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The Impact of Prices and Distribution on Customer Satisfaction in the Pharmaceutical Industry of Kazakhstan

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Abstract

Purpose: This article aims to investigate the influence of pricing and distribution on the level of satisfaction and purchase decisions among consumers of pharmaceutical products in Kazakhstan. **Research design, data, and methodology:** A mixed-methods research design was utilized, incorporating primary and secondary data. Primary data were collected through a survey administered to customers across various pharmacy types, with 100 valid responses analyzed. Secondary data involved an extensive review of existing literature and analysis of national statistics concerning the pharmaceutical market trends from 2008 to 2022. **Results:** The results reveal a complex relationship between price perceptions and customer satisfaction. A significant segment of the population views current drug prices as high, which affects their satisfaction levels and purchase decisions. The study also highlights the importance of service quality in enhancing customer satisfaction, suggesting that service improvements could mitigate some of the negative perceptions of pricing. **Conclusions:** This research contributes to the limited but growing body of knowledge on the impact of pricing strategies on consumer satisfaction in the pharmaceutical sectors of developing countries like Kazakhstan. Focusing on economic and behavioral aspects, this study provides a more holistic understanding of the factors driving consumer satisfaction and purchase behaviors in this critical sector.

Keywords: Satisfaction, Pricing, Consumer Behavior, Market Strategies, Distribution, Customer Satisfaction, Kazakhstan

JEL Classification Code: I11, I18, M31

1. Introduction

In the modern market economy, the healthcare sector is experiencing significant changes related to globalization, technological innovations, and shifts in consumer behavior. The interaction between pricing and consumer satisfaction in the pharmaceutical industry, which plays a critical role in ensuring the nation's health, becomes particularly relevant.

The importance of this aspect is due to the economic and social consequences that affect the accessibility, quality, and distribution of medical products. A key aspect of these industries' successful operation lies in providing high-quality products and implementing effective pricing strategies, and ensuring efficient logistics and trade mechanisms. Pricing significantly influences pharmaceutical companies' procurement decisions and,

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consequently, the country's economic development and population well-being. On the one hand, pricing directly affects the accessibility of medications and medical goods; on the other, it encourages pharmaceutical companies to distribute new products.

Researchers have noted the positive economic effects of a developed healthcare system, including increased production, infrastructure, and employment (Ensor & Witter, 2001; Latta, 2007; Freitas & Silva, 2013; Kim et al., 2015). However, considering the rapid distribution of technologies, changing market conditions, and evolving social needs, the scientific community continually faces the need to expand existing knowledge in this area. Nonetheless, some studies dispute the direct impact of the healthcare sector on economic growth (Jack & Lewis, 2009; Afonso & Sarabanda, 2016; Faruk et al., 2022; Okolie & Fadeyi, 2023).

In addition to economic factors, the pharmaceutical industry faces challenges related to consumer trust and satisfaction. The advent of new technologies and digitalization has revolutionized the healthcare system, offering opportunities to improve service delivery and patient outcomes. Surveys indicate varied attitudes among healthcare providers towards these technological advancements, which significantly influence their acceptance and effective implementation in practice (Ward et al., 2008; Mash et al., 2015; Albahar, 2023; Kalandarishvili & Uzunashvili, 2023).

One of the critical components of multi-level supply chains is pricing. Research shows that price reductions by retailers guarantee increased sales volumes (Jia & Hu, 2011; Rad et al., 2016; Bahremand et al., 2022). However, in addition to lowering prices, it is necessary to improve service quality, as this promotes repeat purchases (Olbrich et al., 2017; Chornous & Farenjuk, 2021; Szabó-Geletóczki et al., 2022). However, in the context of developing markets like Kazakhstan, there is a notable gap in research focusing on how these pricing strategies influence consumer satisfaction and purchasing decisions.

Multiple factors, including the perceived quality of medications, the transparency of pricing policies, and the accessibility of pharmaceuticals shape consumer trust and satisfaction in Kazakhstan's pharmaceutical market. In this context, understanding consumer behavior and preferences is essential for pharmaceutical companies aiming to establish a strong market presence. Pricing strategies, in particular, play a pivotal role in shaping consumer perceptions and purchasing decisions.

This study aims to bridge the gap in existing research by exploring the impact of pricing on consumer satisfaction and purchase decisions within the pharmaceutical industry in Kazakhstan. By examining consumer perceptions of pricing policies, the efficiency of logistics and trade mechanisms,

and the accessibility of pharmaceuticals across different population segments, this research seeks to provide insights that can inform more effective pricing and marketing strategies in the region. Through a mixed-methods approach, incorporating both primary and secondary data, this study endeavors to present a comprehensive analysis of the factors driving consumer satisfaction in Kazakhstan's pharmaceutical market. It will also offer practical insights for pharmaceutical companies and policymakers aiming to optimize their strategies for improved consumer outcomes and market growth.

2. Literature Review

The pharmaceutical industry plays a critical role in today's world by providing essential medicines and contributing to improving social well-being. The effectiveness and effective management of drug sales are significant and require in-depth analysis and understanding of many factors affecting market processes. Moreover, the medical products sales sector faces many challenges, including regulatory changes, price dynamics, product development innovations, and changes in consumer preferences.

Researchers have noted the positive economic impacts of having a developed healthcare system, including increased production, infrastructure, and employment (Freitas & Silva, 2013; Kim et al., 2015). It is noted that government subsidies to the healthcare system directly contribute to sectors such as production, income, employment, logistics and added value (Jagic et al., 2021).

On the other hand, some studies refute the direct impact of the healthcare sector on economic growth (Jack & Lewis, 2009; Afonso & Sarabanda, 2016; Faruk et al., 2022; Okolie & Fadeyi, 2023). Moreover, these studies identify negative economic consequences, such as market distortions, increased costs, and sometimes a decrease in the quality of medical care. It is also essential to consider that if there is a developed black market for drug sales, then policy actions aimed at healthcare economics will not be fully effective (Ensor & Witter, 2001).

Several studies have been conducted to determine the impact of periodic professional development, new knowledge, and training on the healthcare system, including its effects on the distribution of resources and services. (Koikov et al., 2020; Seidman et al., 2020). Núñez Cabrera et al. (2023) noted that self-efficacy in the health sector is a critical dimension. Corden et al. (2021) conducted a systematic review of quantitative literature examining health professionals' knowledge and attitudes toward patient care.

New technologies and digitalization play an essential

role in improving the functioning of the healthcare system. There are studies where a survey has revealed the attitudes of doctors and workers towards medical technology. Ward et al. (2008) conducted a literature and article review that investigated healthcare providers' attitudes toward information technology, influencing acceptance and effectiveness of IT use in practice. Many surveys were conducted in different countries to know physicians attitudes toward the healthcare system (Mash et al., 2015; Albahar, 2023; Kalandarishvili & Uzunashvili, 2023).

Recent technologies have facilitated the emergence of blockchain platforms for registration, sales, warehouse organization, and logistics paths for delivering medicines to consumers (Panda & Satapathy, 2021). A significant strength of online pharmacies is the time savings when purchasing prescription medications, which is why most working people prefer this type of pharmacy. Additional benefits of online shopping include confidentiality, low pricing policies, unobtrusive medical consultations, and other behavioral persuasions (Lee et al., 2017).

Inventory replenishment is driven by product demand, which depends on factors such as price, promotion, and consumer trust (Chen & Bell, 2009; Maihami & Karimi, 2014; Soni & Suthar, 2020). Consumer trust in pharmaceutical and medical products offered online contributes to improving the supply chain and network interactions. However, this can also lead to a decrease in drug quality, compromise consumer safety, and disrupt market integrity (Newton et al., 2006; Jackson et al., 2012; Mendoza, 2014; Lavorgna, 2015; Almomani et al., 2023).

Marketing research effectively forecasts demand for new pharmaceutical products using market data, which is crucial for optimizing distribution strategies (O'Hagan & Garlington, 2018; Apan, 2021; Mousa & Al-Khateeb, 2023). In most countries, registering a new drug takes about five years, complicating sales forecasting in a changing market due to the product's novelty (Latta, 2007; Kim et al., 2019; Burinskienė, 2022). There is also an opinion that the pharmaceutical industry actively influences marketing strategy characteristics to strengthen its market position (Becker & Lillemark, 2006; Štros & Lee, 2015; Biswas & Uk, 2016; Rudenko & Teslenko, 2023). In some cases, this leads to risks associated with the overuse of medications and self-medication.

When planning supply volumes, logistics managers use intelligent algorithms that calculate pricing policy scenarios (Zhang et al., 2008; Nick et al., 2020; Digel et al., 2022). Additionally, managers have recently been able to forecast sales based on the analysis of independent and unpredictable factors: seasonality and epidemics, market share of competing products, and trade conditions (Candan et al., 2014; Zhu et al., 2021). One of the critical components of multi-level supply chains is pricing. Research shows that

price reductions by retailers guarantee increased sales volumes (Jia & Hu, 2011; Rad et al., 2016; Bahremand et al., 2022). However, in addition to lowering prices, it is necessary to improve service quality, as this promotes repeat purchases (Olbrich et al., 2017; Chornous & Farenjuk, 2021; Szabó-Geletóczki et al., 2022).

There are many methodological recommendations for measuring consumer satisfaction (Boshoff & Gray, 2004; Miao et al., 2019; Gul et al., 2020). Modern studies use comprehensive satisfaction assessments based on the perceived quality, accessibility, and effectiveness of provided services (Kalayou et al., 2021; Mahdaoui & Kissani, 2023). These parameters allow for a more accurate and comprehensive evaluation of consumer satisfaction, which in turn helps to develop more effective pricing and marketing strategies.

Despite the abundance of research dedicated to consumer satisfaction and marketing strategies in the pharmaceutical industry, there are no similar specific studies in Kazakhstan. This gap underscores the importance of investigating how pricing strategies impact consumer satisfaction and purchasing decisions within this context.

This article aims to explore the influence of pricing on the level of satisfaction and purchase decisions among consumers of pharmaceutical products in Kazakhstan. Furthermore, the study examines not only the aspects of consumer satisfaction with pricing policies in the sale of medicines but also their perceptions of the accessibility of pharmaceuticals across different population segments.

3. Research Methods

Various researchers employed different methodologies to study the pharmaceutical sales sector. For instance, some have used SWOT analysis to construct a strategic matrix (Zhakipbekov et al., 2023). Other studies have examined the production and import of medications based on statistical data (Amangeldin et al., 2017). A literature review and an analysis of the legislative framework conducted by Philipsen (2015) provided insights into how companies obtain authorization to sell drugs. Another group of researchers focused on marketing strategies, ready-made sales solutions, and case studies (Lawate et al., 2023). Johnson et al. (2014) employed the multilevel-multisource (MLMS) methodology to calculate sales strategies, adapting sellers' approaches based on the type of buyer.

This study differs from previous ones in that it employs a mixed-methods approach. Two types of data were collected from various sources. The methodology is presented in Figure 1.

The presented diagram shows that the primary and secondary data in the research were used. As part of a

strategic study aimed at analyzing the development of the medical goods market and optimizing pricing policies, an offline survey was conducted among customers of various types of pharmacies in Almaty and the surrounding Almaty region. The data collection phase occurred from October 14 to November 18, 2023. The survey encompassed a range of pharmacy types, including chain pharmacies, specialized medical stores, 24-hour pharmacies, and hospital

pharmacies. The region of Almaty, known for its well-developed commercial infrastructure, including a diverse array of pharmacy networks, provided a conducive environment for conducting offline research. The survey primarily focused on investigating the preferences of pharmacy customers and their attitudes toward the pricing policies of different commercial formats.

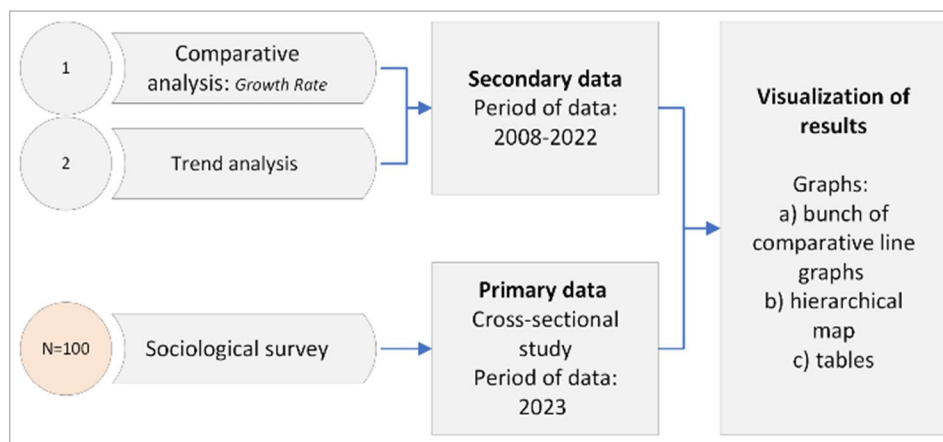


Figure 1: Research Methods

A total of 104 questionnaires were collected from pharmacy customers. However, four questionnaires were deemed uninterpretable and subsequently excluded from further analysis. Thus, the final sample size was reduced to 100 completed questionnaires (N=100). The demographic breakdown of the respondents, segmented by age group and gender, is detailed in Table 1.

Table 1: Description of Buyers by Age Group and Gender

| Group of age | Buyers | | | | Total |
|--------------|-----------|--------------|-----------|--------------|------------|
| | Male | | Female | | |
| | Count | % | Count | % | |
| 16-17 | 8 | 42.11 | 11 | 57.89 | 19 |
| 18-24 | 13 | 65.00 | 7 | 35.00 | 20 |
| 25-34 | 10 | 45.45 | 12 | 54.55 | 22 |
| 35-44 | 5 | 25.00 | 15 | 75.00 | 20 |
| 45-54 | 2 | 20.00 | 8 | 80.00 | 10 |
| 55-64 | 0 | 0.00 | 4 | 100.00 | 4 |
| 65 and older | 2 | 40.00 | 3 | 60.00 | 5 |
| Total | 40 | 40.00 | 60 | 60.00 | 100 |

Source: Organized by authors based on the collected data

All groups of respondents demonstrate a predominance of women. Women in the 45-54 and 55-64 age groups were particularly active in the survey. Among men, the age groups 18-24 and 25-34 showed the most significant activity. These data allow us to draw two important conclusions.

Firstly, women are more likely to buy medicines at a more mature age, while men are more likely to buy medicines at a younger age. Secondly, women demonstrate a higher loyalty to participate in the survey.

Before the survey, a secondary data analysis was conducted, drawing on annual statistical compilations from the National Bureau of Statistics covering the period from 2008 to 2022. This analysis focused on two key sectors: medical and pharmaceutical goods production and sale. The data collected shed light on the primary market trends in the production and consumption of medical products. It is crucial to note that understanding these trends is instrumental in shaping effective pricing and marketing policies. The changes in demand and supply identified through this data analysis enable companies to tailor their pricing strategies and marketing approaches to better meet market needs, optimize expenditures, and enhance market share.

The visualization of market trend analysis provides a graphical representation of the dynamics of changes in crucial market development directions. Comparative line graphs were utilized to illustrate the numerical indicators at the end of each year. Secondary data for analysis were selected based on availability and relevance for assessing current market conditions. However, it is essential to note a limitation: the latest available statistical data only cover the period up to 2022. Due to this constraint and to enhance the study's relevance, it was decided to incorporate data from

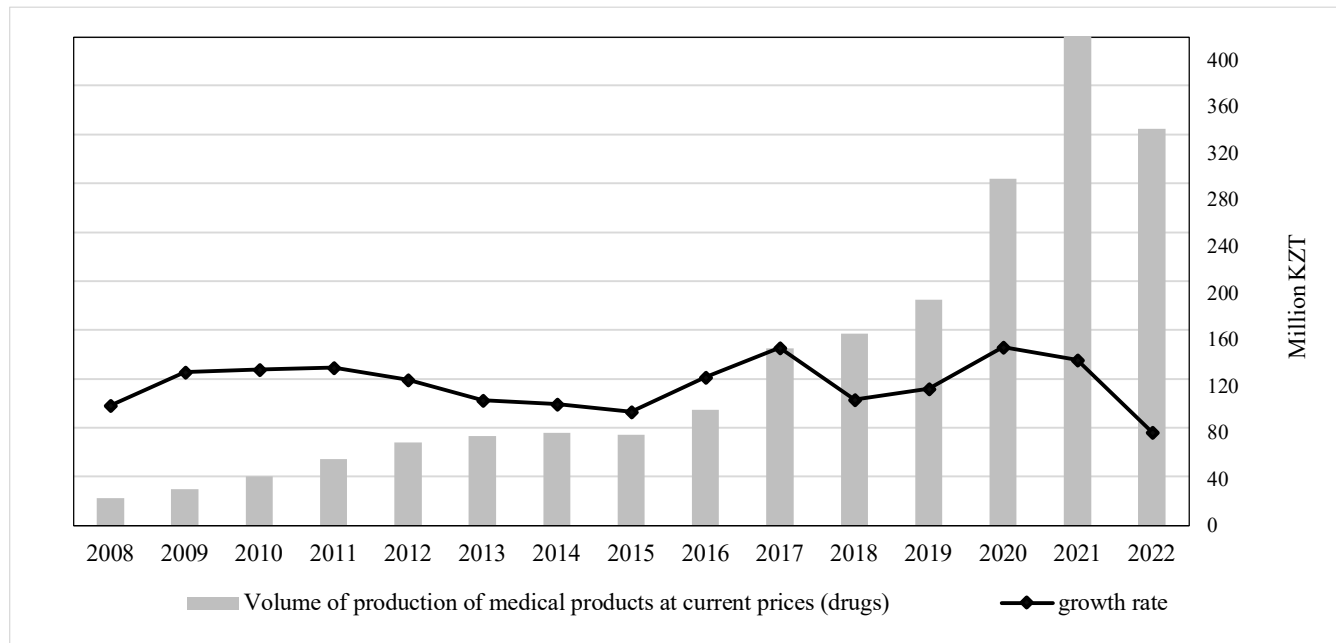
2023, obtained through a cross-analysis based on primary data from a sociological survey.

4. Results and Discussion

4.1. Analysis of Dynamics and Pricing Strategies

As previously mentioned, an analysis of the volumes of drug production and the sales of medical goods and drugs

will be conducted to understand key trends in the sales and consumption of medical products. A thorough analysis of the current situation has highlighted the main trends influencing market dynamics. In particular, changes in demand and supply were examined, as well as the impact of regulatory changes on the industry. Special attention was given to analyzing consumer demand and price fluctuations, providing a detailed understanding of the current market state and identifying potential directions for its development. These aspects are detailed in Figure 2.



Source: Bureau of National Statistics (2023), rearrangement

Figure 2: Dynamics of the volume of production of medical products for 2008-2022, in million KZT

Based on the presented data for 2008-2022, there is a noticeable fluctuation in production volume. Since 2018, there has been a significant increase in production volumes, which will peak in 2022 despite a decrease in growth rates in 2021. The declines observed in 2014 and 2018 were associated with the completion of national projects aimed at developing production. Specifically, a downturn was noted in 2021 during the COVID-19 pandemic, when demand for various drugs decreased. During the pandemic, masks, medications, and large medical equipment for hospitals directly related to respiratory diseases were in high demand.

Further analysis will be conducted on the growth and decline trends in sales for each product group: pharmaceutical products and medicinal goods. This will allow for examining the demand for specific categories of goods. It also helps to minimize storage costs, reduce inventory management risks, and identify issues with the

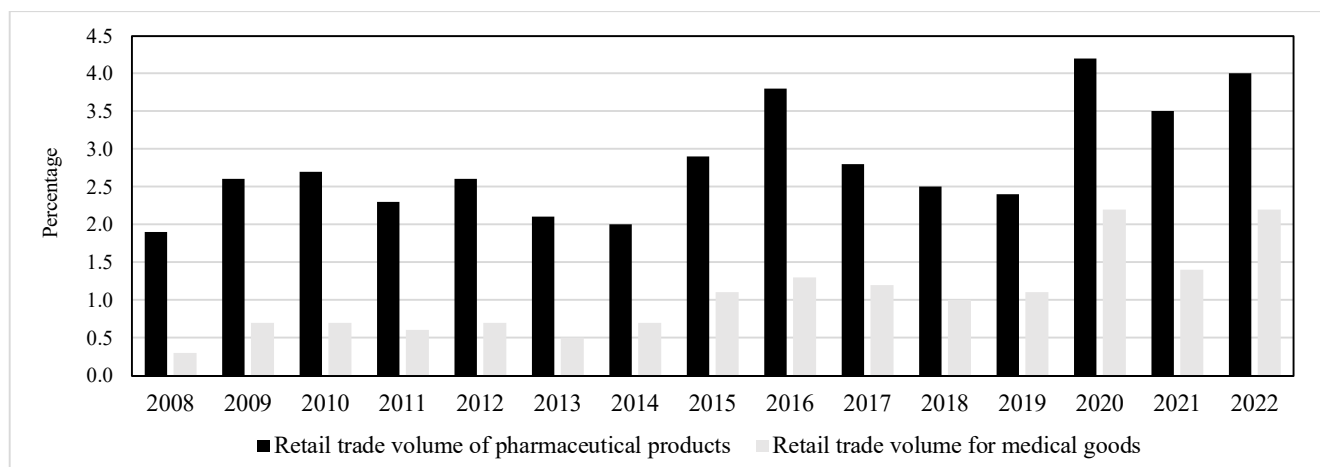
availability of medical goods. Overall, analyzing trends and changes in retail trade and distribution volumes can also be very useful for making informed decisions in the retail sector.

Figure 3 displays the charts below showing changes in the volume of retail trade and distribution in medicines and medical goods.

Analyzing the structure of retail trade across various product categories over the past fourteen years reveals that the volume of retail sales of pharmaceutical products consistently exceeds that of medical goods throughout the period. This suggests a higher stability and constant demand for pharmaceuticals than medical goods, which may be more susceptible to seasonal fluctuations and market conditions. The difference in trade volumes between these two categories may also reflect variances in pricing strategies. Additionally, the trade volume in pharmaceutical products

exhibits fluctuations, with significant peaks in 2015 and 2021. These peaks can be associated with the increased availability of pharmaceutical goods due to Kazakhstan's accession to the WTO and the implementation of the

national program to support pharmaceutical enterprises (“Densaulyk” National Healthcare Development Program of the Republic of Kazakhstan for 2016-2020).



Source: Bureau of National Statistics (2023), rearrangement

Figure 3: Dynamics of the volume of trade in medical and pharmaceutical products for 2008-2022, in percentage

Analyzing the structure of retail trade across various product categories over the past fourteen years reveals that the volume of retail sales of pharmaceutical products consistently exceeds that of medical goods throughout the period. This suggests a higher stability and constant demand for pharmaceuticals than medical goods, which may be more susceptible to seasonal fluctuations and market conditions. The difference in trade volumes between these two categories may also reflect variances in pricing strategies. Additionally, the trade volume in pharmaceutical products exhibits fluctuations, with significant peaks in 2015 and 2021. These peaks can be associated with the increased availability of pharmaceutical goods due to Kazakhstan's accession to the WTO and the implementation of the national program to support pharmaceutical enterprises (“Densaulyk” National Healthcare Development Program of the Republic of Kazakhstan for 2016-2020).

Fluctuations are also observed for medical goods, but their amplitude is more minor. The highest values for medical goods occurred in 2018 and 2022. These peaks can be attributed to several factors, including product innovations, changes in regulatory standards, and government support. For example, stricter requirements for the quality and safety of medical goods have led to an update in product assortments and, consequently, an increase in sales.

Accounting for these trends is crucial for manufacturers and retailers of medical goods, as it allows them to plan production more accurately, optimize inventory levels, and adjust marketing strategies based on anticipated demand

changes. Furthermore, understanding market trends aids in formulating a more informed pricing policy, directly impacting companies' competitiveness. The differences in demand between pharmaceutical and medical goods suggest the possibility of employing a differentiated pricing approach. Pharmaceutical products, with their more stable demand, may command higher prices, while prices for medical goods might be more flexible to attract customers during periods of low demand.

4.2. Evaluating Retail Trends and Consumer Surveys

As part of a market research study on medical products aimed at optimizing pricing policy and improving service levels, a sociological survey was conducted among pharmacy customers in the city of Almaty and Almaty region. The survey provided insights into consumers' demographic characteristics, evaluations, and preferences in purchasing goods.

The questionnaire was divided into two main blocks of questions. The first block collected information on the age, gender, and education level of respondents. This information is necessary for analyzing the consumer behavior of different demographic groups and understanding how these factors influence the choice and purchase of goods. The second block included questions aimed at studying the level of customer satisfaction with the availability and assortment of products, evaluating the pricing policy, and the general opinion on the quality of service. The questions in this block helped identify critical

aspects influencing customer loyalty and their willingness to return to certain pharmacies.

The detailed focus of the second block's questions is presented in Table 2.

Table 2: Comparative Survey Questions

| Category | Description |
|--------------------------------|--|
| Medical Gadget Inventory | Tracks details of various medical devices available within a facility or for personal use. |
| Price Level Analysis | Tracks details of various views about pricing policy across buyers. |
| Customer Satisfaction Analysis | The availability of medications across different demographics and regions. |
| | Coefficients evaluation of the level of satisfaction. |
| | Contains data related to patient satisfaction surveys. |

Source: Organized by authors

Medical Gadget Inventory: analyzing trends in the purchase and consumption of medical gadgets allows for more accurate forecasting of future demand, which is crucial for planning production and procurement. Additionally, considering customers' education level can provide valuable data for analyzing consumer behavior in the context of purchasing medical gadgets. Knowing the education level, companies can adapt their marketing strategies and pricing.

Price Level Analysis: Investigating the purchasing power of customers helps forecast sales volumes. The sale of medications holds particular significance as it is an essential part of the government's pricing policy, and segmenting customer groups helps identify oversights in pricing policy.

Customer Satisfaction Analysis: satisfaction with the quality of service is an indicator of a successful business. The presence of a wide range of medications, flexible pricing policies, and high-quality products contributes to the growth of consumer satisfaction and the development of a loyal customer base.

The first question addresses the issues of purchasing and using medical technologies and gadgets (see Figure 4).

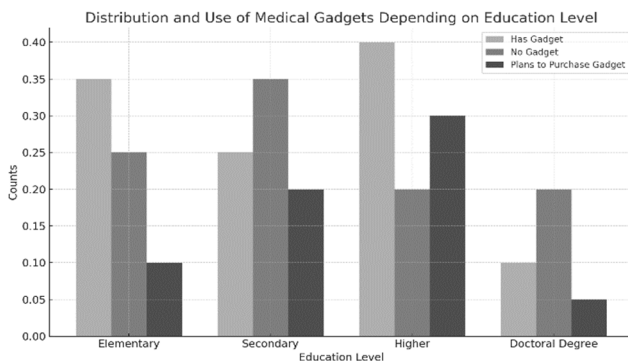


Figure 4: Distribution and Use of Medical Gadgets Depending on the Education Level

Data analysis shows a direct relationship between the level of education and the ownership of medical devices. Thus, a high proportion of respondents have higher education (0.360) and own medical gadgets. Conversely, the proportion of people without gadgets gradually decreases with each increase in the level of education, decreasing from among people with primary education to among those with doctoral degrees (0.150). The intent to purchase medical gadgets varied more complexly across educational levels, with the highest intensity observed at the higher education level (0.350) and the lowest at the doctoral level (0.200). This pattern suggests that higher education generally increases the propensity to invest in medical gadgets. This distribution of indicators may indicate that the level of education affects both the ownership of medical devices and their intended purchase. The data obtained indicate that the level of education is an important factor in purchasing medical devices and their potential purchase in the future. Thus, improving educational programs to increase health awareness and strengthen digital skills can contribute to the wider dissemination and use of medical devices among various demographic groups.

The next factor concerns drug pricing policy (Figure 5).

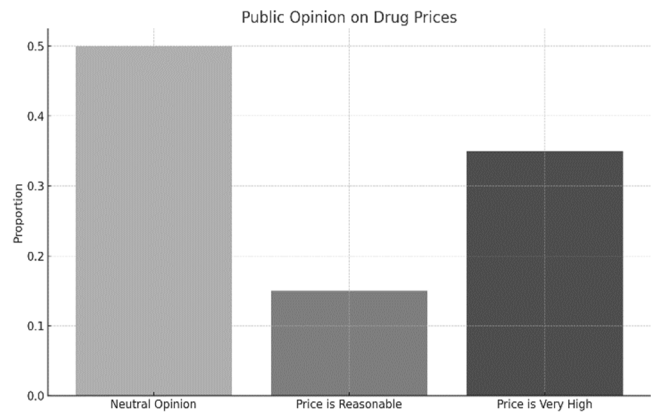


Figure 5: Coefficients Distribution of Opinion of Work Pharmaceutical Companies and the Price Policy

Price is an essential factor when choosing a product and building customer loyalty. The data analysis shows the division of buyers' opinions regarding pharmaceutical prices. A slight difference in proportions indicates a polarization of opinions. In particular, a quarter of respondents consider drug prices excessively high (0.147), while another part considers prices affordable (0.349). Most respondents held a neutral position on this issue (0.400). This distribution of opinions highlights the variability in consumer perceptions of pharmaceutical prices and indicates a different level of consumer sensitivity to prices.

Further, the analysis of the satisfaction level is presented in detail in Table 3.

Table 3: The impact of different satisfaction categories based on the provided data

| Category | Description (Scale) | Coef. |
|---|-------------------------------------|-------|
| Satisfaction with Pricing Strategy | High level of satisfaction | 0.080 |
| | Price satisfaction while optimizing | 0.350 |
| | Moderate satisfaction | 0.260 |
| | Categorical disapproval | 0.310 |
| Satisfaction with Quality, Availability, and Price of the Product | Quality meets the requirements | 0.590 |
| | Available in sufficient quantity | 0.050 |
| | Prices meet expectation | 0.130 |
| | Overall satisfaction | 0.230 |
| Satisfaction with the Provided Service | High level of satisfaction | 0.130 |
| | Price satisfaction while optimizing | 0.025 |
| | Moderate satisfaction | 0.122 |
| | Categorical disapproval | 0.783 |

Source: Organized by authors based on the collected data

Satisfaction with Pricing Strategy: the objective of this category was to determine the perception of prices among various consumers, which is crucial for adjusting marketing strategies. According to the survey results, there is a high level of disapproval of the pricing strategy (0.310) and moderate satisfaction with the pricing strategy (0.260). This indicates a significant portion of dissatisfaction among consumers and points to the need for consideration and

possible adjustment of the current pricing policy in the future. Furthermore, a third of respondents (0.350) remained satisfied with prices after optimizing the pricing strategy. This metric may suggest that the changes made to the pricing policy are perceived positively by a significant portion of consumers. Overall, the results of the sociological study indicate the necessity for adjustments aimed at improving price perception among the most dissatisfied consumer groups.

Satisfaction with the Provided Service: for this category, the primary tasks were understanding the relationship between drug quality, prices, and distribution strategies to identify opportunities for improving sales. The survey results showed that most respondents indicated that the quality of the products met their requirements (0.590). The second most significant group of consumers expressed complete satisfaction with the products (0.230). Additionally, a small portion of respondents noted that the prices of the products met their expectations, which may indicate a decline in customer loyalty (0.130). Overall, the survey results emphasize the importance of maintaining high product quality and aligning prices with consumer expectations, as well as the need to improve product accessibility and distribution effectiveness to enhance customer satisfaction and loyalty.

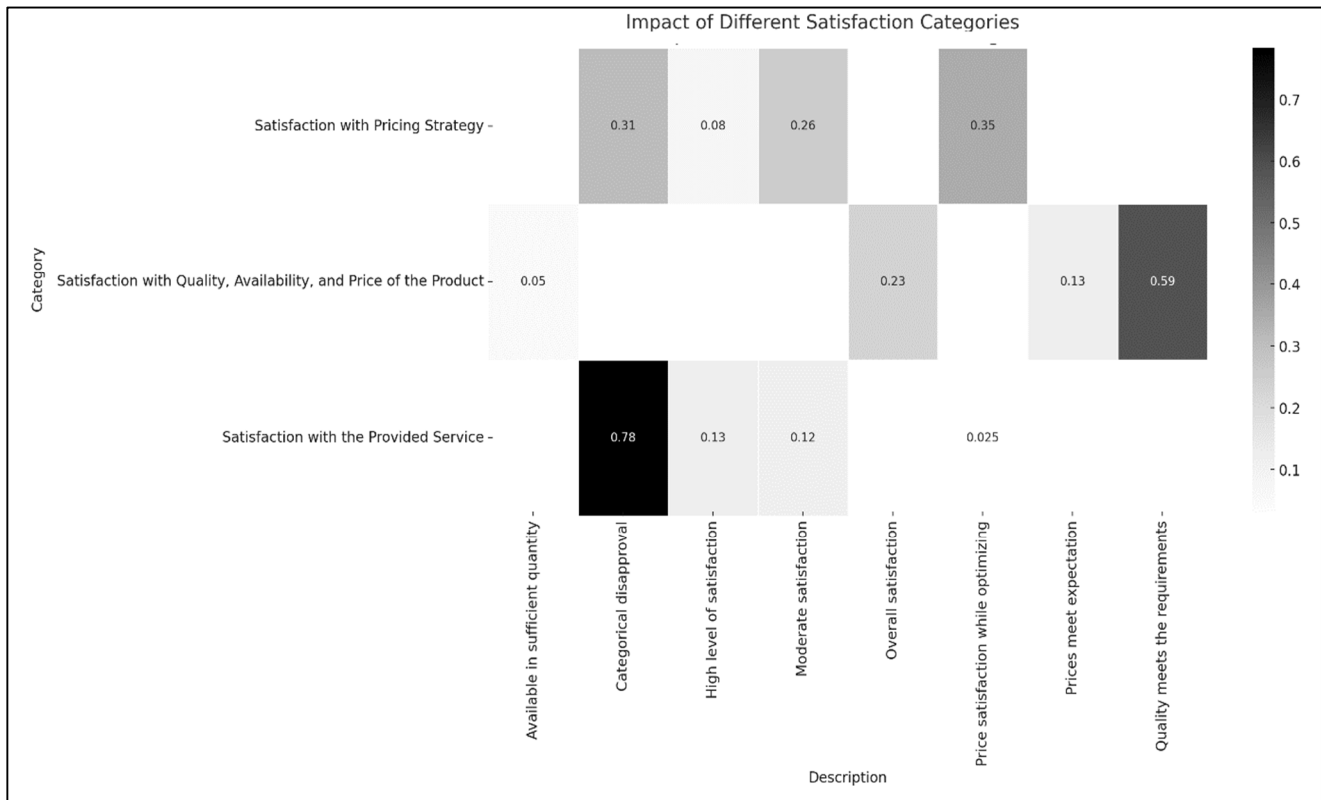


Figure 6: Heatmap of the impact of different satisfaction categories

Satisfaction with the Provided Service: the study focused on evaluating customer satisfaction with services provided by pharmacies, a factor critical for understanding customer loyalty and encouraging repeat purchases. Most respondents expressed high satisfaction with the service quality (0.783), indicating effective service delivery. In contrast, only a minimal fraction of respondents demonstrated moderate satisfaction with the pricing of these services (0.025). Another segment of the surveyed population acknowledged satisfaction with pricing following service optimization (0.025). These findings suggest a generally high level of consumer satisfaction with pharmacy operations. Despite the overall positive feedback, there were notable grievances (0.130) related to inadequate product variety in neighborhood pharmacies and suboptimal operating hours.

This heatmap is a robust visual tool for identifying key areas where satisfaction metrics can be improved. By focusing on categories and descriptions with higher coefficients, organizations can prioritize initiatives that are likely to have the most significant impact on enhancing overall customer satisfaction.

Therefore, Figure 6 shows a map illustrating the impact of different satisfaction categories on overall satisfaction indicators.

Light shades indicate high coefficient values, which substantially impact overall satisfaction, while dark shades represent lower coefficients, indicating a more minor contribution. The color scale ranges from dark blue to dark red, with dark blue indicating low coefficient values and dark red indicating high values. The heatmap demonstrates that the primary factors influencing overall consumer satisfaction are product quality and service quality. Therefore, the heatmap analysis helps identify critical areas for improvement and optimization aimed at increasing consumer satisfaction in the pharmaceutical industry.

The last question was open-ended, allowing respondents to share their opinions on the overall pricing policy for medications (Figure 7).



Figure 7: A verbal cloud of discussions

Based on the results of Figure 7, we can see the words and phrases that are most frequently mentioned in the responses. In this word cloud, essential terms such as 'medicine', 'quality' and 'services' suggest that the source text likely discusses healthcare and medical services topics. The phrases 'need for funding', 'availability of medications', and 'perception of profiteering' were mostly noted by older individuals, indicating that they find the pricing policy to be excessive. This suggests that doctors may be inclined to prescribe more expensive alternatives. Conversely, the phrase "personalized approach" was mainly highlighted by younger individuals, expressing their need for it.

Respondents showed interest in reducing service costs, improving the qualifications and literacy of prescribed doctors, and enhancing the quality of medical care. They are willing to pay for quality services if they are provided appropriately. Currently, citizens are disappointed in the system, which, according to them, is too focused on the financial aspect rather than the well-being of medication consumers.

5. Conclusions

Many studies are focused on developed markets and their consumer preferences, this study was devoted to studying the specific features of the pharmaceutical industry in Kazakhstan. Unlike previous studies that focused primarily on the economic aspects of pricing, this study considers both economic and behavioral aspects, analyzing the impact of prices on consumer satisfaction and purchasing decisions. Thus, the following important conclusions were obtained.

Firstly, the literature review underscores the critical role of the pharmaceutical industry in today's global landscape, highlighting its impact on social well-being. Various factors influence the market processes of drug sales, including regulatory changes, price dynamics, product development innovations, and consumer preferences. Pricing strategies are a critical component of supply chain management, with price reductions generally leading to increased sales volumes. Comprehensive assessments of consumer satisfaction, incorporating perceived quality, accessibility, distribution efficiency, and service effectiveness, are essential for developing effective pricing and marketing strategies. In Kazakhstan, there is a notable lack of specific studies on consumer satisfaction and marketing strategies within the pharmaceutical sector. This gap highlights the need for research focusing on how pricing strategies affect consumer satisfaction and purchasing decisions in this context.

Secondly, the sociological survey results showed significant divergence in consumer opinions regarding

product prices. The polarization of opinions, with some respondents considering prices excessively high while others find them affordable, underscores the need for a more flexible and adaptive pricing policy that can meet consumers' diverse expectations. This indicates that to achieve high customer satisfaction and increase loyalty, it is essential to consider consumer price sensitivity and offer solutions accordingly.

Thirdly, the analysis of satisfaction levels revealed that product quality and the alignment of prices with consumer expectations are critical factors influencing customer loyalty. Most respondents noted that the quality of the products met their requirements, highlighting the importance of maintaining high-quality standards. At the same time, despite high overall satisfaction with pharmacy services, significant complaints were identified related to the insufficient product assortment and unsatisfactory conditions in some pharmacies. These factors indicate the need to improve accessibility, expand the assortment, and enhance the quality of service in pharmacies, and optimize logistics and distribution channels.

Thus, the study's results emphasize the importance of adapting pricing policies and improving service quality to enhance consumer satisfaction. Developing flexible pricing strategies based on a detailed analysis of consumer preferences and behavior, maintaining high-quality products and services, and ensuring efficient logistics and trade practices are critical factors for improving the consumer experience and increasing customer loyalty in Kazakhstan's pharmaceutical industry.

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