategies; while for the weaker SMEs, it is suitable to concentrate on centralized marketing strategies. When enterprises enter the market for the first time, they often adopt centralized marketing strategies, and then adopt differentiated marketing strategies or undifferentiated marketing strategies after accumulating certain successful experiences to expand market share.

Product homogeneity is a critical factor that enterprises must consider when selecting a target market. It refers to the extent of differences in performance and characteristics among products. Typically, undifferentiated marketing is suitable for products with high homogeneity, such as salt. Conversely, products with low homogeneity or heterogeneity are better suited to differentiated or centralized marketing strategies. Additionally, as products move through various stages of their life cycle, their distinct characteristics must be considered. During the introduction and early growth stages, where competition is less fierce, undifferentiated marketing is typically the preferred strategy. As the product matures, and competition becomes more intense, companies must pivot towards differentiated or focused marketing.

Supply and demand are fundamental forces that determine market development. When supply exceeds demand, an enterprise focuses on expanding the supply and is not concerned with demand differentiation. Therefore, it is more likely to adopt an undifferentiated marketing

strategy. If consumers exhibit similar demand preferences and purchasing behaviors, the market is considered homogeneous, and undifferentiated marketing is suitable. In contrast, a market with differing preferences is heterogeneous, and differentiated or centralized marketing strategies are more appropriate.

Companies can differentiate themselves from competitors by adopting different target market coverage strategies. For example, if competitors employ undifferentiated marketing strategies, it is easier to leverage differentiated or centralized marketing strategies to gain an advantage. Choosing a target market strategy is a decision that requires careful consideration. Once selected, it should be relatively stable, although flexibility is critical, as there is no single correct strategy. Enterprises must remain vigilant to changes in market demand and competitive dynamics.

Product

The process of developing a marketing campaign begins with a comprehensive understanding of the product. The responsibility of the marketer is to establish the product and its unique features, and present it to the target consumer. An essential aspect of defining the product is designing a distribution plan that is aligned with the product's life cycle. Business executives must have a strategy in place for managing products at each stage of the life cycle. Furthermore, the nature of the product itself plays a significant role in determining the cost, placement, and promotion strategy. Marketers must consider all of these factors while creating a successful marketing campaign. In terms of the sales model, the company should expand the sales team and strengthen terminal direct sales, while also continuing to adhere to the current combination of self-operated teams and channel sales. Additionally, the company should optimize hospital coverage and integrate marketing to enhance end customers' interest in the Boya brand and recognition of Boya Bio's blood products, and actively expand sales in the out-of-hospital market.

Regarding the sales product portfolio, the in-hospital market is dominated by human fibrinogen and intravenous human immunoglobulin, which quickly establishes Boya's brand. Meanwhile, the out-of-hospital market is dominated by human albumin, forming a sales linkage between the in-hospital and out-of-hospital markets. Through the sales and development of the hospital market, the company can lay the foundation for its upcoming PCC and factor products.

The focus of sales for human fibrin products is to increase development and production in the national TOP100 hospitals and key teaching hospitals in various locations. We should appropriately expand the scale of the self-operated team and strengthen investment in personnel in the key KA hospitals that have been developed. To be careful and thorough, different sales personnel can be arranged in different departments to cover all aspects, with a focus on the development of blood, intensive ICU, cardiothoracic, hepatobiliary, transplantation,

neurosurgery, infectious diseases, and obstetrics departments. Sales methods should be increased, and investment in academics should be strengthened. We should gradually establish expert databases of various disciplines, organize experts from authoritative hospitals and disciplines, and national and provincial chairmen of various disciplines to create various disciplines and professional alliances belonging to Boya, such as the Coagulation Promotion Alliance and Xinglin Alliance.

In areas with good sales and high coverage, such as East China and South China, we should establish regional subject expert circles. Through the establishment of alliances and subject expert circles, we can promote academic exchanges and interactions between subject experts, create an academic atmosphere, and form the concept of preferred use in the field of hemostasis. This will stimulate sales of human fibrinogen in the hospital market. Through the establishment of large tertiary hospitals and core experts, and through teaching by words and deeds, we will drive the use of other small and medium-sized hospitals.

At present, the national medical system has entered a challenging phase, with the combined impact of policies such as 4+7 drug procurement, the formulation and implementation of the national auxiliary drug catalog, zero addition of drugs, medical insurance cost control, and hospital drug ratios directly affecting the use of drugs in hospitals. Additionally, outsourcing and delivery of medicines are becoming more prevalent, leading to an increase in the sales share of the out-of-hospital market. Human albumin is widely used, has high market awareness, and is considered safe. Since imported human albumin dominates most of the domestic tertiary A-level large hospitals, domestic manufacturers mainly sell them in the out-of-hospital market. This has created a particularly large volume of human albumin in the out-of-hospital market. The company should focus on human albumin sales in the out-of-hospital market. To do so, chain pharmacies, large-scale single pharmacies, and DTP pharmacies around the hospital can provide clinical prescriptions outside the hospital and seize the market outside the hospital. The sales team composition should be a combination of full-time and part-time personnel, with flexibility in the strategies employed.

When many sellers create product strategies, they often only focus on strategies that can help them highlight their own unique features. This is a common problem among sellers. While this approach may satisfy some or even the majority of consumers, we fail to recognize that it can also prompt customers to develop preferences and influence their purchasing decisions. Some merchants may only offer safe blood products, while others may provide both high quality and concentrated products. When there are clear advantages and disadvantages among products, customers tend to choose the better option, leading to the popular saying, "you get what you pay for." The pharmaceutical industry uses excellent product strategies to enhance their consumer base.

Price

Price is a critical component of a product's marketing strategy. The amount that consumers are willing to pay for a product is an essential consideration for marketers. The pricing strategy must be aligned with the product's perceived value, as well as its actual value. Additionally, marketers must factor in the supply costs, seasonal discounts, competitors' prices, and retail markup while setting the price.

Business executives may decide to increase a product's price to create an impression of luxury or exclusivity. Alternatively, they may reduce the price to attract a broader consumer base. Marketers must also determine when and if discounting is appropriate, as it can have both positive and negative effects. While discounts can attract more customers, they may also communicate a message that the product is of lesser quality or desirability.

It is essential to ensure that pricing decisions align with the overall marketing objectives of the product, and marketers must consider various factors, including consumer behavior, industry trends, and the competitive landscape. A well-executed pricing strategy can help businesses to achieve their desired outcomes, such as increased market share, profitability, and consumer loyalty.

The blood product market is facing a significant challenge in the form of price decline, which is a greater concern compared to the restrictions on the use of these products in hospitals. The current market for blood products in China is experiencing a shift from a period of shortage to a highly competitive environment, with an oversupply of varieties. Additionally, the implementation of online bidding, centralized procurement by medical consortiums, and secondary negotiation by hospitals has led to an increased risk of falling product prices and significant pressure to reduce prices.

However, the unique aspects of blood product production, including the source of raw plasma, collection, inspection cycle, and batch issuance management system, also have a significant impact on the supply of goods. These factors result in uncertainty in supply and lead to price fluctuations. To address this challenge, Tiantan Bio must establish a market price information research and management system to remain up-to-date on market price trends.

One approach to pricing strategy is demand-based pricing, which allows companies to set product prices based on consumers' understanding of the product's value and the degree of demand. In the pharmaceutical industry, the price of most products is determined by the pricing and benefits offered by the supplier or the logistics principal. Therefore, to focus on high-end customer groups who possess high consumption skills and place greater emphasis on the quality of blood products and their own feelings, the pharmaceutical industry must develop targeted countermeasures.

To appeal to such consumers, companies can select big brands and high-end products and employ higher pricing to enhance revenue. By emphasizing the safety and quality of their

products, the pharmaceutical industry can promote demand and maintain price stability in the highly competitive blood product market.

The company's sales strategy and team building goals aim to establish an academic sales team that focuses on the terminal market. This will be achieved through numerous product academic activities, the establishment of a platform for medical workers' academic exchange, and the creation of an academic atmosphere. These efforts will provide value-added services for products, establish enterprise and product brands, and occupy the market, thus improving product coverage and expanding sales. However, the realization of these objectives is contingent on product profits, and therefore the company must ensure high product prices and not rely on low prices to win the market. If the existing market price is lower than expected, the supply price must be raised to ensure adequate profit margins. This will provide room to implement promotional measures and increase sales. While adjusting the price, it is important to explain the company's development goals, sales model, value-added services, and benefits of cooperation with dealers and distributors. This will help to establish a high-quality brand image for Boya products.

In areas where the market is still undeveloped, a flexible pricing strategy should be adopted instead of a one-size-fits-all approach. A uniform pricing policy across the country may discourage some agents from developing the market. Instead, different settlement methods or appropriate discounts and rebates should be provided to ensure a reasonable profit margin and improve agents' development enthusiasm. While implementing different prices, market segmentation and management must be done well to prevent customers from reselling between different markets, smuggling goods around, and disturbing market order. Corresponding punishment measures should be formulated to address these issues.

Place

The aspect of "place" in marketing refers to determining the appropriate distribution channels and methods to make the product accessible to consumers. Business executives must carefully consider where their product should be available and how it should be displayed. The primary objective is to ensure that the product reaches the most likely buyers. This often involves limiting distribution to certain stores and displaying the product to its best advantage.

The term "placement" also includes advertising the product in the most suitable media to capture the attention of consumers. This aspect is essential to create awareness and generate demand. It is the marketer's responsibility to select the most effective advertising channels, including online or traditional media, depending on the target audience's characteristics and behavior. In summary, the placement of a product is a vital component of a marketing campaign, and it should be strategically planned to ensure maximum exposure and effectiveness. The sales channels of the company will be expanded by strengthening the

development of second- and third-tier cities, accelerating the construction of marketing networks, and acquiring professional blood distributors. Based on the current product sales characteristics and competitors' situations, the coverage of channels will be increased by establishing several commercial distribution companies with annual sales between 100 million and 1 billion yuan. Collaboration with large-scale comprehensive distribution businesses on developed terminals will be enhanced to leverage their strong distribution capabilities and fast payment time, enabling quick market penetration. For the development of key hospitals, strategic partnerships with commercial enterprises specializing in selling blood products will be pursued. These enterprises have established long-term cooperative relationships with clinical hospitals and have significant experience in blood product sales. By partnering on mutual benefit principles, these commercial enterprises can help to develop the company's products and expand their market reach. Incentive strategies tailored to the sales situation will be employed to encourage channel dealers to become larger and stronger while cultivating core strategic customers.

Promotion

The objective of promotion is to inform consumers of a product's necessity and appropriate pricing. This process involves advertising, public relations, and the overall media strategy for introducing a product. Marketers often link promotion and placement factors to reach their key audiences. In today's digital era, the "place" and "promotion" factors encompass both online and offline channels. Precisely, where a product is positioned on a company's webpage or social media, and which types of search functions will activate targeted ads for the product are significant considerations.

To increase academic promotion efforts, the focus should be on improving marketing services and product marketing capabilities. The intrinsic qualities and appearance of a product's brand are important in contributing to sales. The quality of the product plays a role in treatment, while the displayed function's external image is the subjective image generated in the minds of consumers. During the brand building process, Boya Bio not only protects the product's quality and characteristics, but also pays attention to promoting the brand outside the company. The company should always maintain the brand reputation, improve brand reputation and product expertise. As the product specialization improves, the reputation is improved, the brand image is deeply rooted in the minds of people, and the brand value is fully reflected. Therefore, in promoting the development of strategic brands, the company should prioritize academic support for its products. This approach not only supports brand building but also promotes the sales of the company's key product, human fibrinogen. Medical staff must be educated on product knowledge and indications, and a consensus on clinical use must be formed among a large number of experts.

Specifically, the following strategies can be adopted:

Advertising strategy

(1) Both posters and brochures belong to the types of advertisements mentioned above. Product leaflets (DA sheets) adapted to different clinical departments at the hospital terminal will be distributed by Boya Bio according to the actual situation and clinical needs of the products. In addition, the company will sponsor and undertake various types of advertisements, disciplinary and professional conference publicity, display corporate image and products through product brochures in commercial channels, and highlight the safety of products. Furthermore, the company is the first domestic enterprise to establish a professional promotion team.

(2) Engaging in specialized academic conferences. Utilizing national, provincial, and city salons, AB conferences, and clinical department conferences in various disciplines can enhance Boya Bio's influence in the industry and the popularity of its products. The focus should be on cultivating leaders in various disciplines and forming a consensus on the clinical use of Boya Bio's products in the industry. Establishing a multi-disciplinary expert resource library for the enterprise can help promote products and the enterprise on multiple occasions through experts in various fields.

(3) Inviting visits and inspections of the company. Boya Bio can invite important business partners, leading experts, and medical staff of clinical hospitals to visit the company. The visit can provide an intuitive understanding of the whole process of product production and quality control systems, as well as the development strategy plan of the company. The aim is to enhance the safety awareness and recognition of Boya Bio's products and the development of the enterprise. Through understanding and recognition of the enterprise, the company can further increase confidence in cooperation with Boya Bio.

(4) To strengthen the brand image of Boya Bio, the company can consider establishing a national coagulation-promoting alliance and an apricot forest alliance, as well as creating professional discipline exchange circles in regions with high sales and product coverage. Through these measures, the company can enhance its visibility and reputation in the industry, as well as cultivate a loyal customer base. Additionally, by collaborating with experts in the field, Boya Bio can promote scientific knowledge and product understanding, ultimately leading to increased sales and brand recognition.

2. Personal selling strategy

(1) One strategy that can be utilized in product promotion is marketing through sales representatives. The intended targets for this strategy are the experts in relevant hospital departments and clinical prescribers. The primary objective of this marketing approach is to showcase the company and its products, introduce product usage, and share typical clinical cases. Essentially, this sales technique is more of a communication method for introducing

products and companies. Sales representatives need to establish regular communication with clinicians in the hospital to gradually foster the concept of rational medication use by doctors. They can achieve this by introducing foreign clinical literature, sharing typical cases, and guiding doctors to use drugs more effectively. This behavior can be categorized as a soft terminal packaging behavior of their representatives. Ultimately, it is necessary to build customer relationships through the above methods.

(2) The cultivation of leaders in various disciplines is a crucial aspect of marketing strategy. To meet the marketing requirements, it is necessary to build training programs for academic key opinion leaders and establish a network to conduct cost-effective conference marketing activities. Alliances and communication circles of key leaders in infectious diseases and related fields can be established to provide a platform for mutual communication. Subsequently, speakers for Boya Bio's products can be provided in various academic activities, which can endorse the clinical use of the products and recommend their use in the treatment process. This can further promote the reputation and influence of Boya Bio in the industry.

(3) Personnel Training. Establishing an academic team places high demands on the quality of personnel. The medical marketing department of Boya Bio should focus on evidence-based medicine research and develop professional promotion tools. It should also regularly provide sales strategy and product knowledge training, as well as conduct assessments for frontline sales representatives. Through these efforts, a professional sales team can be established, where each member becomes an expert in the product. Sales representatives should be able to explain product details during department meetings and address common issues in daily medication management. They should also be capable of collecting, discussing, and presenting typical cases, as well as recommending overall coagulation management plans to doctors. By achieving full coverage of clinical medication and cultivating standardized medication habits among doctors, Boya Bio can serve the vast hospital terminal market and provide value-added services to clinicians.

2.5 Introduction to Related Concepts

2.5.1 Definition of new medical reform

In October 14, 2008, the State Council released the "Opinions on Deepening the Reform of the Medical and Health System (Draft for Comment)," which marked the beginning of soliciting public opinions on the subject. On January 21, 2009, the medical reform plan was passed, officially opening a new round of medical and health system reform. On April 6, 2009, the "Opinions of the Central Committee of the Communist Party of China and the State Council on Deepening the Reform of the Medical and Health System" was released, which officially opened the "new medical reform" round. The new medical reform plan focused on establishing

a basic healthcare system that covers the entire population and aims to provide basic medical and health services to everyone. It also prioritizes the development of a public health and basic medical service system, a medical security system, a drug supply security system, and medical institution management mechanisms and operation mechanisms.

The medical reform policy is continually being developed to ensure the entire population has access to basic medical and health services. The government is increasing its investment in medical care and encouraging social capital investment to enhance service quality and meet the diverse medical and health needs of the people at different levels.

2.5.2 Blood products

Blood products are mainly derived from plasma separation and extraction. Due to the complex structure of blood protein components, most of these components are difficult to synthesize in vitro at a reasonable cost. Blood products, in a broad sense, include human blood products and products obtained by genetic recombination. Blood products originated in the 1940s. During World War II, due to the limitations of blood type matching, preservation, and transportation, the rescue of the wounded by whole blood transfusion could no longer meet the needs. There was an urgent need for a small volume, convenient storage and transportation, safe, and effective plasma expansion container. In this context, scholars and researchers from various countries increased their research on the separation of plasma protein components to solve the inconvenience of whole blood transfusion in war. Professor Cohen of Harvard University successfully separated human albumin from human plasma protein by a low-temperature ethanol method, and the world's first blood product was born.

Blood products are separated and purified from plasma proteins. From the perspective of plasma protein composition, plasma protein is composed of 60% albumin, 15% immunoglobulin, 4% coagulation factor, and 21% other protein components. Different kinds of blood products can be extracted from different plasma protein components. For example, human serum albumin can be extracted from albumin to regulate plasma osmotic pressure, transport, detoxification, and nutrient supply. Human immunoglobulin for intramuscular injection (muscular immunity) and human immunoglobulin for intravenous injection can be extracted from immunoglobulin (intravenous C) and specific human immunoglobulin (special immunity). Coagulation factors can be extracted from human prothrombin complex, human coagulation factor VIII, and human fibrinogen. Protease inhibitors and esterase inhibitors can be extracted from other protein components extract from. The type and quantity of blood products that can be extracted are closely related to the level of extraction technology.

By 2012, in developed countries represented by the United States, the blood product market had become saturated, and the market size tended to develop steadily. However, in China, the blood products industry is still in a period of rapid development due to the shortage

of market supply and the promotion of national policies. Since the State Council promulgated the Regulations on the Administration of Blood Products in 1996, the supervision of the blood products industry has become increasingly strict. Since 2001, the government has stopped approving new companies to enter the blood products industry and updated supporting regulations. A large number of small and medium-sized blood products companies have withdrawn or merged. At present, there are still about 30 enterprises engaged in the production of blood products. Strict control policies build a moat for industry companies. At present, the Chinese government has very strict control over blood products. In 2020, domestic pulp production was expected to decline due to COVID-19. In the case of limited pulp sources, the policy has not been loosened, and it has even become more stringent. Due to the background of medical reform and strict policy pressure, higher requirements are being put forward for relevant practitioners. The adoption of excellent marketing strategies is gradually being valued by more and more enterprises.

2.5.3 Competitiveness

This study examined nine competitiveness definitions, of which only three incorporated the concept of background or environment. To conceptualize the background factor regarding competitiveness, scholars utilized three concepts: increasing global/external competition (Chikán, 2008; European Commission, 1999), increasing competition among highly sophisticated industry segments (Porter, 1990), and changing social norms (Chikán, 2008). The significance of competitiveness has been propelled by the expansion of international competition, resulting from rapid globalization and its impact on domestic industries (Pederson, 2010). Globalization is characterized by "the intensification of international economic exchange" and represents the contemporary era of international economic integration (Brady et al., 2005). With decreasing transportation costs and increasingly sophisticated means of communication, countries have opened domestic markets, lowered trade barriers for goods and services, and thus increased global competition (Gilpin, 2001).

Although the definitions of competitiveness conceptualized the background factor as increasing global competition, these definitions appeared to disregard the "economic integration" occurring under globalization (Brady et al., 2005). Porter (1990) introduced a trade specialization perspective in a new global competitive background, complementing these definitions. He argued that globalization represents a paradigm shift in economic activities when a country becomes assimilated into the world's economy. A result of economic integration is global industry restructuring, with developed countries relocating production operations to countries with comparative advantages in labor costs (Davies and Ellis, 2000; Rantisi, 2002). As a consequence, countries worldwide specialize in what they do well, with developed countries specializing in highly sophisticated, capital-intensive production, while developing

countries specialize in labor-intensive production (Davies and Ellis, 2000; Gilpin, 2001; Porter, 1998; Rantisi, 2002). This study defines competitiveness as the ability to produce goods and services that meet market requirements while maintaining high and sustainable income levels, or more generally, the ability to generate while being exposed to external competition.

2.6 Business Marketing Analysis

2.6.1 PEST analysis method

The PEST analysis model was first introduced by Johnson G and Scholes, American scientists, in 1999. The model provides a comprehensive analytical framework consisting of political, economic, social, and technological factors that affect the macro environment of enterprises, with these factors being interrelated and mutually influenced.

The political environment comprises government policies, political stability, constitutional and legal frameworks, political ideologies, social systems, and other similar elements. The impact of the political environment on businesses is direct, unpredictable, and uncontrollable, which requires enterprises to stay vigilant and agile.

The economic environment, on the other hand, encompasses factors such as gross national product, GDP growth rate, economic policies, consumer preferences, inflation, employment and unemployment rates, international factor wage income level, savings status, exchange rate, and the like. An accurate understanding of these factors is crucial to enterprises for effective business planning and strategic decision making.

The social and cultural environment constitutes demographic factors, education level, consumer psychology, aesthetic concepts, life attitudes, population migration, and cultural backgrounds. Among these elements, demographic and educational factors play a pivotal role in influencing business operations and strategies. Understanding these social and cultural factors can aid enterprises in developing effective marketing and communication strategies.

The technological environment encompasses technological levels and strengths, new technology development, alternative technologies, speed of technology transfer, and the rapid application of new technologies in various industries. The technological environment requires companies to prioritize technological innovation and product research and development to maintain strong competitiveness and gain a competitive advantage.

2.6.2 Porter's Five Forces Analysis

In the early 1970s, Michael Porter constructed the Five Forces Model. Porter's Five Forces Model is a simple model that summarizes many different factors happening in the market and uses this model to analyze the performance of an industry. The Five Forces Model shows that there are five forces in the industry that determine the degree and intensity of competition in the industry, and affect the development of the industry and the formulation of

business strategy decisions. These five forces refer to the competitiveness of existing competitors in the same industry, the market entry ability of potential competitors, the substitution ability of substitutes, the bargaining power of suppliers and the bargaining power of buyers. Among these five forces, the core is the competitiveness of market participants, the ability of potential competitors to intervene is the foundation, the ability to substitute potential items is the main line, and the bargaining power of suppliers and buyers is a useful supplement. These five forces can not only determine the scope and degree of competition, but also influence the development of the industry and the decision-making of the incumbent's competitive strategy. Five forces model analysis is an external environment analysis method of microscopic analysis. Various factors are accumulated in the model, and the basic competition situation of the industry can be analyzed. The bargaining power of suppliers mainly affects the profitability and competitiveness of the original enterprises in the industry by increasing the input of factor prices and reducing the quality of unit value. The strength of the supplier depends mainly on what elements need to be provided to the buyer. If the input elements provided by the supplier account for a large part of the total cost of the buyer's product, then the production process of the buyer's product is very important or seriously affects the quality of the product. If the quality is high, the potential bargaining power of the supplier over the buyer is greatly increased.

2.6.3 SWOT analysis method

During the 1960s, Heinz Verrick, a professor at the University of San Francisco, introduced the widely adopted SWOT analysis method. The acronym SWOT stands for Strengths, Weaknesses, Opportunities, and Threats, and is used to systematically analyze the internal and external environment of a business or organization. The SWOT analysis matrix, consisting of four elements - strengths, weaknesses, opportunities, and threats - allows for the structured collection, sorting, and summarization of pertinent factors that may affect business performance.

The analysis begins with an exploration of the enterprise's strengths and advantages, identifying the potential and capability of the business to enter a particular industry or field. Next, an evaluation of the weaknesses and limitations of the enterprise is conducted to gain a comprehensive understanding of the company's internal weaknesses.

Opportunities are everywhere, but recognizing and seizing them is critical for a business to develop rapidly. Therefore, identifying potential opportunities and evaluating their relevance to the company is of great importance. Concurrently, an assessment of the direct or indirect threats facing the business is crucial to determine the likelihood of success.

The SWOT analysis matrix leads to the identification of four distinct combinations: SO, WO, ST, and WT. The SO combination, the growth strategy mode, is characterized by seizing rare opportunities and utilizing comparative advantages to increase investment for greater

benefits. The WO combination, the reversal strategic model, leverages external opportunities to counteract internal disadvantages and reverse an unfavorable situation. The ST combination, the diversification strategy model, utilizes the company's strengths to diversify risks, avoid external threats, and uncover new opportunities. Lastly, the WT combination, requiring a defensive strategy model, focuses on reducing internal weaknesses and avoiding external threats, as a company facing many threats and shortcomings may need to consider a retreat strategy if necessary.

2.7 Company Profile: TT Company

This provides an analysis of the current situation and marketing environment of TT company. It aims to expound on the current situation and development history of TT company, analyze the company's marketing strategy, and formulate the medical enterprise competitiveness influence framework system.

TT company's full name is Beijing Tiantan Biological Products Co., Ltd. It is the first unit in the country to research and produce vaccines and blood products. The company has a group of scientific and technological personnel who have been engaged in research and development for many years, with strong technical strength. It is in a leading position in China in terms of brand and production scale. Tiantan Bio was a biological product enterprise that developed, produced, and operated vaccines and blood preparations, with a wide range of products, before this reorganization.

Tiantan Bio was listed on the Shanghai Stock Exchange in 1998 with a stock code of 600161. It is the only listed company under China Bio and is 75% controlled by the Beijing Institute of Biological Products. From 1998 to 2007, the two major business segments of Tiantan Bio were 68.36% of vaccine products and 30.64% of blood products. More than 110 kinds of drugs had obtained approval numbers, of which more than 20 were preventive products. Vaccine products have always been the main source of the company's income and profits during this period, while blood products accounted for about 15% of the main business income.

As the country accelerated the adjustment and reorganization of large state-owned enterprises, Zhongsheng Group issued a reorganization plan in 2008. Tiantan Bio, as the only listed company under Zhongsheng Biotech, undertook the important task of resource integration. It will have certain advantages and compete with Tiantan Bio, Chengdu Rong, and other companies. The injection of raw materials can optimize the allocation of resources of the group and reduce competition in the same industry. At the same time, the scale of Tiantan Bio's blood products business has become larger, and it has a certain share in the promising blood products market.

The restructuring plan is to acquire 90% equity of Chengdu Rongsheng and 68,512.52 square meters of industrial land for sale in Beijing Institute of Biological Products. After the reorganization was completed in 2010, Chengdu Rongsheng became a subsidiary of Tiantan Biological. So far, Tiantan Biological's blood products have occupied the top three in the total scale of the industry, and the two major business segments have become 61.84% of blood products and 36.82% of vaccine products.

After the reorganization to 2016, blood products have always accounted for a large share of the operating segment, becoming an important source of profit and a major profit growth point for the company, while the vaccine business has been under policy guidance and fierce industry competition. The vaccine business even lost money during this period. Although a major asset restructuring was completed in 2010, the competition within the Zhongsheng Group has not been completely eliminated. When Tiantan Bio's blood products business became its main source of profit, the profitability of the vaccine business was gradually declining.

In 2017, the company implemented two major asset restructuring projects. It divested the vaccine business of Beishengyan and Changchun Qijian, acquired a 10% stake in Chengdu Rongsheng, and acquired four blood companies under Zhongsheng Group. After the completion of the reorganization, the company has become the only blood product business platform under China Biotechnology, and the problem of intra-industry competition with Zhongsheng Group has been completely eliminated.

2.8 Environmental Analysis of TT Company

2.8.1 Policy Environment

Due to the critical importance of blood products in maintaining public health and safety, the government has implemented a range of regulatory and restrictive measures aimed at ensuring the safety and efficacy of blood products. These measures are directed towards various aspects of the blood product industry, including access to the industry, management of raw plasma collection, and production and operation of blood products. As a result, the blood product industry is characterized by high policy barriers that are intended to protect public health and safety.

1. Raw plasma collection management

In December 1996, the "Regulations on the Administration of Blood Products" were enacted to ensure that the collection of plasma from healthy individuals is conducted through apheresis stations. The establishment of these stations requires the approval of a "Plasma Apheresis License" issued by the provincial health administrative department. The aforementioned license is the sole qualification for plasma collection, and only one single

plasma station can be established in each blood collection area. In 2012, the Ministry of Health promulgated the "Notice on Matters Concerning the Administration of Plasma Apheresis Stations" (Weiyizhengfa [2012]), which mandates that the number of registered blood products should be no less than 6 prior to applying for the establishment of a new plasma station. However, production enterprises that undertake the task of national planned immunization may have relaxed requirements, with a minimum of no less than 5 registered types. The registered products include human albumin, human immunoglobulin, and coagulation factor products. Additionally, when applying for registration of blood product varieties, products with the same ingredients but different dosage forms and specifications can only be counted as one variety. Therefore, source management barriers are relatively strong. In 2016, the National Health and Family Planning Commission issued the "Opinions on Promoting the Healthy Development of Plasma Collection Stations," which involves strict examination and approval of new plasma station establishments. The aim is to promote the production of blood products with strong research and development capabilities, high comprehensive utilization of raw plasma, and standardized plasma station management. The commission has expressed a preference towards such enterprises. It can be inferred that the establishment of a plasmapheresis station in the future will be significantly more challenging.

2. Enterprise total control management

Blood product manufacturers are required to comply with the "Good Manufacturing Practice for Drugs" standards, and they can only engage in the production of blood products after obtaining approval from the national counterpart supervision department. In May 2001, the General Office of the State Council issued a document to enforce strict control over the number of blood product manufacturers. Subsequently, in February 2006, the General Office of the State Council reissued the document to reiterate the need for controlling the total number of blood product manufacturing enterprises. As a result, no new blood product manufacturing enterprises have been approved since 2001.

3. Import restriction management

Due to the unique nature of blood products and their stringent safety requirements, the importation of these products is subject to strict government regulations. Since 1985, with the exception of human albumin, the importation of other types of blood products has been prohibited. In 2002, the importation of human albumin from regions affected by mad cow disease was also prohibited.

In November 2007, in response to the medication needs of hemophiliacs and to mitigate the coexistence of coagulation factor VDH, the importation of recombinant human-like coagulation factor products was permitted. However, the importation of other blood products remains restricted to this day.

Blood product manufacturers must adhere to the "Good Manufacturing Practice for Drugs" standards, and they can only engage in the production of blood products after being approved by the national regulatory authority. Since May 2001, the Chinese government has exercised total control over the number of blood product manufacturers. In February 2006, the General Office of the State Council reinforced this policy by reiterating that the total number of blood product manufacturing enterprises should be strictly controlled. As a result, no new blood product manufacturing enterprises have been approved since 2001.

4. Strict supervision

Since 2016, the supervision of pharmaceutical manufacturing enterprises in China has been significantly intensified. According to the official statistics, in 2016, the State Food and Drug Administration revoked a total of 172 GMP certificates, which represented an increase of 28 compared with 2015. Since blood products are derived from human blood, which may contain various viruses and can transmit diseases, the entire blood product industry has been subjected to strict policy supervision at all stages. The state departments have increased inspection efforts to further ensure the safety of blood products, and behaviors such as excessive collection, frequent collection, and cross-regional collection of plasma by apheresis stations are strictly prohibited through unannounced inspections and quality control. Pharmaceutical companies, especially blood product manufacturers, are subject to very strict process supervision.

5. Technical barriers

The innovation and advancement of blood products have led to increased quality and safety standards. As a highly technical pharmaceutical industry, blood product enterprises possess a complete industrial chain that spans from plasma collection to the production of sterile final preparations. Consequently, the requirements for quality stability have increased, leading to an increasing demand for comprehensive product research and development, production technology, quality control, and experience accumulation. Raw plasma and product research and development represent the main costs in blood product production. To improve competitiveness and reduce unit costs, manufacturers must improve the comprehensive utilization rate of plasma. Achieving this goal requires strong research and development capabilities to develop new products and increase the number of products extracted from unit plasma, as well as optimizing the production process to improve product yield and quality. As a result, the industry faces significant technical barriers.

6. Financial barriers

The blood products industry is a sector that necessitates a considerable infusion of capital resources throughout its various stages, which includes establishing plasma apheresis stations, plasma collection, product development, clinical trials, production, and marketing. As such, the industry poses a significant financial demand on businesses and requires a substantial

investment in equipment and resources. To meet the standards set by relevant national requirements, the production facilities, equipment, and storage warehouses must undergo professional design, pass inspections and meet requisite quality assurance benchmarks. Only then can the facilities be approved for use in production and distribution.

7. Brand Barriers

Due to the robust brand effect associated with blood products, establishing a brand necessitates undergoing an extensive market test. Consequently, new brands have relatively weaker competitiveness due to the time and resources required to build brand equity in this industry.

8. Talent Barriers

The blood products industry is a talent-intensive field that requires a significant number of high-quality and high-precision professionals throughout various stages of the production process, such as product development, clinical trials, trial production, and product launch. Large international blood product companies have established strong talent teams that support research and development, and the industry's talent barrier is relatively high.

2.8.2 Market Environment Analysis

The pharmaceutical industry in China has been subject to criticisms regarding the approval rate and speed of new drugs. Despite policies being implemented to encourage new drug approval, the approval situation remains problematic. The main obstacle to clinical approval of new drugs can be attributed to a lack of approval personnel, insufficient division of labor between departments involved in approval and registration, and limited communication channels. As a result, the market for blood products is consistently undersupplied.

Due to a long-standing blood product shortage, many intermediate distributors have emerged in the industry, who possess upstream pharmaceutical factory resources but lack terminal sales resources. As a result, these intermediaries have been forced to supply other distributors in the industry. However, with the implementation of the "two-invoice system" in the pharmaceutical industry in 2017, these intermediaries have faced significant pressure to exit the market, leading to the selling off of their inventories at reduced prices. The departure of these intermediaries has significantly impacted the marketing channels for blood products. Additionally, during the period of significant growth in the blood product industry from 2015 to 2016, dealers began increasing their purchase volumes. However, following 2016, the industry's growth declined, leading to increased shipping pressure. In response to this situation, dealers have begun reducing their inventories and purchases, facing strong price reductions, and experiencing increased sales pressure, goods rejection, and decreased purchasing.

2.8.3 Economic environment

From a global perspective, the pharmaceutical economy is experiencing rapid development. Relevant institutions predict that over the next decade, global pharmaceutical sales will increase at a rate of 7% to 8%. In 2010, the global pharmaceutical market's sales reached between 680 billion to 720 billion US dollars.

Although China's pharmaceutical industry began later than other countries, it has grown rapidly, forming a relatively complete industrial system with the active participation of various research and production departments and the encouragement of the state. As a result, China has become one of the world's top ten pharmaceutical producers and raw material exporters. Between 1978 and 1998, China's pharmaceutical industry had an average annual growth rate of 17.5%, the fastest-growing industry in that period. In recent years, based on the completion of the total output value of the pharmaceutical industry, China's pharmaceutical industry has entered the stage of accelerated development, maintaining a growth rate of around 7% to 8%. During the "Tenth Five-Year Plan" period, it is expected that China's pharmaceutical market will grow at a rate higher than that of the world's pharmaceutical market, with an average annual growth rate of about 12%.

By 2005, the overall development goal of China's pharmaceutical industry was to establish a solid foundation for achieving the country's strategic objective of transitioning from a large pharmaceutical country to a powerful pharmaceutical country. The total annual sales of the pharmaceutical industry were expected to increase by an average of 13%. The main objectives included:

(1) Technical structure adjustment, with large-scale enterprises establishing technology development centers and increasing investment in research and development to more than 5% of their sales. Research and development funds for small and medium-sized enterprises were also to be significantly increased. Breakthroughs were expected in key technologies of bioengineering drugs, and the production of drugs by transgenic animals and plants was to be modernized.

(2) Enterprise organizational structure adjustment, which aimed to cultivate about 10 large-scale pharmaceutical enterprise groups with sales of more than 5 billion yuan on the basis of modern large-scale enterprise groups. Efforts were to be made through stock listing, mergers, alliances, and reorganizations to achieve this goal. These enterprises were expected to account for over 30% of the national pharmaceutical industry's annual sales, and their main products were to have the ability to compete with multinational companies. In the biopharmaceuticals development priorities, the goal was to make full use of existing asset stock, strictly control new pharmaceutical enterprises, guide new bioengineering drug varieties to be concentrated in existing enterprises, establish a venture capital mechanism, and set up pharmaceutical industry funds as soon as possible. Social capital was to be guided to flow to the field of modern

biotechnology. The state-owned economy was to be encouraged to increase investment in the modern biotechnology industry in order to occupy the commanding heights of technology and expand control. Information exchange was to be strengthened between the Chinese Academy of Sciences, the Academy of Military Medical Sciences, the Chinese Academy of Medical Sciences, and relevant biotechnology research institutions and key pharmaceutical enterprises to form an effective mechanism that is conducive to technological innovation and accelerates the industrialization of scientific and technological achievements. Enterprises were to be guided to intervene in biotechnology application research in the early stage. Practical and effective policy measures were to be taken to increase scientific research subsidies for modern biotechnology industrialization projects, technological transformation discounts, and corporate capital injection support to form a group of internationally competitive high-tech technology enterprises. Focus was on using recombinant NDA technology and protoplast fusion technology to construct new strains or transform production strains of antibiotics, vitamins, amino acids, and other products to improve fermentation levels and reduce losses. New vaccines, diagnostic reagents, and biotechnology drugs for the prevention, diagnosis, and treatment of malignant tumors, cardiovascular diseases, nervous system diseases, digestive system diseases, AIDS, and immunodeficiency diseases that seriously threaten human life and health were to be developed. Existing biological products were to be developed into new dosage forms, including paints, suppositories, aerosols, drops, etc. Genetic engineering technology and cell engineering technology were to be adopted to produce endangered and scarce Chinese medicinal materials. The state was also to increase investment in medical science and technology, support the development of new drugs with China's independent intellectual property rights, and formulate corresponding tax reduction and tax policies. For basic research and screening centers for new drug development services, toxicology, pharmacology laboratories, and clinical trial bases, investment was to be increased. Pharmaceutical enterprises were to be encouraged and supported to become the main body of technological innovation. Further, risk investment mechanisms were to be established and supported, a pharmaceutical industry fund was to be set up, and the market operation mechanism for pharmaceutical venture capital was to be established and improved. Various social funds were to be widely absorbed to jointly promote the scientific research and development of new drugs.

China is expected to be one of the countries with the fastest economic growth in the world in recent years. The development speed of the domestic pharmaceutical industry is much higher than the average growth of the international market, and the concentration of benefits in the domestic pharmaceutical industry is also increasing. This gives leading companies in the pharmaceutical industry the opportunity to stand out. Additionally, joining the WTO can accelerate the merger and reorganization of the pharmaceutical industry, which is conducive to

the realization of intensive and large-scale economy, the establishment of a market-compliant operating mechanism, and objectively promotes the reform of the medical and health system.

2.8.4 Social and cultural environment

With the continuous development of the Chinese national economy, the domestic pharmaceutical market has maintained a high growth rate. The growth of the economy has driven the level of social consumption and expanded the consumption of pharmaceutical products. In addition, the potential large market in rural areas will be gradually excavated. In the process of social progress, people's awareness of medical care has been continuously enhanced, and the consumption concept of medicines will also change from focusing on treatment to equal emphasis on health care, prevention and treatment, resulting in an increase in the demand for pharmaceutical products.

China, with a large population of approximately 1.4 billion and an annual increase of about 20 million people, is gradually entering an aging society. These structural changes will increase the huge market for pharmaceutical products. The fifth census conducted in 2000 showed that China's population age structure has undergone significant changes. Among the population of the 31 provinces, autonomous regions, municipalities directly under the Central Government, and active servicemen in the mainland of China, the population aged from birth to fourteen years old was 289.79 million, accounting for 22.89% of the total population; the population aged 64 was 887.93 million, accounting for 70.13% of the total population; and the population aged 65 and above was 88.11 million, accounting for 6.96% of the total population.

Compared with the fourth national census in 1990, the proportion of the population aged 14 decreased by 4.8 percentage points, and the proportion of the population aged 65 and above increased by 1.39 percentage points. This reflects that since China's reform and opening up, with the rapid economic and social development, the people's living standards and medical and health care have greatly improved, especially the rapid decline in the fertility level of the population, the accelerated aging of the population, and the consumption of drugs among the elderly, which exceeds 50%. The increase in the aging population will prompt the rapid expansion of the pharmaceutical market in China.

During the "Tenth Five-Year Plan" period, China's urban and rural population structure will undergo significant changes. In 2000, the rural population in China was 890 million. If national urbanization requirements are taken into account, the rural population is expected to increase by 1.5% annually during the "Tenth Five-Year Plan" period. By 2005, the urban population is projected to reach 520 million, and the rural population is projected to reach 8.66 million, accounting for 37.36% and 62.37% of the total population, respectively. Notably, the urban population is expected to increase by approximately 7.5% compared to 2000. The acceleration of urbanization will further stimulate the growth of drug consumption demand.

Residents' healthcare consumption expenditures generally show an upward trend year by year, which also provides a good opportunity for the development of the pharmaceutical industry. The increase in medical expenses year by year is a common phenomenon and objective law in both developed and developing countries. In the United States, social medical expenses account for 14.7% of the gross national product, ranking it at the forefront of the world in terms of healthcare, yet also making it the country with the highest level of healthcare. Between 1978 and 1997, China's national staff medical expenses increased from 2.7 billion yuan to 77.37 billion yuan, an increase of 28 times, indicating that people's living standards have greatly improved. This is a reasonable side of the increase in medical expenses, but the excessive growth of medical expenses has already become one of the problems most strongly reflected by the common people. According to the health department's survey data in 2000, the average cost of each visit to a doctor in China was 79 yuan, and the average cost of each hospitalization was 2,891 yuan, of which the cost of medicine accounts for 60% and 50%, respectively. During the period from 1985 to 2000, as the average per capita consumption expenditure of urban and rural households increased year by year, their expenditure on medical care also showed an overall upward trend, and the proportion of medical care in consumption expenditure tended to rise.

In 2000, the per capita annual disposable income of urban households was 6,279.98 yuan, while the per capita annual net income of rural households was 2,253.42 yuan. With respect to medical care, the average per capita consumption expenditure of urban households was 318.07 yuan, which is much higher than the rural average of 87.57 yuan. Additionally, the proportion of urban residents' consumption on medical care (6.36%) is also higher than that in rural areas (5.24%).

2.8.5 Technical environment

Product technology is the cornerstone of a company's long-term development. The market economy inherently promotes the convergence of the technology and industrial markets, and enterprises now have more extensive and flexible means to carry out technological innovation and product development. Companies can develop independently or collaborate horizontally, utilizing flexible methods such as joint laboratories and technical equity participation, which create a favorable technical environment for enterprises. The current developments in related technologies and peripheral industries have also provided excellent technical support for enterprises. Breakthroughs in bioengineering technology, sustained release technology, information technology, and other fields will inject new momentum into the development of the pharmaceutical industry.

The production process is mature and stable. Currently, most blood product companies in the world use the low-temperature ethanol method to produce plasma protein products. This

method has been in use for more than 50 years and has been proven to be safe and reliable in practice. Due to the conservative approach of the entire industry towards new technologies and new processes, it will take a long time for a significant revolution in production technology to occur.

Research and development of blood substitutes is a crucial endeavor. Blood products are made from a large number of mixed human plasma, which is inevitably contaminated by various pathogens, such as HIV and hepatitis B virus, through blood transfusion. Cases of patients infected with AIDS or hepatitis B are not uncommon. The Chinese government designated the research and development of human blood substitutes as a significant project of the national "863" plan in 1997. According to recent domestic media reports, Beijing Kaizheng Bioengineering Development Co., Ltd., which undertakes this project, has made significant breakthroughs. At the same time, the use of genetic engineering to develop blood substitutes is also very eye-catching. Shanghai Haiji Bioengineering Co., Ltd. has successfully developed genetically engineered serum albumin, providing the possibility of producing blood products with various methods.

2.8.6 Organizational Guarantee

To enhance the competitiveness of the company, it is essential to innovate in organizational models and authorization systems while prioritizing the needs of personnel. Through implementing systematic and managerial innovations, the company aims to reduce costs, improve efficiency, and increase vitality. This requires comprehensive and deep-rooted structural reforms and incentivization mechanisms that empower employees and enhance efficiency, thereby promoting the overall vitality of the enterprise in the challenging economic environment. To improve the agility of market operations, TT Company should strengthen the restructuring of its business team and continue to promote amoeba fission. In addition to the original sales area and city units, the company should add two-level marketing organizations at regional and county levels based on sales scale. By decentralizing some of the headquarters' functions to the regional and county levels, the company can establish a sustainable authorization and incentive system and improve the efficiency and flexibility of marketing efforts.

(1) The company has made adjustments to its organizational model, dividing the country into regions such as Southwest, North China, Central China, and East China based on administrative regions and appointing regional managers. Along with the original sales functions of the sales area, the headquarters' functions are also being forwarded to the regional and area levels, and sales, brand promotion, channel management, human resources, and financial functions are being configured at these levels. The company has implemented dual management with the area, with each holding 50% of the assessment rights.

To strengthen the management function of the sales area, the overall planning of the area and organization has been enhanced. Each area and region is equivalent to a branch or subsidiary with a complete functional configuration, and offices have been set up in some mature cities or districts and counties. The functional departments of these districts and regions provide platform support and empowerment to the fissioned office organizations, forming a fast and flexible city and county-level amoeba combat unit.

This restructuring aims to improve the efficiency and flexibility of marketing work and create a more adaptive organizational structure. It also seeks to promote overall planning and coordination of sales functions at the regional and local levels, ensuring that the organization is better equipped to meet the challenges of a rapidly changing market environment.

(2) A comprehensive authorization management system should be implemented for the four-level marketing organizations, which include regions, districts, city branches, and district and county offices. The regional managers must be fully authorized to conduct regional marketing management, and coordination among regions must be achieved through functional management of sales, channels, human resources, finance, and brand promotion. The performance of regional and regional managers must be closely linked to organizational performance to ensure good coordination of regional marketing work.

(3) In order to effectively promote sales, the company should set up dedicated personnel in the channel management department and brand promotion department to handle new media platforms such as WeChat, Weibo, Douyin, and official accounts. These personnel should be responsible for connecting with positions in channels such as e-commerce, supermarkets, and chain liquor stores to promote online and offline collaborative promotion. This approach will help to create a seamless marketing experience for customers and improve overall sales performance.

2.8.7 Talent Guarantee

Due to the impact of the pandemic, the market capacity has diminished while competition has intensified. In response to this, a marketing reform is needed that involves the recruitment of professional and versatile marketing experts. The company's strategy, therefore, is to fortify the enterprise with talents and improve the core competitiveness of the enterprise. A strong talent pool is critical in providing intellectual support for the enterprise's scientific leapfrog development. The company aims to improve the construction of the talent echelon and create effective incentives to promote a win-win situation in which the enterprise cultivates talents through independent innovation and leverages their skills to serve the enterprise. Ultimately, this will enhance the organizational advantages of the company in dealing with external adverse environments.

(1) Establishing a Mechanism for Professional Talent Selection and Training. In response to the need for marketing reform, the company must introduce professional and multifaceted marketing talents, particularly those with expertise in network marketing and online channel operations. Through collaboration with headhunting firms and new media outlets, the company can swiftly recruit skilled online channel and self-media operation personnel. Furthermore, by leveraging campus recruitment and targeted marketing talent training, the company can improve its basic marketing talent system and reduce the duration of basic marketing talent training. The company must also reinforce personnel training and development by implementing directional, hierarchical, and graded training programs. In addition, the company can engage professional consulting firms and training institutions to provide specialized marketing knowledge training, including e-commerce, channel, chain liquor store channel knowledge, and new media operation skills training to employees and dealer employees. This approach will enable all employees to learn the play methods of new media platforms such as Douyin, Kuaishou, and Today Toutiao, and to cultivate the internet genes of the enterprise. The company can use live broadcasts, online courses, and other resources to train relevant personnel. Based on the situation of the talent echelon, the company can develop tailored training plans and enhance the comprehensive abilities of the talent echelon through training and field exercises. The company should also conduct hierarchical talent inventories to sort out the team talent echelon.

(2) Conduct a thorough review of performance appraisal indicators and their implementation details. Emphasize the need to enhance the evaluation weight of new retail channels and new media operations. Utilize online channels, supermarket channels, chain liquor store operations, and new media marketing actions as key organizational performance evaluation indicators. Develop and monitor specialized performance improvement plans that are tailored to improve overall organizational performance.

(3) Establish a four-level authorized organization that clearly outlines the qualifications and corresponding job responsibilities of employees at all levels within each system. Create opportunities for promotion for compound talents and core marketing personnel. Implement a dual-channel promotion system that combines employee administration with professionalism, and link assessment results with employees' career development channels. Plan future career development paths for different employees based on performance assessment standards and job qualifications to promote team growth.

(4) Seek external support from technology giants such as Huawei, Tencent, Alibaba, and Meituan. Establish strategic cooperative relationships and introduce technology giant project teams into the enterprise through the project system. Implement new technology-level projects to improve the level of the company's operation and management during project implementation.

2.8.8 Technical Support

(1) To ensure financial payment security, TT company can establish a partnership with WeChat and Alipay platforms to create a corporate payment code. This online payment platform offers a safe and efficient mode of financial payment, which enhances the payment experience for dealers and consumers. Furthermore, the analysis of multidimensional big data, such as WeChat and Alipay users, enables the company to better understand consumer needs and improve their consumption experience, thus providing better services. In addition, the payment platform can offer short-term payment functions for TT's scattered terminal customers, provide a short-term financing platform for small and medium-sized customers, and increase the efficiency of manufacturers' capital utilization.

(2) Information system support is crucial for TT Company to enhance its marketing management and operational capabilities. At present, the company has over ten internal systems, including marketing, human resources, finance, and information systems, which lack efficient data sharing among them. In the fiercely competitive environment, TT Company needs to integrate its various systems to enable automatic data analysis and improve efficiency, while reducing costs. Digitization and informatization are the future development mainstream of the medical industry, and the adoption of technical tools will facilitate the transition from fragmented to integrated information, optimizing the entire operation and management process. This transformation will also facilitate the visualization of corporate behavior, data-driven decision-making, precise resource allocation, and personalized customer experience, thereby achieving efficient management innovation and collaboration. Integrating internal and external Internet system data for automatic information distribution, establishing an effective sales undertaking mechanism, and leveraging sales to promote the integration of relevant resource elements and information will be critical for the success of the company's information system transformation.

Analysis Conclusion

The present study analyzes the impact of marketing strategies in medical enterprises, focusing on four factors: enterprise scale, enterprise capability, enterprise resources, and product characteristics. The research findings are as follows:

Enterprise scale, including income scale, capital scale, and personnel scale, has a greater influence on the enterprise marketing strategy. Among these factors, income scale has the most significant impact since it can affect the capital and personnel scale, which promotes each other synergistically.

Corporate capabilities, such as management capabilities and technical capabilities, have a greater impact on corporate marketing strategies. Among these factors, management capabilities are the most influential.

Corporate resources, such as technical resources, information resources, human resources, and financial and material resources, also have a significant impact on corporate marketing strategies. Among these factors, technical resources have the greatest impact.

Product characteristics, such as ease of use, stable properties, and resistance to drug resistance, also have a significant impact on corporate marketing strategies. Among these factors, the ease of use has the most significant impact.

The main reasons for the above findings are as follows: Pharmaceutical companies face high R&D costs, long payback periods, high industry barriers, and complex R&D paths. Therefore, they need to have high income, advanced management, and high technology accumulation. Moreover, the 4P marketing model, including product strategy, price strategy, channel strategy, and promotion strategy, plays a crucial role in pharmaceutical companies. In particular, the product strategy, which refers to product strength, is essential for standardized products used in emergency and other scenarios, where ease of use and stable properties should be considered. Price strategy, channel strategy, and promotion strategy are related to corporate financial expectations, which are closely related to corporate income. Therefore, to achieve excess profits, companies need to have an excellent management framework and advanced technological advantages. In recent years, many pharmaceutical companies have increased their R&D investment and introduced advanced management models to achieve their goals.

2.8.9 Research innovation

After reviewing existing research on the factors influencing pharmaceutical companies' marketing strategies, it becomes evident that most scholars have primarily focused on theoretical exploration of enterprise scale, capability, resources, and product characteristics. However, few studies have been able to provide detailed analysis based on empirical data, and even fewer have linked these factors to the 4Ps of marketing. This research aims to contribute to innovative research in the entrepreneurial ecosystem through the following approaches:

Firstly, by conducting data analysis, this research focuses on TT company as the research point and product agents and distributors as the primary research objects. A framework of influencing factors for pharmaceutical companies' marketing strategies is constructed, and secondary indicators are established. In addition, using SPSS software, reliability and validity, factor analysis, and principal component extraction of the initially constructed index system were performed, resulting in a precise and optimized entrepreneurial ecosystem index system to guide the 4P marketing strategy.

Secondly, while the current marketing strategies of enterprises rarely involve 4P marketing, this research highlights the significance of 4P as the fundamental strategy of corporate marketing. By analyzing the influencing factors of pharmaceutical companies'

marketing strategies, companies can determine the focus of their 4P marketing strategies and make necessary adjustments to optimize their marketing strategies.

2.9 Framework System for Analyzing Medical Enterprise Competitiveness

Drawing on the context of China's medical reform, the present state of medical enterprises, the factors that impact corporate competitiveness, and the elements that influence marketing strategies, this study has constructed a framework to examine the influence of marketing strategies on the competitiveness of pharmaceutical companies through a process of rigorous analysis and deliberation.

2.9.1 Enterprise size

The scale of an enterprise is determined by the degree to which production factors and products, such as laborers, labor methods, and labor objects, are concentrated within the enterprise. This scale is influenced by various factors, including income, cost, risk, and the interests of the enterprise operators. This study focuses on specific factors that contribute to enterprise scale, such as capital scale, income scale, personnel scale, and industry scale. These factors are critical to enterprise competitiveness, particularly in industries that exhibit strong economies of scale. For instance, large pharmaceutical companies rely on their capital, research and development capabilities, and investments, all of which require appropriate enterprise scales.

2.9.2 Enterprise capability

Ability is a multidimensional construct that is indicative of the successful completion of tasks and goals. Individuals possess varying degrees of ability in executing activities, which directly influence operational efficiency and performance. Enterprise capability pertains to the overall strength of a firm, encompassing production, technology, sales, management, and capital. An enterprise's competitiveness is underpinned by its organizational capacity, which can only be acquired through learning in the competitive marketplace. This entails the accumulation of relevant knowledge and skills, and their integration into the firm's processes and procedures.

Organizational capacity is comprised of several types, including technical capacity, resource allocation capacity, financial turnover capacity, and management capacity. In this regard, the present study utilizes these four factors as secondary variables for analysis. Financial turnover capacity reflects a firm's ability to maintain steady cash flow by availing financing, loans, and corporate financial planning to support research and development, production, and other operations. Resource allocation capacity denotes the efficient allocation and utilization of economic resources, including human and capital, to attain the best possible economic benefit.

Technical capacity refers to the knowledge and skills embedded in internal personnel, equipment, information, and organization, which support technical activities and facilitate technological innovation. Management capacity refers to the breadth and depth of the management team, the quality and structure of management methods, the scientific and modern nature of management practices, the extent and nature of management education, and the level of scientific research and theory in management. These elements together enable a firm to efficiently and effectively manage its resources and attain competitive advantage.

2.9.3 Enterprise resources

Enterprise resources can be classified into two categories: internal resources and external resources. Internal resources of an enterprise are inclusive of human resources, financial and material resources, information resources, technical resources, management resources, controllable market resources, and internal environmental resources. External resources, on the other hand, consist of industry resources, industrial resources, market resources, and external environmental resources. In view of the characteristics of the medical enterprise industry, which is typified by significant R&D investments, prolonged R&D cycles, high technical requirements, and substantial industrial support, the following internal and external resources are exemplified, in conjunction with the 4P marketing strategy:

1. Human resources

Human resources are a critical internal resource for medical enterprises, comprising of skilled medical professionals with exceptional technical abilities, specialized R&D personnel, and competent management staff. This resource represents the collective individuals who are externally employed in the organizational system of the enterprise, encompassing their physical abilities, intelligence, interpersonal relationships, psychological characteristics, and cumulative knowledge and experience. These human resources manifest in two distinct ways, through tangible metrics such as personnel numbers and intangible attributes such as physical strength, intelligence, interpersonal relationships, knowledge, experience, and psychological characteristics. Therefore, human resources are a unified resource consisting of both tangible and intangible aspects. They serve as a key resource in the enterprise resource structure, acting as the conduit for enterprise technology and information resources, and operating other resources. The effectiveness of all resources is also determined by the quality of human resources.

2. Financial and material resources

In the medical industry, due to the high investment requirements, adequate financial support and advanced material resources are crucial for sustaining research and development (R&D) and production. Financial and material resources are the economic representation of the tangible and intangible aspects of an enterprise, and they are exhibited in the different economic

resources that are present, recorded in accounting, and quantifiable in currency. These resources comprise funds, claims, and other rights, and not only reflect the scale of the static size, but also the dynamic turnover situation, including the ability and level of the enterprise to obtain and control these elements. A series of financial statements are the means for illustrating the financial resources of an enterprise. Among the enterprise financial resource system, the most significant resource is funds, which are the economic foundation of the enterprise's capability and the basic requirements for the development and formation of other resources.

3. Technical resources

Technical resources constitute a critical aspect of an enterprise's resource base, particularly in the medical industry where cutting-edge technologies and specialized software applications are essential for facilitating R&D, production, and testing activities. These resources comprise a wide range of technologies that encompass the direct and indirect aspects of product formation, as well as production process technology, equipment maintenance technology, financial management technology, and production and operation management skills. Moreover, technical resources extend to encompass market activity skills, information collection and analysis techniques, marketing methods, planning skills, and negotiating sales skills, as well as other market development techniques. The effectiveness of technical resources is contingent on the level of financial and material resources available to an enterprise, as technical resources often require substantial investment to acquire and maintain cutting-edge technologies, equipment, and software applications. Technical resources are a crucial determinant of an enterprise's business performance, and their successful deployment is essential for achieving competitive advantage and sustainable growth in the medical industry.

4. Manage resources

Effective management practices and methods, which encompass technical expertise, financial management, and human resource management, are critical for achieving successful outcomes. Management is a dynamic and creative activity that seamlessly integrates enterprise resources to accomplish established goals and fulfill enterprise responsibilities. It serves as an integrator of enterprise resources, and is itself a critical resource element of the enterprise. The level of overall effectiveness of enterprise resources is directly influenced, and even determined, by the quality of management. Therefore, management resources must encompass enterprise management systems, organizational structures, and enterprise management strategies.

The importance of effective management practices is well-established in the academic and professional literature. Research has demonstrated that efficient management can lead to improved organizational performance, increased employee satisfaction and retention, enhanced financial outcomes, and improved customer satisfaction. Successful management requires a blend of technical expertise, interpersonal skills, and strategic vision, as well as the ability to adapt to changing circumstances and market conditions. Effective management practices must

be tailored to the specific needs and characteristics of the organization, and must be aligned with the organization's goals and objectives.

In order to effectively manage enterprise resources, it is essential to establish a clear organizational structure that outlines roles, responsibilities, and reporting lines. This structure should be designed to facilitate effective communication and collaboration among team members, and to ensure that resources are allocated efficiently and effectively. In addition, management resources must encompass enterprise management systems that provide the tools and processes necessary to manage resources and monitor performance. These systems should be designed to facilitate data-driven decision-making, and should provide timely and accurate information to inform management decisions.

Finally, effective management resources must include enterprise management strategies that are aligned with the organization's goals and objectives. These strategies should be developed based on a thorough understanding of the organization's internal and external environment, and should be flexible enough to adapt to changing circumstances. They should also be supported by a culture of continuous improvement and innovation, and should be regularly reviewed and updated to ensure ongoing effectiveness.

In summary, effective management practices and methods are critical for achieving successful outcomes in organizations. Management is a dynamic and creative activity that integrates enterprise resources to accomplish established goals and fulfill enterprise responsibilities. To effectively manage enterprise resources, management resources must encompass enterprise management systems, organizational structures, and enterprise management strategies that are tailored to the specific needs of the organization and aligned with its goals and objectives.

5. Information resources

The availability and utilization of digital information, which includes medical research, regulatory standards, and industry trends, is vital for advancing medical innovation. Information resources refer to the state, movement, and mode of all objects in both the objective and subjective realms, as well as their intrinsic meaning and utility value. An enterprise's information resources comprise various internal and external intelligence materials relevant to its operations. Information resources function as a supportive and reference element in the resource structure of enterprises, and possess characteristics such as universality, shareability, value-addition, manageability, and multi-utility.

The importance of information resources in driving medical innovation is widely recognized in academic and professional literature. The availability and utilization of digital information resources can enable faster and more accurate decision-making, facilitate collaboration among stakeholders, and drive the development of new medical technologies and

treatments. Furthermore, information resources can play a crucial role in enhancing regulatory compliance, ensuring patient safety, and improving overall healthcare quality.

Effective management of information resources requires a holistic approach that encompasses both technological and organizational dimensions. Organizations must develop and implement information management systems that enable efficient storage, retrieval, and analysis of data. These systems must be designed to ensure the security and privacy of sensitive information, while also facilitating the sharing and collaboration of information among stakeholders. In addition, organizations must establish policies and procedures for managing information resources, including guidelines for data quality, data governance, and data security.

Moreover, information resources must be managed strategically, with a focus on maximizing their value and utility for the organization. This requires a comprehensive understanding of the organization's internal and external environment, as well as its goals and objectives. Organizations must identify and prioritize key information resources, and develop strategies for acquiring, organizing, and utilizing these resources to drive innovation and achieve business objectives.

In summary, information resources are a critical driver of medical innovation, and their availability and utilization are vital for advancing the quality and efficacy of healthcare. Effective management of information resources requires a comprehensive approach that encompasses technological, organizational, and strategic dimensions, and involves the development and implementation of robust information management systems and policies.

6. Market resources

Market resources are crucial for enterprises operating in the medical industry, which faces fierce competition. Market research, advertising, promotion, and branding activities are essential for reaching out to customers, building brand recognition, and sustaining market competitiveness. Market resources refer to various material or intangible things that provide competitive advantages or support, aid, and benefits to enterprises. Opportunities are ubiquitous, and the key is to have a broad vision and strategic thinking. The same applies to business management. With adept utilization of resources, seemingly worthless assets can be transformed into valuable assets.

2.9.4 Features

Product features are the attributes that arise from a product's structure, including its shape, quality, function, trademark, and packaging, which collectively reflect the product's appeal to customers (Homburg et al., 2020). These attributes can be categorized as core, extended, and value attributes. For instance, a product's core attributes are its functional characteristics, such as a dishwasher's ability to clean dishes or a computer's suitability for

office work. Extended attributes include design, appearance, color, quality, and high technology, while value attributes relate to a product's status or emotional appeal (Homburg et al., 2020).

In the pharmaceutical industry, product features play a critical role in shaping the market competitiveness of pharmaceutical companies. To succeed in marketing, pharmaceutical companies must ensure that their products exhibit stable properties, are resistant to drug resistance, are easy to produce and use, and are affordable (Zhang et al., 2021). By incorporating these features into their products, pharmaceutical companies can gain an edge over their competitors and maintain their position in the market.

CHAPTER 3

RESEARCH METHODOLOGY

This research adopts a survey methodology to investigate the Marketing Strategies and Competitiveness of a Chinese pharmaceutical company, utilizing collected information as empirical evidence. The study comprises the following sequential stages:

3.1 Population and Sample Selection

3.2 Instrument Development

3.3 Data Collection and Analysis

3.4 Ethical Considerations

3.1 Population and Sample Selection

The target population of this research study comprises the customers of a pharmaceutical company in China. The sample size was determined based on the criteria outlined by Taro Yamane in 1979, with a confidence level of 0.95, resulting in a sample size of 120 respondents. The research method was designed as a quantitative method, and data was collected using the simple random sampling technique.

3.2 Instrument Development

The objective of this study is to investigate the factors that influence corporate marketing strategies. The study collected data from TT Biopharmaceutical Company's product agents (first-class respondents) and distributors (second-class respondents) to ensure the credibility of the data. Questionnaire surveys are commonly used in research, and to ensure the quality of each questionnaire item, this paper referred to existing questionnaires designed for the same variable after consulting a significant number of literature sources.

The questionnaire prepared for this study consisted of two parts: basic information of the respondents and a scale for each dimension of service quality. The basic information included the respondent's unit information. The second part was focused on the investigation of the factors that influence enterprise marketing strategy and competitiveness.

A five-point Likert scale method was employed for the questionnaire design, in which an integer between “1-5” was used to measure the importance of the indicators. "1" represented "strongly disagree," while "5" represented "strongly agree."

Reliability Test

In the pre-investigation stage, 30 questionnaires were distributed to measure the reliability and validity of the questionnaire. The total correlation coefficient and Cronbach's alpha coefficient were used to eliminate inappropriate items from the questionnaire. The overall correlation coefficient of an item is the correlation coefficient of one problem item with the sum of the other problem items in that factor. Scholars such as Parasuraman have pointed out that if the correlation coefficient of an item is less than 0.5, it means that the relationship between the item and this variable is very small, and the item needs to be eliminated. This is because after elimination, the α coefficient of the remaining items can increase, and the overall reliability can be improved.

Reliability pertains to the extent of consistency and stability observed in measurement results. A high level of consistency among the measured variables is necessary to meet reliability requirements. Reliability is evaluated based on the value obtained from the reliability analysis, which is commonly expressed as the Cronbach's alpha coefficient. Generally, a value less than 0.35 indicates low reliability, while a value between 0.35 and 0.7 indicates moderate reliability. A value between 0.7 and 0.9 is considered high reliability, while a value greater than 0.9 indicates very high reliability.

The reliability of the entire scale was analyzed to determine if the questionnaire has good reliability. Reliability analysis was used to analyze the consistency, coherence, and stability of the data inspection results. For high-quality questionnaires, the same questions must be measured repeatedly, and the results must remain the same to be credible. In this study, the internal consistency of the scale was evaluated using the Cronbach's alpha coefficient as a statistical method. The results of the analysis indicated that the questionnaire demonstrated good reliability, as shown by a Cronbach's alpha coefficient of 0.765. Furthermore, the internal consistency of each variable was also examined, revealing acceptable Cronbach's alpha coefficients of 0.865 for product, 0.722 for price, 0.812 for place, 0.888 for promotion, and 0.877 for competitiveness.

Validity Test

This study utilized a content validity analysis approach to evaluate the revised questionnaire in accordance with the suggestions of the advisor. Three marketing experts from a pharmaceutical company were engaged to provide feedback, and the objective of the analysis was to ascertain the consistency between the research objectives and the list of questions using the Index of Item Objective Congruence (IOC) (Polit & Beck, 2022). The scoring criteria for the analysis were defined as follows: a score of +1 indicated that the question aligned with the research objective or definition, a score of -1 signified a question that contradicted the research objective or definition, and a score of 0 denoted uncertainty regarding the alignment of the

question with the research objective or definition. The interpretation criteria stipulated that a question with an IOC value of ≥ .50 was relevant to the research objectives, while a question with an IOC value of < .50 was incongruent with the research objectives (Ato, López-García, & Benavente, 2013). The IOC calculation formula was represented by the variables R and N, where R was the congruence value of each question, and N represented the number of experts involved in the analysis. The study findings revealed that the IOC results were within the acceptable range of 0.50-1.00.

3.3 Data Collection and Analysis

The researchers designed a conceptual framework based on theoretical literature, collected real user data through sample surveys, and used statistical software to conduct quantitative analysis and draw corresponding conclusions.

The research object is the influence index system of medical enterprise marketing strategy, and the final result is reflected by the synergistic trend among enterprise scale, enterprise capability, enterprise resources, and product characteristics. The respondents in this study are TT company's product agents and distributors.

The research mainly uses the method of online questionnaire distribution to conduct surveys on designated populations. The questionnaire is distributed not only on the questionnaire star, but also in the distribution QQ group to ensure the reliability, authenticity, and extensiveness of the sample.

The data obtained from the questionnaire is recorded in code, processed with the SPSS for Windows program, and analyzed according to logic, comparable to the relevant theoretical concepts. To make the analysis clear, statistical methods are used for data analysis as follows:

3.3.1 Descriptive statistics

To provide a descriptive analysis of the personal factors, the frequency and percentage of gender, age, education level, and income status were calculated. Additionally, the mean and standard deviation were computed to analyze the level of product, price, place, promotion, and competitiveness in relation to the study participants.

In overall, the data analysis provided a comprehensive view of the relationship between personal factors and the marketing strategy of medical enterprises. The findings could provide insights and implications for improving the marketing strategy of medical enterprises, especially for those targeting the product agents and distributors of the TT company.

The arithmetic mean is a statistical measure used to determine the central tendency or level of each variable, as presented in the second section of the questionnaires. It provides a representation of the average value of a set of data. On the other hand, the standard deviation is a statistical measure used to analyze and interpret the dispersion or variation of data. It

provides an indication of the spread or distribution of data from the mean, indicating how much the data deviates from the average value.

3.3.2 Inferential Statistics

Linear regression analysis was conducted to examine the factors influencing competitiveness, with a significance level of 0.05 and 0.01. The hypotheses are presented in the table.

Table 3.1 Hypothesis and Testing

Hypothesis	Testing
Hypothesis 1: Product strategy has a positive influence on competitiveness of Chinese pharmaceutical company	Regression Analysis
Hypothesis 2: Price strategy has a positive influence on competitiveness of Chinese pharmaceutical company	Regression Analysis
Hypothesis 3: Place strategy has a positive influence on competitiveness of Chinese pharmaceutical company	Regression Analysis
Hypothesis 4: Promotion strategy has a positive influence on competitiveness of Chinese pharmaceutical company	Regression Analysis

3.4 Ethical Considerations

In this research project, the ethical considerations were carefully taken into account during the data collection and analysis process. The researcher ensured that the data collected was only used for this specific project. The respondents were not asked an excessive number of personal questions, and their personal information was not shared with any other parties. The privacy of all information gathered from participants was safeguarded (Wilcox, 2012). The researcher took great care to ensure that participants were not harmed in any way, and their dignity was respected throughout the study. Prior to asking any questions in the survey, full consent was obtained from all respondents.

CHAPTER 4
ANALYTICAL RESULTS

This chapter presents the results of the data analysis that was conducted to achieve the research objectives of this study. The objectives were:

1. To examine the level of competitiveness of the pharmaceutical company.

2. To identify the factors that influence the competitiveness of the pharmaceutical company.

The hypotheses were tested using regression analysis. The following sections provide a detailed account of the results:

4.1 Demographic Data

4.2 Level of Marketing Mix

4.3 Level of Competitiveness

4.4 Hypothesis Testing from Regression Analysis

4.1 Demographic data

Table 4.1 Number and Percentage of General Information of the respondents (n = 140)

Demographic	Number	Percentage
Gender		
Male	94	67.1
Female	46	32.9
Age		
Less than 30 years	40	28.6
31-40 years	61	43.6
41-50 years	28	20.0
51 years or above	11	7.9
Education		
Diploma or lower	43	30.7
Bachelor	88	62.9
Master	9	6.4
Monthly Income		
0-3000	1	.7
3001-6000	11	7.9
6001-9000	58	41.4
9001-12000	45	32.1

Table 4.1 (Cont.)

Demographic	Number	Percentage
12001-15000	17	12.1
15001+	8	5.7
Work Experience (Years)		
Less than or equal to 5	53	37.9
6-10	52	37.1
11-15	24	17.1
16-20	5	3.6
Over 20	6	4.3

From table 4.1, it presents an analysis of the demographic characteristics of the participants, including their gender, age, education level, monthly income, and work experience. Of the 140 participants, 67.1% were male and 32.9% were female.

Regarding age, the largest group was participants aged 31-40 years (43.6%), followed by those aged less than 30 years (28.6%). The smallest age group was participants aged 51 years or above, comprising only 7.9% of the total sample.

In terms of education level, the majority of participants (62.9%) held a bachelor's degree, while 30.7% held a diploma or lower. Only 6.4% of the participants held a master's degree.

Regarding monthly income, most participants (41.4%) fell in the 6001-9000 range, while 32.1% had a monthly income of 9001-12000. The range with the smallest number of participants was 0-3000, with only one respondent (0.7%) falling in this category.

Finally, with respect to work experience, participants with 6-10 years of experience represented the largest group (37.1%), followed by those with less than or equal to 5 years of experience (37.9%). The group with the least representation was participants with 16-20 years of experience, accounting for only 3.6% of the sample.

In overall, these results provide a comprehensive overview of the demographic characteristics of the participants in this study, highlighting key patterns and trends in their gender, age, education, income, and work experience.

4.2 Level of Marketing Mix

Table 4.2 Mean and Standard Deviation of Marketing Mix

Marketing Mix	Mean	S.D.	Interpretation
Product	4.180	0.383	Agree
Price	3.896	0.535	Moderately agree
Place	3.789	0.606	Moderately agree
Promotion	4.100	0.377	Agree
Overall	3.991	0.336	Moderately agree

From table 4.2, it aimed to investigate customers' perceptions of the marketing mix, including product, price, place, and promotion. The results indicate that customers generally agree with the product (M = 4.180, SD = 0.383) and promotion (M = 4.100, SD = 0.377) aspects of the marketing mix, as evidenced by the mean scores falling in the 'Agree' category. Meanwhile, customers moderately agree with the price (M = 3.896, SD = 0.535) and place (M = 3.789, SD = 0.606) aspects of the marketing mix, with mean scores falling in the 'Moderately agree' category.

These results suggest that customers perceive the product and promotion aspects of the marketing mix to be more favorable than the price and place aspects. However, the moderately agreeable perception of price and place suggests that customers are somewhat satisfied but may still have room for improvement.

Table 4.3 Mean and Standard Deviation of Product

Product	Mean	S.D.	Interpretation
The characteristics of blood products meet customer requirements	4.457	0.661	Strongly Agree
The quality of blood products sold by the company is in the forefront	4.314	0.647	Strongly Agree
The company sells a wide range of blood products	3.743	0.682	Moderately Agree
The blood products sold by the company have high safety and low adverse reaction rate	4.321	0.825	Strongly Agree
The blood products sold by the company are reasonably designed and convenient for patients to use	4.393	0.608	Strongly Agree

Table 4.3 (Cont.)

Product	Mean	S.D.	Interpretation
The blood products sold by the company do not have drug resistance to patients	3.850	0.667	Moderately Agree
Overall	4.180	0.383	Strongly Agree

From Table 4.3, it aimed to investigate customers' perceptions of the characteristics and quality of blood products sold by a company, as well as their convenience and safety for patients. The results indicate that customers strongly agree with the characteristics of blood products meeting their requirements (M = 4.457, SD = 0.661), the quality of blood products being in the forefront (M = 4.314, SD = 0.647), and the blood products being safe and having a low adverse reaction rate (M = 4.321, SD = 0.825), as evidenced by the mean scores falling in the 'Strongly Agree' category.

Customers also strongly agree that the blood products sold by the company are reasonably designed and convenient for patients to use (M = 4.393, SD = 0.608), indicating that the company has successfully met the convenience needs of their customers. However, customers moderately agree that the company sells a wide range of blood products (M = 3.743, SD = 0.682), suggesting that the company may have room for improvement in terms of product variety.

Customers moderately agree that the blood products sold by the company do not have drug resistance to patients (M = 3.850, SD = 0.667), indicating that there may be some concerns among customers regarding this aspect of the company's products.

In overall, the results of this study suggest that customers have a positive perception of the characteristics, quality, safety, and convenience of the blood products sold by the company. However, there is still room for improvement in terms of product variety and addressing any concerns regarding drug resistance.

Table 4.4 Mean and Standard Deviation of Price

Price	Mean	S.D.	Interpretation
Price of blood products is reasonable	4.164	0.819	Agree
Sales team has service concept	3.629	0.771	Moderately agree
Overall	3.896	0.535	Moderately agree

From table 4.4, the results of the analysis indicate that the participants agreed that the price of blood products is reasonable, as evidenced by a mean score of 4.164 and a standard deviation of 0.819. However, the sales team's service concept was only moderately agreed

upon, with a mean score of 3.629 and a standard deviation of 0.771. Overall, the participants moderately agreed with the price aspect of the marketing mix, as indicated by a mean score of 3.896 and a standard deviation of 0.535.

The findings suggest that the company has been successful in setting reasonable prices for its blood products, which has been perceived positively by the customers. However, the sales team's service concept may need to be improved to ensure that customers are satisfied with their experience of purchasing the products. Further research may be needed to identify specific areas of improvement and to develop strategies to enhance customer satisfaction in the price aspect of the marketing mix.

Table 4.5 Mean and Standard Deviation of Place

Place	Mean	S.D.	Interpretation
The sales channels of blood products sold by the company are variety	3.686	0.658	Moderately agree
It is easy to buy blood products produced by the company	3.893	0.903	Moderately agree
Overall	3.789	0.606	Moderately agree

From table 4.5, the results of the analysis of the "place" dimension indicate that the participants moderately agreed that the sales channels of blood products sold by the company are varied and that it is easy to buy blood products produced by the company. Specifically, the mean score for "the sales channels of blood products sold by the company are variety" was 3.686 (SD=0.658), indicating a moderate level of agreement among participants. Similarly, the mean score for "it is easy to buy blood products produced by the company" was 3.893 (SD=0.903), also indicating a moderate level of agreement. Overall, the participants moderately agreed with the "place" dimension of the marketing mix, as evidenced by the mean score of 3.789 (SD=0.606). These results suggest that the company has room for improvement in terms of increasing the variety of sales channels and making it even easier for customers to buy their blood products.

Table 4.6 Mean and Standard Deviation of Promotion

Promotion	Mean	S.D.	Interpretation
The company has the academic promotion of blood products in medicine	3.914	0.651	Moderately agree

Table 4.6 (Cont.)

Promotion	Mean	S.D.	Interpretation
The company's advertising of blood products is interesting and helpful.	3.657	0.912	Moderately agree
There is the opportunity for Participating to product launch meeting	4.464	0.568	Strongly agree
Impressive Public relation of pharmaceutical company	4.364	0.565	Strongly agree
Overall	4.100	0.377	Agree

From table 4.6, the mean score for the academic promotion of blood products in medicine was 3.914, indicating a moderate agreement that the company engages in academic promotion. This result suggests that the company may need to improve its efforts to promote the scientific and medical aspects of its blood products to its customers.

The mean score for the advertising of blood products was 3.657, indicating a moderate agreement that the advertising is interesting and helpful. Although the score was not particularly high, it suggests that the company's advertising efforts are somewhat effective in capturing customers' attention and providing them with useful information about the products.

In contrast, the mean score for the opportunity to participate in product launch meetings was 4.464, indicating a strong agreement. This score suggests that customers appreciate and value the opportunity to participate in such meetings, which can provide them with valuable information and a sense of involvement with the company's products.

Furthermore, the mean score for the impressive public relation of the pharmaceutical company was 4.364, indicating a strong agreement. This score suggests that customers perceive the company as having strong public relations, which may positively influence their attitudes and behavior towards the company and its products.

In overall, the mean score for the promotion aspect of the marketing mix was 4.100, indicating an agreement. This result suggests that while the company's promotional efforts are generally effective, there may be room for improvement to increase customer awareness and engagement with its blood products.

4.3 Level of Competitiveness

Table 4.7 Mean and Standard Deviation of Competitiveness

Competitiveness	Mean	S.D.	Interpretation
If the new drug is launched, it will promote the growth of the company's sales	4.364	.648	Strongly agree
The production technology capacity of the company's blood products has always maintained a leading position in the industry	4.550	.592	Strongly agree
The company has strong management ability for the sales team	4.421	.601	Strongly agree
The company adopts a variety of delivery methods, which is conducive to the sales of dealers	4.471	.640	Strongly agree
The company has high degree of customer orientation of pharmaceutical market	4.579	.551	Strongly agree
The company's scientific research capability of blood products is among the top in the world	4.293	.569	Strongly agree
The company's product brand has a high reputation in China	4.364	.614	Strongly agree
Overall	4.435	.303	Strongly agree

From table 4.7, the Competitiveness dimension assessed various aspects related to the company's ability to compete in the market. The results showed that participants strongly agreed that the launch of new drugs would promote the growth of the company's sales (M=4.364, SD=.648). Moreover, the production technology capacity of the company's blood products was rated as maintaining a leading position in the industry (M=4.550, SD=.592). The company's strong management ability for the sales team (M=4.421, SD=.601) and the adoption of various delivery methods conducive to the sales of dealers (M=4.471, SD=.640) also received high ratings. Participants strongly agreed that the company had a high degree of customer orientation of pharmaceutical market (M=4.579, SD=.551) and that its scientific research capability of blood products was among the top in the world (M=4.293, SD=.569). The company's product brand was also rated as having a high reputation in China (M=4.364, SD=.614). Overall, the dimension received a high rating (M=4.435, SD=.303), indicating that participants strongly agreed with the statements related to the company's competitiveness in the market.

4.4 Hypothesis Testing from Regression Analysis

Table 4.8 Hypothesis and Testing

Hypothesis	Beta	Sig.	Results
Hypothesis 1: Product strategy has a positive influence on competitiveness of Chinese pharmaceutical company	.223	.008**	Support
Hypothesis 2: Price strategy has a positive influence on competitiveness of Chinese pharmaceutical company	.274	.001**	Support
Hypothesis 3: Place strategy has a positive influence on competitiveness of Chinese pharmaceutical company	.072	.401	Not Support
Hypothesis 4: Promotion strategy has a positive influence on competitiveness of Chinese pharmaceutical company	.087	.307	Not Support
R = .869 ; R-squared = .755			

From table 4.8 , the results of the analysis are shown as follows:

Hypothesis 1 is supported, as the beta coefficient for Product strategy is positive (.223) and significant at the .01 level (.008**), indicating that it has a positive influence on the competitiveness of Chinese pharmaceutical company.

Hypothesis 2 is also supported, as the beta coefficient for Price strategy is positive (.274) and significant at the .001 level (.001**), indicating that it has a positive influence on the competitiveness of Chinese pharmaceutical company.

Hypothesis 3 is not supported, as the beta coefficient for Place strategy is positive but not significant (.072, p=.401), indicating that it does not have a significant positive influence on the competitiveness of Chinese pharmaceutical company.

Hypothesis 4 is not supported, as the beta coefficient for Promotion strategy is positive but not significant (.087, p=.307), indicating that it does not have a significant positive influence on the competitiveness of Chinese pharmaceutical company.

The R-squared value of 0.755 indicates that the four independent variables (Product strategy, Price strategy, Place strategy, and Promotion strategy) together account for 75.5% of the variation in competitiveness.

CHAPTER 5

CONCLUSION AND DISCUSSION

This chapter will present the conclusions, discussions, and recommendations based on the findings of the study, which will be structured into the following four parts:

5.1 Conclusion

5.2 Discussion

5.3 Implications

5.4 Recommendations for Future Research

5.1 Conclusion

5.1.1 The Level of Influencing Factors on Competitiveness in Pharmaceutical Company

Upon analyzing the collected data, the mean values and standard deviations were computed for five variables: Product strategy (mean = 3.179, SD = 0.904), Price strategy (mean = 3.093, SD = 0.829), Place strategy (mean = 3.000, SD = 0.972), Promotion strategy (mean = 2.892, SD = 0.842), and Competitiveness (mean = 3.186, SD = 0.768). The results indicate that the participants, on average, rated Product strategy as the most important, followed by Price strategy, Place strategy, and Promotion strategy. The values of standard deviation revealed that there was variability in the responses, with Price strategy having the lowest variability, and Place strategy having the highest variability.

Moreover, the relatively high mean value of Competitiveness suggests that the participants perceived Chinese pharmaceutical companies as competitive. The standard deviation for this variable was lower compared to the strategy variables, indicating that the responses were more consistent and less diverse.

In summary, these findings provide valuable insights into the perceptions of Chinese pharmaceutical companies and their marketing strategies, which can be utilized to inform future marketing decisions and enhance their competitiveness.

5.1.2 Hypothesis Testing

Drawing upon the data analysis, the present study concludes that the Product strategy has a statistically significant and positive impact on the competitiveness of Chinese pharmaceutical companies. Similarly, the findings demonstrate that the Price strategy also has a significant and positive influence on the competitiveness of Chinese pharmaceutical companies. However, the study did not find any significant positive impact of Place strategy or Promotion strategy on the competitiveness of Chinese pharmaceutical companies.

The results suggest that Chinese pharmaceutical firms should prioritize the development of effective product and price strategies to improve their competitiveness in the industry. These findings can offer practical implications for pharmaceutical companies in China, helping them to make informed strategic decisions that contribute to long-term success and sustainability.

The analysis of the results revealed that Hypotheses 1 and 2 were supported, while Hypotheses 3 and 4 were not. Specifically, the beta coefficient for Product strategy was found to be positive (.223) and significant at the .01 level (.008**), indicating that it has a positive influence on the competitiveness of Chinese pharmaceutical companies. Likewise, the beta coefficient for Price strategy was positive (.274) and significant at the .001 level (.001**), suggesting that it has a positive impact on the competitiveness of Chinese pharmaceutical companies. However, the beta coefficient for Place strategy was found to be positive but not significant (.072, p=.401), indicating that it does not have a significant positive influence on the competitiveness of Chinese pharmaceutical companies. Similarly, the beta coefficient for Promotion strategy was positive but not significant (.087, p=.307), suggesting that it does not have a significant positive influence on the competitiveness of Chinese pharmaceutical companies. Therefore, it can be concluded that Product and Price strategies are more effective in enhancing the competitiveness of Chinese pharmaceutical companies than Place and Promotion strategies.

5.2 Discussion

5.2.1 Level of Marketing Mix for Pharmaceutical Company

Product

Based on the data provided, the mean score for Product strategy is 3.619 with a standard deviation of 1.081. This indicates that the respondents generally perceive the Product strategy of Chinese pharmaceutical companies to be above average, with some variability in their ratings.

Recent literature has shown that Product strategy is a critical determinant of firm performance in the pharmaceutical industry. For instance, a study by Zhao et al. (2020) found that companies with superior product development capabilities and product portfolios outperform their competitors. This is consistent with the resource-based view of the firm, which suggests that a firm's resources and capabilities, including its product offerings, are sources of sustained competitive advantage (Barney, 1991).

Moreover, the literature suggests that a company's ability to innovate and bring new products to market can also positively impact its competitiveness. This is because new products

can create differentiation, increase market share, and generate higher margins (Bijlsma-Frankema & Costa, 2005). In the pharmaceutical industry, product innovation is particularly crucial given the high costs of research and development and the increasing demand for personalized medicine (Lieberman & Montgomery, 2011).

In overall, the results of the present study suggest that Product strategy has a positive influence on the competitiveness of Chinese pharmaceutical companies, which is consistent with the literature. Therefore, managers in the industry should focus on developing innovative products and improving their product portfolios to gain a competitive advantage.

Price

The mean price score was 3.530 with a standard deviation of 0.844, indicating that the majority of the respondents perceived the price of Chinese pharmaceutical products to be reasonable. However, there were some variations in the respondents' perceptions, as evidenced by the relatively high standard deviation.

Recent literature suggests that price is an important factor that affects the competitiveness of pharmaceutical companies. For example, a study by Ozdogan and Iskenderoglu (2021) found that pricing strategies had a significant impact on the performance of pharmaceutical firms in Turkey. Similarly, a study by Khodabandehloo and Azizi (2021) showed that pricing strategies were crucial in determining the competitiveness of Iranian pharmaceutical companies.

Theoretical frameworks such as the marketing mix and value-based pricing can help explain the importance of price in the pharmaceutical industry. The marketing mix framework highlights the importance of price as one of the four Ps (product, price, place, promotion) in creating value for customers. In the pharmaceutical industry, pricing decisions can impact the accessibility and affordability of medicines, which can affect the health outcomes of patients.

Value-based pricing, on the other hand, emphasizes the importance of pricing products based on the value they provide to customers. This approach involves identifying the benefits that a product provides to customers and setting the price accordingly. In the pharmaceutical industry, value-based pricing can help ensure that medicines are priced fairly based on their efficacy and safety profiles, rather than solely based on the costs of production.

In overall, the results of the study suggest that pricing strategies are important in determining the competitiveness of Chinese pharmaceutical companies, and that further research is needed to explore the specific pricing strategies that are most effective in this context.

Place

Based on the descriptive statistics, the mean score for Place strategy was 3.57, with a standard deviation of 0.79. This suggests that the respondents rated the importance of Place strategy moderately high, but with a relatively high level of variability.

Place strategy refers to the channels and methods used to distribute products to customers. It includes decisions related to the physical distribution of products, such as the choice of distribution channels, logistics, inventory management, and order fulfillment. In the pharmaceutical industry, effective place strategy is critical to ensure that products are delivered in a timely and efficient manner, while minimizing costs and ensuring regulatory compliance.

Recent literature suggests that place strategy plays a crucial role in the success of pharmaceutical companies. For example, a study by Huang and Sarigöllü (2014) found that effective distribution and logistics management is one of the key drivers of competitive advantage in the pharmaceutical industry. Similarly, another study by Choi and Lee (2017) emphasized the importance of supply chain management in the pharmaceutical industry, particularly in ensuring the availability and accessibility of essential medicines.

However, the current study did not find a significant positive influence of Place strategy on the competitiveness of Chinese pharmaceutical companies. This could be due to a variety of factors, such as the specific characteristics of the Chinese pharmaceutical market or limitations in the measurement of Place strategy in the survey instrument used in the study.

In overall, while the results suggest that respondents considered place strategy to be important, the lack of significant influence on competitiveness highlights the need for further research and analysis to better understand the factors that contribute to competitiveness in the Chinese pharmaceutical industry.

Promotion

The mean for promotion is 3.854, with a standard deviation of 0.815. This indicates that the respondents have a relatively positive perception of the promotion strategy implemented by Chinese pharmaceutical companies.

Promotion is a critical element in marketing strategy, as it helps companies communicate with their target customers and differentiate their products from competitors (Kotler & Armstrong, 2018). The results suggest that Chinese pharmaceutical companies have been successful in promoting their products to customers, which is essential for achieving a competitive advantage.

However, the non-significant beta coefficient for promotion in Hypothesis 4 indicates that promotion strategy does not have a significant positive influence on the competitiveness of Chinese pharmaceutical companies. This may imply that while promotion is important in

building brand awareness and customer loyalty, it may not be sufficient to sustain long-term competitiveness.

Recent literature suggests that pharmaceutical companies are increasingly utilizing digital marketing channels, such as social media and online advertising, to promote their products (Mackert et al., 2020). This trend is driven by the changing behavior of customers, who are increasingly relying on digital sources to gather health information and make purchase decisions. Therefore, Chinese pharmaceutical companies should consider incorporating digital marketing strategies into their promotion mix to effectively reach their target customers and gain a competitive advantage.

In overall, the results suggest that while promotion strategy is important for building brand awareness and customer loyalty, it may not be sufficient to sustain long-term competitiveness in the pharmaceutical industry. Companies should consider incorporating other marketing mix elements, such as product and price strategies, to achieve a more comprehensive competitive advantage.

5.2.2 Competitiveness of pharmaceutical company

The mean competitiveness score of the Chinese pharmaceutical companies in our study is 3.63, with a standard deviation of 0.62. This indicates that, on average, the companies are moderately competitive in their industry.

Recent literature suggests that competitiveness is a critical factor for the success of pharmaceutical companies. A study by Vivas and colleagues (2021) found that competitiveness is positively associated with a company's financial performance and market value. Another study by Jadhav and colleagues (2020) showed that companies with high competitiveness have a greater ability to adapt to changing market conditions and are more likely to succeed in the long term.

Competitiveness can be influenced by a variety of factors, including the company's marketing strategies, research and development capabilities, and manufacturing efficiency. Our study found that product and price strategies have a significant positive influence on competitiveness, while place and promotion strategies do not.

In conclusion, the results of our study suggest that Chinese pharmaceutical companies should focus on developing effective product and price strategies to improve their competitiveness in the market. Additionally, they should continue to invest in research and development to stay ahead of competitors and adapt to changing market conditions.

5.2.3 Hypothesis Testing

Hypothesis 1 states that product strategy has a positive influence on the competitiveness of Chinese pharmaceutical companies. From the results of the analysis, it can be concluded that this hypothesis is supported. The beta coefficient for product strategy is

positive (.223) and significant at the .01 level (.008**), indicating that product strategy has a positive influence on the competitiveness of Chinese pharmaceutical companies.

Recent literature has also supported the positive influence of product strategy on firm competitiveness. For example, a study by Dehghanbaghi and Esmaili (2020) found that firms with a strong product strategy were more likely to achieve higher levels of competitive advantage. Another study by Tafesse (2019) also found that product differentiation through innovation is an important factor in firm competitiveness. These findings are consistent with the resource-based view (RBV) of the firm, which posits that a firm's resources and capabilities, such as product innovation, can lead to sustained competitive advantage (Barney, 1991).

Furthermore, in the context of the pharmaceutical industry, product strategy is crucial for companies to remain competitive. As new drugs are constantly being developed, companies must focus on developing and improving their own products to stay ahead in the market. This is especially important in China's pharmaceutical industry, which is highly competitive and rapidly growing. The competitiveness of a pharmaceutical company is strongly influenced by its product offerings. In the highly competitive pharmaceutical industry, companies must continuously develop and market innovative drugs that address unmet medical needs or provide superior benefits compared to existing treatments. This requires substantial investment in research and development, as well as a keen understanding of market trends and patient needs. Companies that are successful in bringing new drugs to market and establishing a strong product portfolio are more likely to succeed in this industry. Additionally, companies that can differentiate their products through unique features or superior quality can gain a competitive edge and capture market share. Therefore, a pharmaceutical company's ability to deliver high-quality, innovative products that meet the needs of patients and healthcare providers is critical to its competitiveness in the marketplace.

In conclusion, the results of the analysis and recent literature support the hypothesis that product strategy has a positive influence on the competitiveness of Chinese pharmaceutical companies. Companies should prioritize developing and improving their product strategies in order to achieve a competitive advantage in this industry.

Hypothesis 2 states that price strategy has a positive influence on the competitiveness of Chinese pharmaceutical companies. The results of the analysis showed that the beta coefficient for price strategy was positive (.274) and significant at the .001 level, indicating that price strategy has a positive influence on the competitiveness of Chinese pharmaceutical companies.

There is a growing body of research indicating that pricing strategies have a significant impact on the performance of pharmaceutical companies operating in China. For instance, Wu et al. (2020) found that pricing strategies significantly affect the performance of Chinese

pharmaceutical firms, while Yang and Zhao (2018) found that pricing strategies are positively related to the financial performance of pharmaceutical companies in China.

In the context of marketing theory, pricing strategy is an essential element of the marketing mix that can significantly influence a firm's competitiveness. The theory of price elasticity of demand posits that changes in price can have a substantial impact on the demand for a product. Consequently, firms can utilize pricing strategies to attract new customers, retain existing ones, and increase sales revenue. Furthermore, the theory of competitive pricing suggests that pricing strategies can help firms gain a competitive advantage over their rivals. By setting prices lower than their competitors, firms can attract more customers and gain market share. Alternatively, by setting prices higher than their competitors, firms can signal the quality of their products and gain a competitive advantage based on the perception of quality.

The present analysis supports the second hypothesis, indicating that pricing strategies positively influence the competitiveness of Chinese pharmaceutical companies. Recent literature and related theory further support this finding.

Notably, the biopharmaceutical industry in China, which includes the blood product industry, is characterized by high prices throughout the year, owing to the high original added value of its products. This phenomenon creates a shortage of in-demand products. Moreover, government policies heavily influence competition, leading to low competition pressure. This, in turn, prevents excessive price competition, declining industry profits, and lower costs for manufacturers. However, such policies may have negative effects on drug efficacy and quality. Given that the retail price and brand of such products directly influence patients' purchasing decisions, implementing an effective pricing strategy can significantly enhance a company's competitiveness in this industry.

Hypothesis 3 states that Place strategy has a positive influence on the competitiveness of Chinese pharmaceutical companies. However, the results of the regression analysis showed that the beta coefficient for Place strategy was positive but not statistically significant ($\beta = 0.072$, $p = 0.401$), indicating that Place strategy does not have a significant positive influence on the competitiveness of Chinese pharmaceutical companies.

Recent studies indicate that the importance of Place strategy in the pharmaceutical industry has been diminishing due to the emergence of e-commerce and online pharmacies (Lu et al., 2020; Zhang et al., 2019). These channels have transformed the way pharmaceutical products are distributed, enabling customers to purchase products from anywhere, irrespective of geographic location. Consequently, traditional Place strategies, such as physical location and distribution channels, may not have the same impact on competitiveness as they previously did.

Furthermore, the Resource-Based View (RBV) of the firm supports the finding that Place strategy may not have a significant influence on competitiveness. According to RBV, a company's competitiveness is determined by its unique resources and capabilities that cannot

be easily duplicated by competitors (Barney, 1991). Although physical location and distribution channels may be essential resources, they can be easily imitated by competitors, thus reducing their impact on competitiveness.

In the context of the blood product industry in China, government policies exert a significant influence on sales channels and the competitive landscape. As a prescription drug, blood products are predominantly sold through large hospitals and pharmacies, with sales channels concentrated at the first and second levels. Additionally, compared to other biopharmaceutical products, blood products enjoy a certain degree of monopoly and currently face an oversupply situation. However, due to these factors, sales channels do not play a significant role in determining the competitiveness of blood product companies.

In conclusion, recent literature and the regression analysis suggest that Place strategy may not have a significant positive influence on the competitiveness of Chinese pharmaceutical firms. Instead, companies may need to concentrate on developing unique resources and capabilities to enhance their competitiveness in the industry.

The fourth hypothesis states that promotion strategy has a positive influence on the competitiveness of Chinese pharmaceutical companies. However, the beta coefficient for promotion strategy is positive but not significant (0.087, p=0.307) indicating that it does not have a significant positive influence on competitiveness.

The relationship between promotion strategy and competitiveness in the pharmaceutical industry has produced mixed results in recent literature. While some studies suggest that advertising, sales promotion, and public relations positively influence market share and sales of pharmaceutical products, others show that excessive promotion can negatively impact a company's reputation and trust, ultimately affecting competitiveness. The lack of a significant effect of promotion strategy on competitiveness in this study may be attributed to the heavily regulated nature of the Chinese pharmaceutical industry, which places restrictions on promotional activities. Before launching any promotional activities, companies must obtain approval from regulatory authorities, limiting the impact of promotion on competitiveness.

The resource-based view (RBV) of the firm suggests that competitive advantage is derived from unique and valuable resources that a company possesses. Promotion activities can be seen as a resource that a firm can use to differentiate itself from competitors and achieve a competitive advantage. However, regulatory restrictions in the Chinese pharmaceutical industry may limit the extent to which promotion activities can be used as a unique and valuable resource.

Medicine is considered a unique commodity in the pharmaceutical industry, as it differs from daily necessities and food products, as only a small portion of the population requires it for an extended period. Using promotional methods to enhance competitiveness can lead to drug wastage and may not result in rapid improvements. Therefore, recent literature suggests

that companies should explore other ways to improve their competitiveness, such as enhancing drug quality and lowering drug prices. By focusing on these two aspects, companies can improve their competitiveness more effectively, rather than relying solely on promotional efforts. In conclusion, this study does not support the hypothesis that promotion strategy has a positive influence on competitiveness in the Chinese pharmaceutical industry.

5.3 Implications

1. For the company's product strategy could include continuously improving the characteristics of its blood products to meet or exceed customer requirements, which have been shown to strongly influence perceptions of the company's competitiveness.

- Focusing on ensuring that the quality of its blood products remains at the forefront of the market and that they have high safety with low adverse reaction rates, which were also rated as strongly agreeable by the survey respondents.

- Considering expanding its range of blood products to meet the needs of a wider customer base, as the survey results suggest that there is room for improvement in this area.

- Ensuring that its blood products are conveniently designed for patients to use, as this was also rated as strongly agreeable by survey respondents and can contribute to positive customer experiences and perceptions of the company's competitiveness.

In overall, by continually improving and enhancing its product strategy in these areas, the pharmaceutical company can maintain and increase its competitiveness in the market.

2. For the company’s price strategy, based on the results of Hypothesis 2 and the survey items related to price strategy, it can be recommended that the pharmaceutical company should focus on the following:

- Conduct a market analysis to ensure that the price of their blood products is competitive and reasonable compared to similar products in the market.

- Develop a clear and transparent pricing strategy that is easily understandable for customers.

- Train and develop the sales team to prioritize excellent customer service and communication skills to effectively convey the value of their products to customers.

By focusing on these areas, the pharmaceutical company can enhance its price strategy, which is likely to improve its competitiveness in the market.

5.4 Recommendation for Future Research

This study has provided insights into the relationship between marketing strategies and competitiveness of Chinese pharmaceutical companies. However, future research can expand on these findings in several ways:

Firstly, future studies can consider conducting a larger-scale study to enhance the generalizability of the findings. This can involve a more diverse sample of participants to obtain a more comprehensive understanding of the factors that affect the competitiveness of Chinese pharmaceutical companies.

Secondly, future research can employ different data collection methods, such as interviews, focus groups, or observation, to gather more in-depth and nuanced insights into the topic.

Thirdly, future studies can consider the impact of other factors such as promotion, distribution, and innovation on the competitiveness of Chinese pharmaceutical companies. This can provide a more holistic understanding of the various factors that contribute to competitiveness in this industry. Additionally, considering the regulatory environment and other contextual factors can help investigate the relationship between promotion strategy and competitiveness in the Chinese pharmaceutical industry.

Lastly, future research can incorporate more advanced statistical methods such as structural equation modeling to test more complex models of the relationship between marketing strategies and competitiveness. This can provide a more rigorous analysis of the data and enhance the robustness of the findings.

REFERENCES

Aaker, D. A., & Joachimsthaler, E. (2000). The brand relationship spectrum: The key to the brand architecture challenge. *California Management Review, 42*(4), 8-23.

Abel, G. A., Chen, K., & Ramanarayanan, J. (2010). The impact of detailing on pharmaceutical promotion. *International Journal of Research in Marketing, 27*(1), 19-30.

Ato, M., López-García, J. J., & Benavente, A. (2013). A classification system for research designs in psychology. *Anales de Psicología, 29*(3), 1038-1059.

Barney, J. B. (1991). Firm resources and sustained competitive advantage. *Journal of Management, 17*(1), 99-120.

Barney, J. B. (1991). Firm resources and sustained competitive advantage. *Journal of management, 17*(1), 99-120.

Bijlsma-Frankema, K. M., & Costa, A. C. (2005). *Innovativeness in small firms: A literature review.* Paper presented at the EURAM Conference, Munich, Germany.

Chen Q., & Hou Y. (2000) *Research on the disclosure of social responsibility information of Tiantan Biological Company*. Accounting for China Township and Township Enterprises, (07), 76-78.

Choi, T. Y., & Lee, S. Y. (2017). Supply chain management in the pharmaceutical industry: An empirical study of antiretroviral drug combination therapies in South Africa. *Journal of Operations Management, 52*, 1-12.

Country. (2018). *Analysis of the financial statements of Tiantan Bio under the Harvard analysis framework.* Jilin University.

Dehghanbaghi, M., & Esmaili, M. (2020). The impact of product strategy on competitive advantage of manufacturing firms: an empirical study. *International Journal of Business and Management, 15*(9), 211-224.

Homburg, C., Jozić, D., & Kuehnl, C. (2020). Customer experience management: Toward implementing an evolving marketing concept. *Journal of Marketing, 84*(1), 1-23.

Huang, Y., & Sarigöllü, E. (2014). The impact of supply chain management practices on performance of SMEs. *Industrial Management & Data Systems, 114*(5), 828-846.

Jadhav, A., Muley, D., & Deshmukh, S. (2020). Competitiveness and its impact on firm's performance: A review. *Journal of Strategy and Management, 13*(4), 442-463.

Khodabandehloo, A., & Azizi, A. (2021). Investigating the relationship between pricing strategies and competitiveness in Iranian pharmaceutical companies. *Journal of Pharmaceutical Health Services Research, 12*(2), 233-241.

Kotler, P., & Armstrong, G. (2018). *Principles of marketing* (17th ed.). Pearson.

Lai, Y., & Li, W. (2020). The impact of e-commerce on the pharmaceutical supply chain: An empirical study of the Chinese pharmaceutical industry. *International Journal of Production Economics, 219*, 406-419.

Li, K. (2010). *Tiantan Bio integrates its blood bank assets.* Securities Times. Retrieved from DOI: 10.38329/n.cnki.nzjsb.2010.007321.

Li, Q. (2011). *Analysis of the investment value of listed companies in the blood products industry.* Yunnan University.

Li, Y., Chen, H., Yuan, Y., & Liu, X. (2013). Tiantan biopharmaceutical enterprises can continue to create value for investors by strengthening research and development. *Commodities and Quality,* (22),1-2.

Lieberman, M. B., & Montgomery, D. B. (2011). First-mover (dis) advantages: Retrospective and link with the resource-based view. *Strategic Management Journal, 32*(9), 908-931.

Lin, C. (2019). *Comparative analysis of the financial performance of Hualan Biology and Tiantan Biology.* Xiamen University.

Lu, X., & Wang,R. (2019) Research on social responsibility accounting information disclosure of Beijing Tiantan Biological Products Co., Ltd. *Modern Business,*(32), 147-148.

Lu, L., Lu, C., & He, J. (2020). The impact of e-commerce on pharmaceutical retail industry in China. *Journal of Medical Systems, 44*(11), 204.

Mackert, M., Mabry-Flynn, A., Champlin, S., Donovan, E. E., & Pounders, K. (2020). Health literacy and health information technology adoption: The potential for a new digital divide. *Journal of medical Internet research, 22*(10), e22201.

Mintzes, B., Lexchin, J., Sutherland, J. M., Beaulieu, M. D., Wilkes, M. S., Durrieu, G., & Reynolds, E. (2013). Pharmaceutical sales representatives and patient safety: a comparative prospective study of information quality in Canada, France and the United States. *Journal of General Internal Medicine, 28*(10), 1368-1375.

Ozdogan, H. M., & Iskenderoglu, O. (2021). The impact of pricing strategies on the financial performance of pharmaceutical firms in Turkey. *Journal of Pharmaceutical Health Services Research, 12*(1), 75-83.

Pan,Q.,& Qiu, J. (2010). *Tiantan Bio opened the largest biological vaccine base in China.* Shanghai Securities News, Retrieved from DOI:10.28719 /n.cnki.nshzj.2010.002200.

Polit, D. F., & Beck, C. T. (2022). *Nursing research: Generating and assessing evidence for nursing practice* (12th ed.). Wolters Kluwer.

Shenyang. (2013). *Playing the "Celebrity Movement" of China's biomedical engineering - side notes on the design of the Tiantan biological vaccine industry base project of China Aviation Planning and Construction Development Co., Ltd..* China Survey and Design, (12), 52-55.

Shi, D. (2012). *Research on the efficiency of listed companies in my country's biopharmaceutical industry.* Nanjing University of Technology.

Sivakumar, K., & Gnanapandithan, K. (2013). Impact of promotional strategies on consumer buying behaviour: A study of cosmetics industry. *Journal of Business and Management, 7*(1), 33-39.

Tafesse, W. (2019). The role of product differentiation through innovation on firm competitiveness: A case study on Ethiopian brewery industry. *Journal of Business and Management, 21*(5), 13-28.

Tang, D. (2021). *Research on the motivation and effect of the reorganization of Tiantan biological assets.* Jiangxi University of Science and Technology.

Vivas, C., Durán, J., & Pérez, M. (2021). Firm competitiveness: A review of the literature and its application to the pharmaceutical industry. *Industrial Marketing Management, 93*, 94-106.

Wu, Q., Zhang, L., & Han, S. (2020). Pricing strategy, technological innovation, and firm performance: Evidence from the Chinese pharmaceutical industry. *Sustainability, 12*(20), 8344.

Xing, B. (2009).Tiantan Biology has both internal and external training to create an industry leader. *China Securities Journal,* Retrieved from DOI: 10.28162/n.cnki.nczjb.2009.016355.

Xing, B. (2010). Vaccine approval document of the controlling shareholder of Tiantan Biology. *China Securities Journal,* Retrived from DOI: 10.28162/n.cnki.nczjb.2010.006618.

Xu, X. (2013). Financial analysis and company valuation of pharmaceutical companies—Taking Tiantan biology as an Example. *China Economic and Trade Tribune,* (26),49-51.

Xu, Y. (2018). *Research on the value evaluation of Tiantan biological enterprises.* Qingdao University of Technology.

Yang, J., & Zhao, M. (2018). Analysis of the impact of marketing mix elements on the financial performance of pharmaceutical companies in China. *Journal of Applied Sciences, 18*(7), 359-364.

Zhang, J., Jia, Y., & Wang, X. (2019). *An empirical study of the competitive status of China's pharmaceutical e-commerce market. Sustainability, 11*(14), 3739

Zhang, Y., Lu, Y., Huang, T., & Yang, J. (2021). The influence of pharmaceutical product features on customer satisfaction and loyalty: The mediating role of perceived value. *Journal of Business Research, 130*, 1-10.

Zhao, X., Li, H., & Sun, X. (2020). The impacts of product development capability and product portfolio on firm performance: Evidence from China's pharmaceutical industry. *Journal of Business Research, 113*, 87-98.

Zhu, S., Yang, J., & Li, J. (2019). Pharmaceutical distribution in China: Current state and future prospects. *Journal of Pharmaceutical Policy and Practice, 12*(1), 1-8.

APPENDIX

QUESTIONNAIRE

MARKETING STRATEGIES AND COMPETITIVENESS: A CASE OF PHARMACEUTICAL COMPANY IN CHINA

Thank you for taking part in this survey that investigates the influence of marketing strategies on pharmaceutical companies. The main aim of this study is to gain insights into the factors that impact marketing strategies of pharmaceutical companies within the context of medical reform and to develop a systematic framework for managing marketing strategies. Kindly rate the level of importance of the following four indicators based on your understanding of the influencing factors of marketing strategy.

Part 1: General Information of respondents

Instruction: Please mark √ in the in front of the item that best describes your reality.

1. Gender

( ) Male

( ) Female

2. Age

( ) Less than 30 years

( ) 31–40 years

( ) 41 years or above

3. Monthly Income

( ) 0-3,000 RMB

( ) 3,001-6,000 RMB

( ) 6,001-10,000 RMB

( ) 10,001-20,000 RMB

( ) Above than 20,000 RMB

4. Education

( ) Diploma or lower

( ) Bachelor Degree

( ) Master Degree

( ) Doctoral Degree

Part 2 Marketing Strategies and Competitiveness

Item	Opinion				
	Strongly Agee	**Agree**	**Moderately Agree**	**Disagree**	**Strongly Disagree**
Product					
The characteristics of blood products meet customer requirements					
The quality of blood products sold by the company is in the forefront					
The company sells a wide range of blood products					
The blood products sold by the company have high safety and low adverse reaction rate					
The blood products sold by the company are reasonably designed and convenient for patients to use					
The blood products sold by the company do not have drug resistance to patients					
Price					
The price of blood products sold by the company is reasonable in the market					
The price of blood products sold by the					

Item	Opinion				
	Strongly Agee	**Agree**	**Moderately Agree**	**Disagree**	**Strongly Disagree**
company is appropriate for the quality					
Place					
The sales channels of blood products sold by the company are variety					
It is easy to buy blood products of the company					
Promotion					
The company has the academic promotion of blood products in medicine					
The company's advertising of blood products is interesting and helpful.					
There is the opportunity for Participating to product launch meeting					
Impressive Public relation of pharmaceutical company					
Competitiveness					
If the new drug is launched, it will promote the growth of the company's sales					
The production technology capacity of the company's blood products has always maintained a					

Item	Opinion				
	Strongly Agee	Agree	Moderately Agree	Disagree	Strongly Disagree
leading position in the industry					
The company has strong management ability for the sales team					
The company adopts a variety of delivery methods, which is conducive to the sales of dealers					
The company has high degree of customer orientation of pharmaceutical market					
The company's scientific research capability of blood products is among the top in the world					
The company's product brand has a high reputation in China					

BIOGRAPHY

Name	Mr. Hong Zhang
Place of Birth	Gansu, China
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