KHMELNYTSKYI NATIONAL UNIVERSITY
FACULTY OF ECONOMICS AND MANAGEMENT
DEPARTMENT OF MARKETING

QUALIFICATION WORK (DIPLOMA THESIS)

Improving the distribution activities of a pharmaceutical company
based on marketing logistics
(based on materials from «Medical Center «M.T.K.» LLC of the corporation «YURiA-PHARM»)

Higher education level	Second (master's)
Field of study	07 «Management and administration»
	Code and name of the field of knowledge
Programme subject area	075 «Marketing»
	Code and name of the specialty
Educational program	«Marketing»
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Khmelnytskyi, 2025

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APPROVED
Head of the Department _____
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«_20_» __January____ 2025

ASSIGNMENT
FOR THE QUALIFICATION WORK (DIPLOMA THESIS)

BAI HE
(Student's surname, first name)

1. Thesis topic: Improving the distribution activities of a pharmaceutical company based on marketing logistics (based on materials from "Medical Center "M.T.K." LLC of the corporation "YURiA-PHARM")
Supervisor: Vitalii KARPENKO, PhD in Economics, Associate Professor
Surname, first name, academic degree, academic title

Approved by the Rector's Order dated 26.08.2024, № 60, Appendix 20in
2. Deadline for submission of the thesis to the department: 05.05.2025
3. Initial data for the work: Scientific monographs and articles by Ukrainian and international scholars, analytical and financial data of "Medical Center "M.T.K." LLC, statistical data on the pharmaceutical market, and the author's own research results

4. Contents of the explanatory note (list of issues to be developed):
1. Theoretical foundations and features of the practical application of marketing logistics in the activities of enterprises. 2. Analytical and diagnostic study of the economic activities of "Medical Center "M.T.K." LLC in the pharmaceutical market. 3. Development of ways to increase the efficiency of distribution activities of "Medical Center "M.T.K." LLC in Khmelnytskyi region.

5. List of graphic material (with indication of mandatory drawings): Comparative analysis of traditional and logistics management concepts. Characteristics of the components of marketing logistics. Analysis of global and Ukrainian pharmaceutical market trends. Analysis of the main financial indicators of the economic activity of "Medical Center "M.T.K." LLC. Analysis of the marketing activities of the corporation "YURiA-PHARM" and the distribution structure of "Medical Center "M.T.K." LLC in the Khmelnytskyi region. Audit of distribution routing of "Medical Center "M.T.K." LLC in Khmelnytskyi region. Optimization of distribution routing of "Medical Center "M.T.K." LLC in Khmelnytskyi region based on factor analysis. Summary of recommendations for enhancing the distribution activities of LLC "Medical Center "M.T.K." of the corporation "YURiA-PHARM" based on marketing logistics principles.

6. Consultants for sections of the qualification work (diploma thesis):

Chapter	Consultant's surname, initials, and position	Signature, date	
		assignment issued	accepted the task

7. Date of issue of the task 20.01.2025

TIMETABLE

Stages (sections) of the qualification work (diploma thesis)	Timeframe for completion of work stages	Note
1 Definition of the object and subject of research, setting goals and objectives, drafting the plan	to 21.02.2025	Completed
2 Review of theoretical sources and writing the first chapter of the diploma thesis	to 07.03.2025	Completed
3 Development of the analytical research plan	to 21.03.2025	Completed
4 Collection and processing of statistical materials on the market	to 11.04.2025	Completed
5 Writing the analytical section of the diploma thesis	to 25.04.2025	Completed
6 Writing the project-recommendation section of the diploma thesis	to 02.05.2025	Completed
7 Preparation of illustrative materials and final formatting of the diploma thesis	to 16.05.2025	Completed
8 Preparation for defense and pre-defense	from 19.05.2025	Completed
9 Defense	from 26.05.2025	Completed

Student _____ BAI HE
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ABSTRACT

of the qualification work (diploma thesis) of the master

Improving the distribution activities of a pharmaceutical company based on marketing logistics (based on materials from “Medical Center “M.T.K.” LLC of the corporation “YURiA-PHARM”)

Student of the group MRmin-23-1 BAI HE

Scientific advisor: cand.econ.science, Associate Professor KARPENKO VITALII

Total volume of work 72 pages, 9 tables, 27 figures, 3 appendices, 34 source references.

List of keywords: MARKETING, LOGISTICS, MARKETING-LOGISTICS, ROUTING, PHARMACEUTICAL MARKET, TRANSPORTATION SERVICES, DISTRIBUTION.

The first section of the work reveals the basics and features of the practical application of marketing logistics in the activities of enterprises, namely: a comparative analysis of traditional and logistical management concepts is carried out, the components of marketing logistics are characterized, and the concept of the marketing logistics system is substantiated.

The second section analyzes global and Ukrainian trends in the pharmaceutical market, the main financial indicators of the economic activity of LLC “Medical Center “M.T.K.”, marketing activities and distribution structure of the enterprise.

The third section examines the regulatory support for the transportation of medicines, conducts a marketing audit of the distribution routing of LLC “Medical Center “M.T.K.” in the Khmelnytskyi region, and suggests ways to increase the efficiency of the enterprise’s distribution activities.

The results obtained in the form of proposals were implemented in the business activities of “Medical Center “M.T.K.” LLC in the Khmelnytskyi region.

Signature Bai He Date 19.05.2025

Content

Introduction

In the context of growing market competition, one of the key factors for ensuring sustainable competitiveness of an enterprise is the implementation of innovative development and management models, particularly through the integration of marketing and logistics approaches. Marketing logistics serves as an effective management tool across various sectors of the economy, with particular importance in the field of distribution services. Logistics ensures the rational management of product flows from the manufacturer to the end consumer, while marketing focuses on delivering high-quality service and customer care.

As a discipline that combines logistical and marketing functions, marketing logistics is aimed at meeting customer needs through their identification and effective fulfillment. The increasing demands of consumers stimulate the active development of both fields, thereby transforming supply chain management practices. Therefore, the topic of this master's thesis – focused on enhancing the distribution activities of a pharmaceutical enterprise – is undoubtedly relevant and well-founded.

The objective of the master's qualification thesis is to develop theoretical foundations and practical recommendations for improving the distribution activities of a pharmaceutical enterprise based on marketing logistics principles.

Achieving this objective required addressing the following tasks:

– to reveal the theoretical foundations and practical features of applying marketing logistics in business operations;

– to monitor global and Ukrainian trends in the pharmaceutical market;

– to conduct an analytical and diagnostic study of the economic activities of "Medical Center "M.T.K." LLC;

– to carry out marketing research of regulatory support and audit the distribution routing features of "Medical Center "M.T.K." LLC in Khmelnytskyi region;

– to propose ways to improve the efficiency of the distribution activities of “Medical Center “M.T.K.” LLC in Khmelnytskyi region.

The object of the study is the process of improving the distribution activities of a pharmaceutical enterprise based on marketing logistics.

The subject of the study is the set of theoretical foundations and applied tasks related to the research and improvement of distribution activities of a pharmaceutical enterprise based on marketing logistics.

The master’s thesis employs the following methods: historical generalization – to define the concept of “marketing logistics”; comparative analysis – to examine the components of marketing logistics and the peculiarities of their practical application in distribution companies; research methods – to study the regulatory support for the transportation of medicinal products and the routing of distribution by “Medical Center “M.T.K.” LLC in Khmelnytskyi region; systems analysis – to develop ways to enhance the efficiency of distribution operations of “Medical Center “M.T.K.” LLC in Khmelnytskyi region.

The information base of the study includes the Laws of Ukraine, Presidential Decrees, Resolutions of the Cabinet of Ministers of Ukraine regulating the activities of pharmaceutical and distribution enterprises, official materials of the State Statistics Committee of Ukraine, financial reporting documents of “Medical Center “M.T.K.” LLC of the “YURiA-PHARM” Corporation, as well as monographs and collections of scholarly works.

The scientific novelty of the obtained results lies in the theoretical substantiation and scientific solution to the issue of improving the distribution activities of a pharmaceutical enterprise based on marketing logistics principles.

The main findings of the master’s qualification thesis, developed personally by the author and constituting its scientific novelty, are as follows:

Improved:

The distribution routing system of “Medical Center “M.T.K.” LLC in the Khmelnytskyi region, taking into account factors such as road surface quality, cargo transportation time, route length, coverage of settlements, and order volumes. These improvements led to a reduction in the overall route distance and delivery time,

ultimately enhancing the enterprise's economic efficiency in the long term by saving on fuel costs and vehicle maintenance.

Further developed:

Approaches to conducting field marketing research of distribution routing at "Medical Center "M.T.K." LLC.

The practical significance of the obtained results lies in the fact that the theoretical findings of the master's thesis have been transformed into methodological guidelines and applied recommendations for improving the distribution activities of a pharmaceutical enterprise through the principles of marketing logistics.

Individual provisions and research results have been presented at:

– the XIV International scientific and practical conference "Solving scientific problems using innovative concepts", March 13-15, 2024, Copenhagen;

– the VI International scientific and practical internet conference "Modern trends in the economic development of regions: Theoretical and applied aspects", May 9-10, 2024, Odesa, Ukraine;

– the XIX International scientific and practical conference "Marketing technologies in the context of European integration processes", December 19-20, 2024, Khmelnytskyi National University, Khmelnytskyi, Ukraine.

The master's qualification thesis consists of an introduction, three chapters, conclusions, a list of references, and appendices. The list of references includes 34 sources. The thesis contains 27 figures, 9 tables, 3 appendices, and calculations. The total volume of the work is 72 pages.

1 Theoretical foundations and features of the practical application of marketing logistics in the activities of enterprises

The modern logistics system effectively facilitates the movement of goods – such as materials, products, and raw materials – from the manufacturer or supplier to the end consumer, involving specialized participants responsible for supporting and servicing logistics flows. These services include order processing, product batch formation, transportation, warehousing, loading and transshipment, packaging and repackaging, as well as the provision of various logistics services.

A logistics-based approach to business organization focuses on meeting consumer demands through timely product delivery, following the principles of "just-in-time" and "door-to-door" supply. This is achieved by utilizing integrated transport and logistics technologies that combine water, air, and land modes of transportation, along with additional services such as various forms of storage, cross-docking, and more [11].

A comparative analysis of the traditional management model and the new logistics-based management concept is presented in table 1.1.

Table 1.1 – Comparative analysis of traditional and logistics management concepts

Signs of a traditional management system	Signs of a logistics system
Low level of production integration	High level of production integration
Striving for maximum productivity	Ensuring flexibility
Optimization of production functions	Material flow optimization
High level of capacity utilization	High throughput of production facilities
Remaining materials for production support	Remaining materials in the form of capacities
Extended hourly disposition cycle	Shortened disposition cycle, daily and hourly intervals
Collective production, focused on production program and warehousing	Production is oriented towards customer orders, i.e. demand

Source: [10; 31]

The main tasks of the logistics management concept are:

– rapid order processing;

– optimal formation of logistics chains;

– delivery of goods in the shortest possible time;

– ensuring the preservation of the quality of goods during transportation;

– minimizing costs across all logistics processes;

– control over execution and operational responsiveness [4].

The core principles of logistics, typical for manufacturing and consumer enterprises (consumer focus, high service level, order fulfillment time reduction, etc.), are fully applicable to transport companies involved in logistics systems. A distinguishing feature of their operations in the context of modern competition in the transport services market is the development of a policy for the comprehensive resolution of transport and related issues at a new, higher level. Practice shows that such a policy is effective when it is sufficiently differentiated and based on key components such as the provision of new, non-traditional additional services and contract negotiations in the communications sector. Service provision policy includes all decisions and actions aimed at the comprehensive implementation of the transportation process. This means that the organization of transportation, taking into account the distance, volume of goods, and delivery deadlines, should be planned in conjunction with additional services based on demand.

For a transport company, the business chain “procurement – production – distribution” is transformed into a chain of “loading – transportation – delivery” (function integration). In the course of executing this chain, the content of the respective tasks is integrated in such a way as to enable effective division of labor, optimize administrative activities, and reorganize the sequence of tasks [31].

Transport logistics is characterized by elements that are crucial in this field. The key components include transportation links with suppliers and consumers, as well as the goods being transported. The transportation process begins at the finished goods warehouses and ends with the delivery of goods to the warehouses of consumers or intermediaries.

Other essential elements of transport logistics include warehouses and product inventories, which connect the goods to other logistics systems. As an integral part of the transport logistics process, goods become commodities that are handed over to transportation for delivery from the moment they are received until the moment they are handed over to the final recipient. Organizational and economic aspects of transportation also play an important role in this process.

The impact of different types of transportation on logistics is illustrated in figure 1.1.

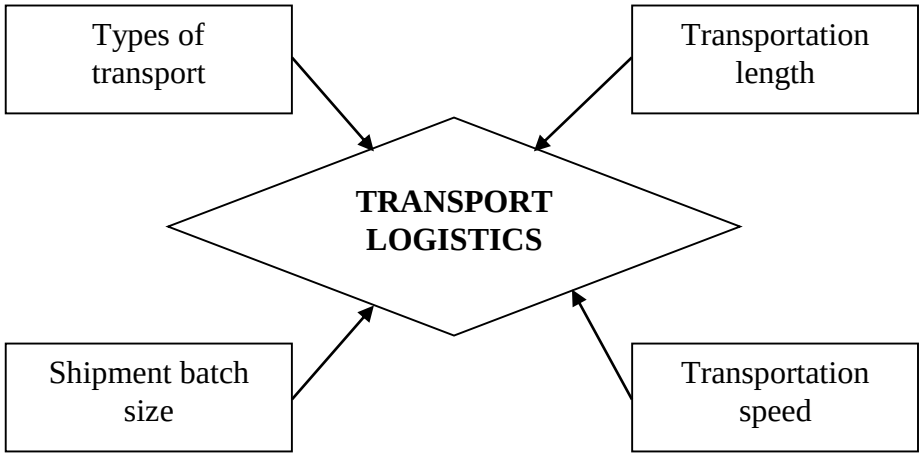


Figure 1.1 – Components of transport logistics

Source: [31]

Transport logistics is closely connected with other types of logistics, such as warehousing, production, procurement, distribution, and intermediary logistics. This is due to several factors [8; 31]. The material flow management system within an enterprise significantly impacts the methods of supply and transportation organization. The presence of inventory ensures the continuity of the transportation process. One of the key aspects of optimizing transport logistics is coordinating the processes of procurement, production, and distribution, as well as developing a unified technological process that integrates production, transportation, and warehousing. Thus, the essence of integrating the management of product movement lies in the development of comprehensive logistics management for transportation. Organizational and economic methods of comprehensive transportation management involve the coordination and integration of planning functions for

supply and transportation of goods, rational distribution of logistics functions among the structural units of transport organizations, as well as the development of management methods that help reduce transportation costs, improve, and implement economic incentive systems for logistics workers to enhance the final results.

The concept of developing comprehensive logistics management for transportation is based on the fact that the actual movement of goods in the circulation process is carried out through transportation, which is organized by a system of commercial and intermediary organizations and business services. These entities participate in the management of transportation by determining transportation needs, directions, volumes, and structures, and coordinating and participating in the organization of product movement through warehouses, defining the transportation sequence. An important factor in the development of logistics functions in commodity circulation is the increasing role of interaction between procurement, trade, and transportation.

Commercial activities and transportation are also interrelated and mutually influence each other. Commercial structures involved in the procurement and sale of industrial and technical products directly affect the transportation process, as this type of product constitutes a significant portion of the freight transportation volume across different modes of transport. This category of products includes coal, oil, metals, timber products, etc. The largest share of freight transportation in commodity circulation is carried out in collaboration with commercial services that meet production needs. These services not only determine the volumes, directions, and sequence of freight flows but also create the necessary conditions for efficient use of logistics, which optimizes transportation processes and improves warehouse operations. At the same time, transportation impacts the number of characteristics and indicators influencing commercial activities.

The regularity of freight transportation directly affects the timeliness of product deliveries. Disruptions in the rhythm of transportation organizations lead to increased inventory levels, additional warehouse and transportation costs, missed deliveries, and idle production equipment. Therefore, coordinated work between transportation and commercial services is crucial to ensure timely and consistent

transportation. Reducing transportation costs creates favorable conditions for lowering transport tariffs, which in turn leads to their further reduction. For this reason, commercial-intermediary and other commercial services should be interested in reducing costs, including transportation expenses. Changes in product inventory levels, depending on the allocation of transportation resources, determine the number of one-time suppliers. Freight turnover, delivery reliability, and the regularity of transportation influence the level of production inventories accumulated by consumers. The development of containerization in transportation helps carry out deliveries without additional handling and delays at warehouses, highlighting the need for developing logistics functions to form optimal supply batches.

The level of product inventory directly impacts the structure of warehouses, their location, and product specialization. With the involvement of transport enterprises and considering the technical condition of transport vehicles and their operating conditions, the mechanization and automation of warehouse operations are developed. Loading and unloading operations are effective only when warehouse and transport work are coordinated, both of which precede and complete the transportation process. The functioning of public warehousing terminals for all participants in the warehousing process (warehouses of producers, consumers, intermediary enterprises, and transport bases) helps simplify and reduce the cost of the transportation process.

Modern marketing, in turn, ensures the study, analysis, and forecasting of market demand for a particular product, which allows for modeling the exact need for products. Based on this, the logistics approach forms a batch of goods, which is converted into a material flow and starts moving through the logistics chain. In the event that a product arrives late or there are errors in the destination, time, etc., marketing actions will help generate demand for the product and stimulate sales (through various forms of advertising, promotion, etc.). Marketing is an integral part of the overall logistics system of an enterprise, covering the entire distribution chain: marketing, transportation, and warehousing. It can be characterized in two ways:

– as the study of market demand (which is the core function of marketing);

– as methods and ways of fully satisfying these needs [24].

Thus, in modern business management, establishing trade links, and freight movement, the concept of “marketing logistics” plays an important role, as it represents the integration of marketing and logistics. Analyzing scientific approaches to defining the concepts of “marketing” and “logistics” and their classification allows for the formulation of our own definition of “marketing logistics” as a system for optimizing the integration of material, informational, and financial flows, where the delivery of goods or provision of services is carried out in the required quantity, quality, and assortment, at the right time and place, at an acceptable price, and with minimal costs. The ultimate result of this process is the maximization of profits from all stages of the logistics chain and the social effect. Thus, marketing logistics covers the physical distribution stage, during which goods are moved from the producer to the markets [2].

G.A. Plakhuta and I.V. Popova define marketing logistics as the process of planning, implementing, and controlling the physical movement of various flows (materials, finished goods, information) accompanying the product along the chosen channel from the producer to the consumer with the aim of satisfying customer needs and generating profit [23].

F. Kotler states that marketing logistics includes planning, implementation, and control of material flows from the point of origin to the destination with the goal of satisfying buyer needs [14].

M. Christopher, one of the founders of the term "marketing logistics," does not provide a specific definition but emphasizes that marketing logistics focuses on how customer service can be used to achieve competitive advantages. It also includes managing the interaction between marketing and logistics to align strategies within a broader supply chain [9]. A popular formula is “marketing creates demand, and logistics fulfills it” [29].

The characteristics of the components of marketing logistics, which integrates elements of logistics and marketing, are shown in the figure 1.2.

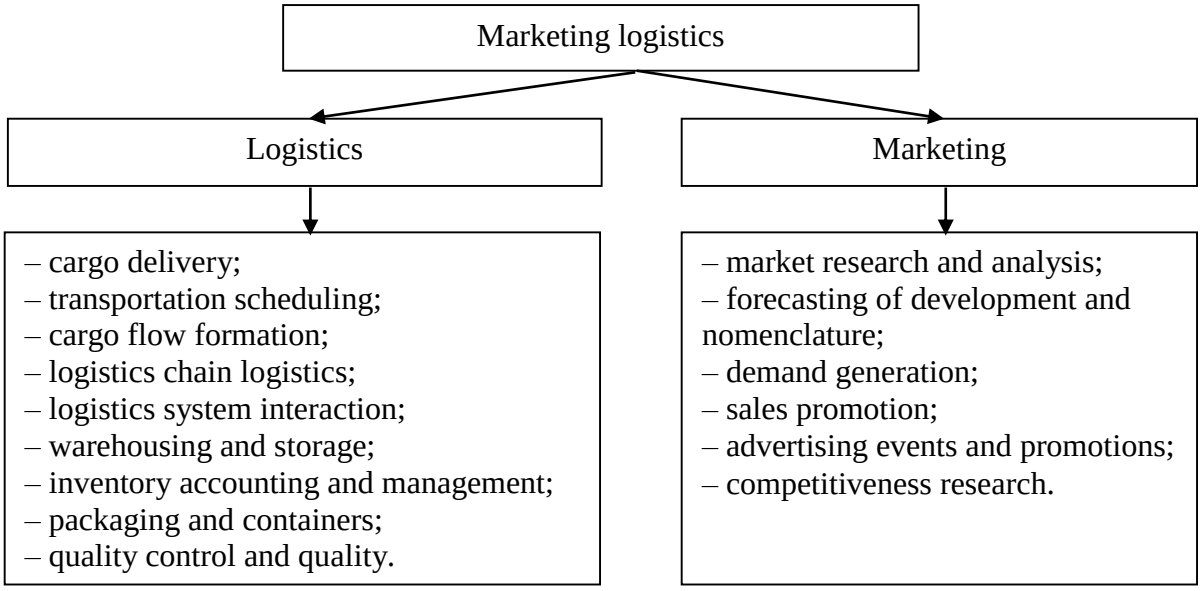


Figure 1.2 – Characteristics of the components of marketing logistics

Source: made on the basis of [29]

Thus, marketing logistics combines the most effective elements of both marketing and logistics, which enables the delivery of high-quality logistics services through enhanced marketing support. The integration of marketing and logistics in the stages preceding actual production requires a revised approach to procurement activities. At this point in managing material flows, it becomes necessary to make decisions that balance the often conflicting interests of suppliers, transportation companies, warehousing units, and production departments of consumer enterprises [1].

Within organizations, the interaction between marketing and logistics is frequently viewed from the perspective that logistics represents the second half of marketing. This is due to the fact that the links between these two business functions are often so intertwined that it becomes difficult to distinguish their areas of responsibility – even in small enterprises [34].

The marketing-logistics approach is characterized by the following:

– it focuses on maximally satisfying customer needs through comprehensive market research, studying consumer demand, preferences, and needs, as well as shaping future market requirements;

– it is implemented through a comprehensive set of marketing tools reflected

in the “7P” concept, which includes product, price, place, promotion, people (corporate philosophy), processes, and personnel;

– it is based on the correct positioning and successful market introduction of a product or service, the creation of an effective business model, and the formation of a loyal customer segment [24].

The concept of marketing logistics is crucial for modern enterprises, as it ensures unity and consistency across all functional departments, aligning them toward comprehensive customer satisfaction. Additionally, employees in these departments should actively participate in the development of this concept. Such involvement not only enhances their motivation to work collaboratively, but also fosters the integration of new ideas that can further improve the concept’s content.

The features of the elements within the “7P” concept (product, price, promotion, place, people, process, and physical evidence), which serve as the foundation for marketing logistics operations, are outlined in the table 1.2.

Table 1.2 – Characteristics of the elements of the “7P” concept

The elements of the “7P” concept	Characteristics of marketing actions	Characteristics of logistics operations
1	2	3
Price	From a marketing perspective, the primary goal is to attract various market segments through pricing strategies that ensure the product is perceived as economically viable, psychologically appealing, and generally desirable by potential consumers, thereby establishing its competitive advantages	All logistics processes – such as warehousing, transportation, packaging, and others – contribute to the final cost of the product. Thus, a key objective is to minimize these associated expenses
Product	The product is the core element of the marketing mix. It encompasses aspects such as packaging, design, assortment, quality, brand, after-sales service, return and exchange options, and functionality	Logistics plays a crucial role in shaping the flow of goods, which includes packaging, handling, and transporting while preserving product quality. Therefore, it is important to carefully analyze the product range, choose the proper transportation methods, and maintain the highest quality standards throughout the supply process

And of table 1.2

1	2	3
Promotion	The main goal is to build effective communication channels between the company and its target market. This is achieved through various marketing tools, including advertising, public relations, exhibitions, personal selling, sales promotion, and direct sales	From the logistics side, cargo formation, delivery, and distribution must be completed in the shortest possible time. Accordingly, the key logistical objective is to accelerate the movement of material flows from the producer to the consumer
Place	The ultimate aim is to ensure that the product is delivered to the right consumer group, at the right place and time. This involves distribution channels, intermediaries, levels of distribution, transportation, inventory, placement, and sales staff training	Effective organization of distribution points and storage facilities allows for optimal cargo placement. Therefore, logistics is responsible for managing the entire supply chain, ensuring precision in determining where, how, and when each shipment should be delivered
People	Relationship marketing, which is implemented through the development of a company's personnel policy (selection and training of staff focused on the client and the company's goals), as well as the formation of potential clients	The human factor is an important element of product promotion. Therefore, the task of logistics at this stage is to ensure a highly qualified and professional workforce that coordinates the management of the logistics system
Process	This aspect determines the level of consumer involvement in production processes, which is significantly higher in the service sector compared to the production of material goods. This is due to the fact that the service delivery process is closely tied to its consumption. Therefore, the main goal is to organize the interaction between service consumers and the organizations providing them	The task of logistics includes inventory control, order fulfillment, transportation organization, data processing, cargo handling, warehousing, and many other processes. The optimization of these processes is important as it allows achieving synergy in the order processing time and its physical execution; the quality of goods and methods of their delivery; managing logistics chain participants, mobility, and controlling cargo flow
Physical evidence	This also includes all material resources and visual images that help potential consumers evaluate and forecast the quality of future services. The main goal is to create a positive image of the company in the eyes of its consumers. To achieve this, companies must constantly improve their service level and quality of customer support	The concept of physical presence of cargo and the management of its movement in logistics is twofold. The logistics flow can be formed in one place, the management of its chain can be carried out in another, and participants in the process can be located in various locations. Therefore, the physical presence of the product is ensured through various logistics processes: warehousing, packaging, servicing, loading and unloading operations, transportation, and so on

Source: made on the basis of [24]

The “7P” concept ensures the marketing logistics:

– from the logistics system’s perspective: delivering the required product in the necessary quantity, at the specified location, on time, with the required speed of cargo handling, with informational transparency and accessibility, ensuring safe transportation and preservation of goods, maintaining delivery regularity and reliability, while ensuring the preservation of appropriate quality and flexibility in execution;

– from the marketing perspective: the production and sale of the best product for the consumer, with unique characteristics, at the most optimal price and purchase (delivery) method, at the right time, with effective service and customer support conditions.

The complexity and synchronicity that underlie marketing and logistics are the basis of the algorithm for building a marketing logistics system [34]:

– viewing the movement and storage of materials and goods from the primary source to the final consumer as a single continuous flow;

– implementing the logistics system as a tool for realizing the concept of marketing logistics;

– using an aggregated performance indicator of the marketing logistics system, which, in addition to the costs associated with the material flow, takes into account the lost profit due to missed (lost) opportunities and the costs related to the inventory.

The implementation of a marketing logistics system will contribute to improving the company’s operational efficiency. The main outcomes of this include:

– more accurate placement and control of inventory lead to increased sales volume and better customer service levels, which are primarily assessed through product availability;

– marketing logistics, capable of quickly responding to changes in market conditions and consumer demands, enables a reduction in the “customer service cycle” (the time between placing an order and product delivery), thus reducing consumer inventories and providing the supplier with a competitive edge in the battle for market share;

– the marketing logistics system strengthens and solidifies the relationships between suppliers and consumers;

– the use of more efficient "physical distribution" methods results in significant cost savings, which can be passed on to consumers in the form of discounts on product delivery, etc;

– the ability to compete more successfully and profitably in distant markets.

Thus, marketing logistics should be viewed as a key element of the company's competitive market strategy. Since it coordinates all actions related to customer service, implementing the principles of marketing logistics and forming its system will help achieve a synergistic effect in the company's business processes.

Conclusions to the first chapter

It has been established that contemporary logistics systems effectively facilitate the movement of goods from producers to end consumers through the involvement of specialized entities responsible for the promotion and servicing of freight flows. The fundamental principles of logistics, typically applied within manufacturing and consumer enterprises, are equally applicable to transport sector entities that are integrated into logistics networks.

Transport logistics is characterized by key components such as transportation links with suppliers and consumers, the goods in transit, warehousing infrastructure, and inventory management. The transportation process typically commences at the warehouses of finished goods and concludes with the delivery of freight to the warehouses of consumers or intermediaries. As an integral component of transport logistics, goods are regarded as commodities from the moment they are accepted for shipment until their final delivery. In this context, the organizational and economic characteristics of transportation operations are of particular importance.

Furthermore, it has been determined that modern marketing plays a critical role in the identification, analysis, and forecasting of market demand for specific

products, thereby enabling accurate modeling of required production volumes. Marketing constitutes an essential element of a firm's overall logistics system, encompassing the entire distribution chain – namely, marketing, transportation, and warehousing.

The analysis of the concept and constituent elements of marketing logistics has revealed that it synthesizes the most effective aspects of both marketing and logistics. This integration contributes to enhanced quality in the provision of logistics services, primarily through the application of marketing-based service approaches.

The conceptual framework of the "7Ps" – price, product, promotion, place, people, process, and physical evidence – has been examined, as it underpins the operational structure of marketing logistics.

Finally, the development and implementation of a marketing logistics system within an enterprise have been analyzed. It has been concluded that such a system facilitates the achievement of a systemic and synergistic effect, contributing to the overall efficiency and competitiveness of the organization.

2 Analytical and diagnostic study of the economic activities of “Medical Center “M.T.K.” LLC in the pharmaceutical market

2.1 Analysis of global and Ukrainian pharmaceutical market trends

The pharmaceutical industry represents one of the most robust sectors of the global economy, ranking among the top five most profitable industries worldwide. Over the past two decades, this sector has experienced significant growth, driven in part by ongoing efforts to develop effective treatments for diseases such as HIV/AIDS, as well as responses to public health challenges like the COVID-19 pandemic (figure 2.1).

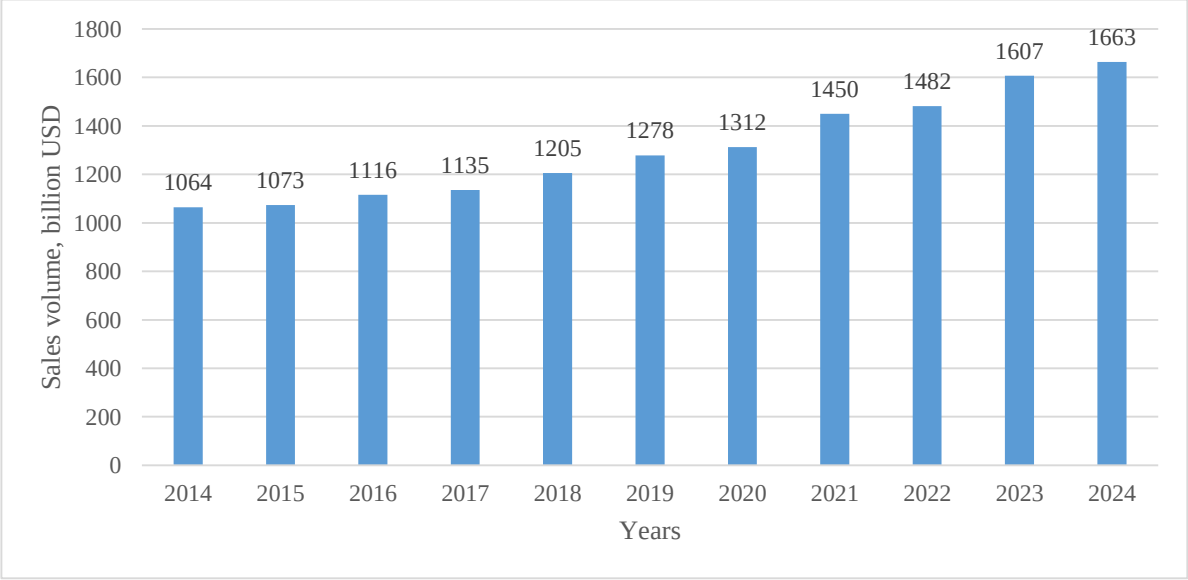


Figure 2.1 – Annual dynamics of pharmaceutical industry revenue worldwide from 2014 to 2024

Source: [5]

As illustrated in figure 2.1, revenue within the pharmaceutical sector has shown consistent growth throughout the analyzed period, reaching a record high of over USD 1.6 trillion in 2023. Notably, as in the previous year (2024), the majority

of this revenue was concentrated in a single geographic region – North America, particularly the United States. This region alone accounted for more than half of the total global sales (figure 2.2).

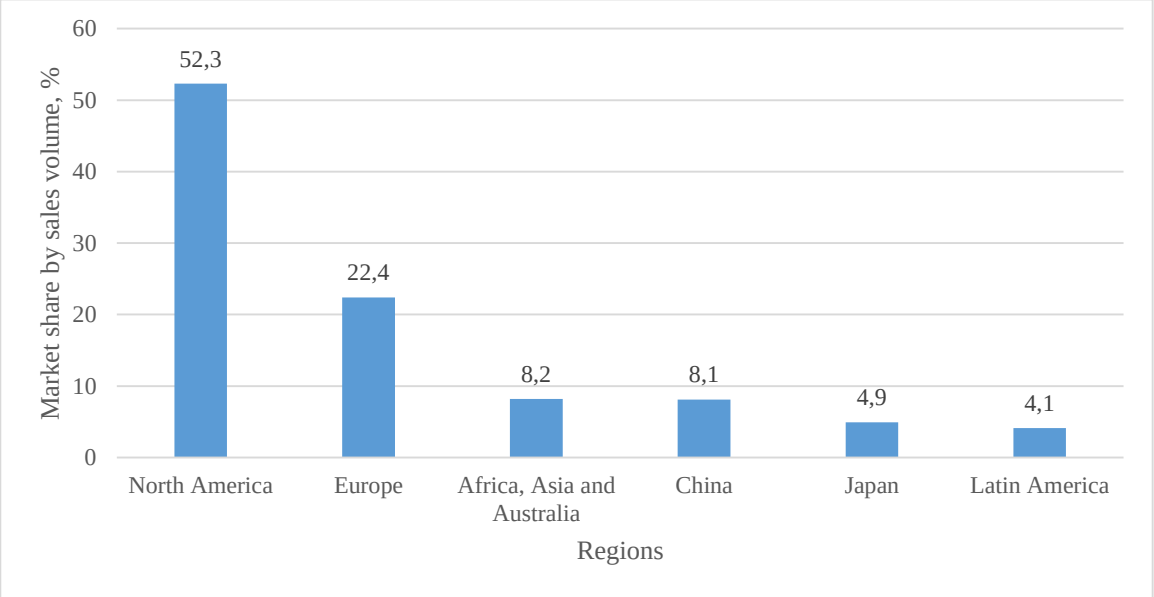


Figure 2.2 – Percentage distribution of global pharmaceutical industry sales in 2024 by region

Source: [6]

The statistics presented in figure 2.2 illustrate the regional distribution of global pharmaceutical sales in 2024. According to the data, North America accounted for approximately 52.5% of the total global pharmaceutical market revenue for that year.

The pharmaceutical industry plays a critical role not only in promoting public health and well-being but also in contributing to the global economy. Leading pharmaceutical brands are responsible not only for the development and commercialization of medications but also for exerting considerable influence on financial markets. Brand Finance, a leading brand valuation consultancy, annually analyzes 5,000 of the world's top companies. As part of this analysis, the most influential pharmaceutical brands are identified based on market share, financial performance, and brand strength (table 2.1).

Table 2.1 – TOP 10 pharmaceutical companies in the world according to Brand Finance Healthcare ranking for 2024

Brand Place	Rating by value assessment		Strength rating	
	Name	Estimated value, billion USD	Name	Strength Index (max 100)
1	Johnson & Johnson (USA)	13,4	Johnson & Johnson (USA)	83,3
2	Roche Holding AG (Switzerland)	8,8	Yunnan Baiyao Group Co. (China)	79,8
3	Pfizer Inc. (USA)	6,1	Bayer (Germany)	77,2
4	Merck & Co. (USA)	6,1	Pfizer Inc. (USA)	77,0
5	Eli Lilly and Company (USA)	5,9	AstraZeneca (United Kingdom)	75,1
6	AstraZeneca (United Kingdom)	5,7	Roche Holding AG (Switzerland)	74,9
7	Bayer (Germany)	5,5	Eli Lilly and Company (USA)	74,9
8	Novo Nordisk (Denmark)	5,1	Novo Nordisk (Denmark)	74,1
9	Sanofi (France)	4,4	Merck & Co. (USA)	72,5
10	Bristol Myers Squibb (USA)	4,2	GSK HQ (United Kingdom)	72,2

Source: [33]

As shown in table 2.1, Johnson & Johnson retained its position as the most valuable brand in the pharmaceutical sector in 2024, with a 5% increase in brand value compared to 2023. As the COVID-19 pandemic subsided in 2024, companies such as Johnson & Johnson, Pfizer, and AstraZeneca, whose brand recognition and value surged during the pandemic due to vaccine production, experienced a decline in both revenue and brand value. Moreover, a significant drop in the capital of many leading pharmaceutical firms further contributed to the reduction in their brand valuations.

Brand strength holds strategic importance in the pharmaceutical industry, directly influencing public trust, investor confidence, and regulatory relations. Leading pharmaceutical companies regard strong and valuable brands as essential tools for creating added value for stakeholders. In a competitive market, a recognizable brand enables a company to distinguish itself from its peers, while brand reliability fosters trust among healthcare professionals, patients, and other key

actors. This, in turn, enhances customer loyalty, expands market share, and contributes to revenue growth. Brand strength also plays a critical role in pricing strategy, as companies with strong brand equity are often able to command premium prices. Additionally, a strong brand attracts top talent and facilitates successful business partnerships, thereby improving a company's long-term outlook.

Given these dynamics, Brand Finance not only assesses brand value but also evaluates the relative strength of pharmaceutical brands, based on large-scale public surveys and a comprehensive scoring system that incorporates investment performance, brand equity, and operational efficiency. According to the 2024 data, Johnson & Johnson retained its position as both the most valuable and the strongest pharmaceutical brand, despite a modest annual growth of just 1%.

Market capitalization serves as a key indicator of a company's value on the stock market, reflecting its financial stability and potential for future growth. Figure 2.3 presents the global ranking of biotechnology and pharmaceutical companies by market capitalization in 2024, based on data published on the Statista web platform.

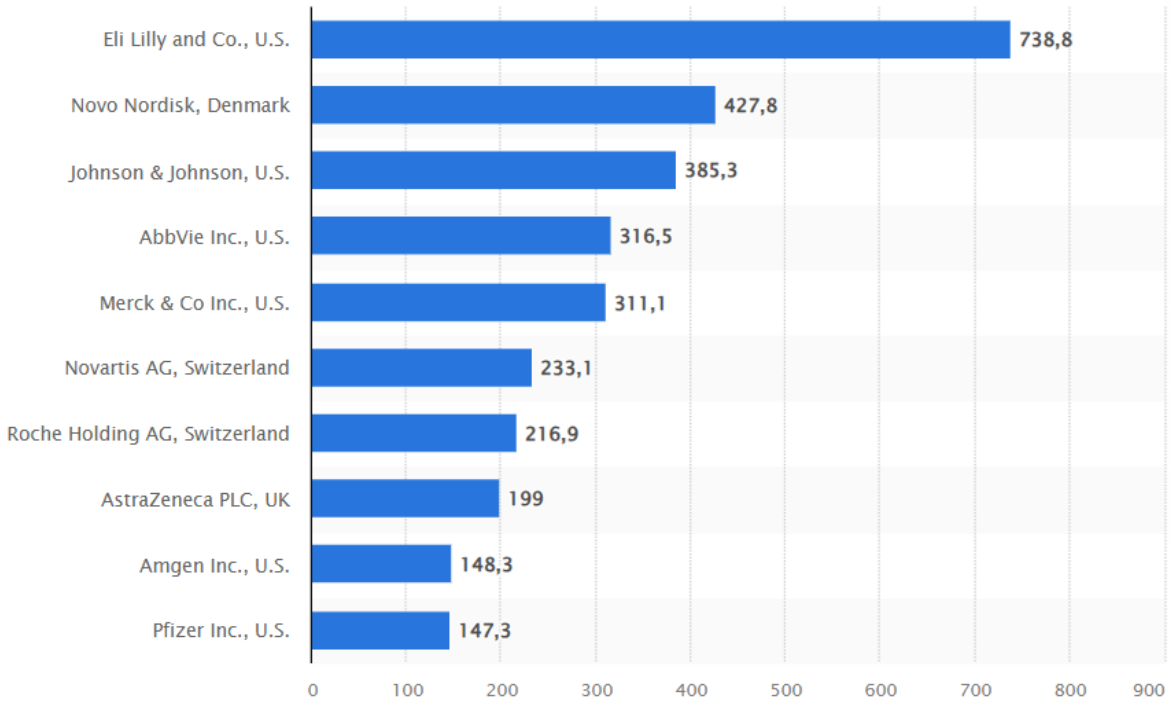


Figure 2.3 – Global ranking of biotechnology and pharmaceutical companies by market capitalization in 2024 (billion USD)

Source: [33]

The healthcare sector remains the largest consumer of research and development (R&D) resources. According to estimates by the International Federation of Pharmaceutical Manufacturers & Associations (IFPMA), investments in the pharmaceutical industry are expected to exceed USD 200 billion by 2025. A significant portion of this investment is associated with technological advancements that drive transformative improvements in patient outcomes. Thus, R&D continues to serve as the cornerstone of the industry's evolution. Figure 2.4 illustrates the distribution of R&D investments by function across major pharmaceutical companies in 2024.

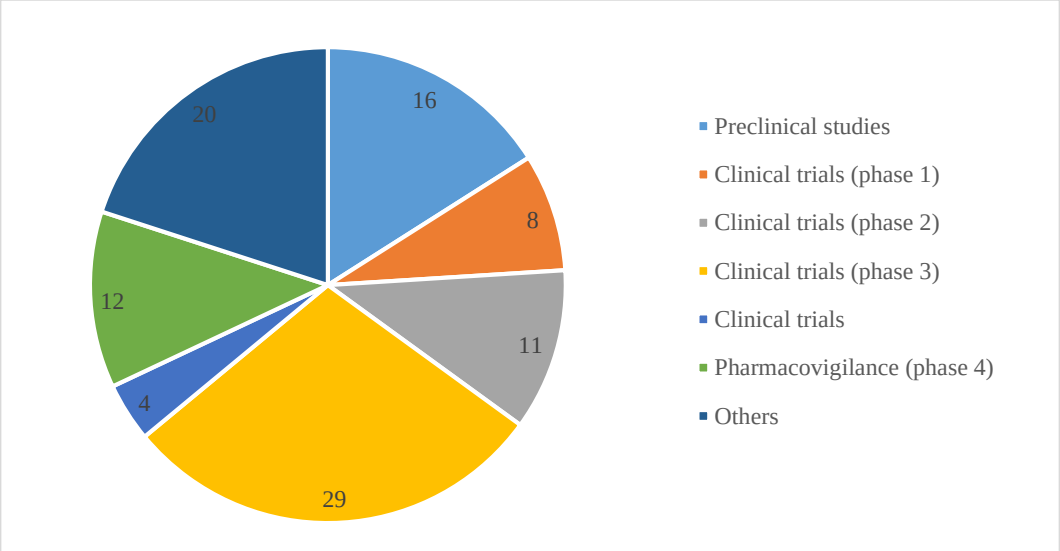


Figure 2.4 – Functional distribution of investments in pharmaceutical research and development in 2024, %

Source: [26]

According to statistical data, more than 9,000 pharmaceutical products and 260 vaccines are currently under development worldwide, spanning all major areas of medicine. However, the time lag between regulatory approval and inclusion in national health insurance systems can extend up to ten years in certain countries. The creation of a new drug or vaccine entails years of research, substantial time investment, and significant funding. As a result, pharmaceutical companies are actively fostering the development of innovative ecosystems that bring together

researchers, healthcare professionals, regulators, patient advocacy groups, and medical service providers.

Modern approaches to organizing research and development in the pharmaceutical industry include:

– personalized (precision) medicine, which focuses on identifying patients' genetic and molecular profiles to enable more accurate diagnoses and predict treatment responses. This approach enhances efficacy and reduces adverse effects. It also redefines the role of patients, empowering them to become active participants in managing their health through individualized care;

– a comprehensive ESG (Environmental, Social, and Governance) approach, centered on people and supported by the adaptation of strategies and technologies in compliance with international ethical and regulatory standards. This ensures patient safety and timely access to effective therapies;

– digitalization of both internal and external processes, which contributes to improved service quality and patient awareness. Access to large datasets via mobile applications and wearable devices enables the identification of more effective treatment methods through the use of segmented, structured information.

– regulatory flexibility, aimed at simplifying approval and marketing procedures for new treatments and clinical trials without compromising safety or efficacy.

The current state of the pharmaceutical market in Ukraine is primarily shaped by the challenges brought about by the ongoing war. The year 2022 proved to be particularly difficult for the domestic pharmaceutical sector: after several years of consistent annual growth in sales volumes by 10-12%, the market experienced a contraction of 6.1%. According to other expert estimates, pharmacy sales in 2022 declined by 29%, while pharmaceutical prices rose by 19%. Key challenges faced by the market under wartime conditions include the loss of retail infrastructure and raw material supply chains, complications and increased costs in logistics, inflation and reduced consumer purchasing power, rising prices for imported raw materials due to currency fluctuations and energy price increases in Europe, a shrinking

consumer base as a result of large-scale population displacement abroad, and a critical workforce shortage, particularly in the retail pharmaceutical sector.

Since the end of 2022, the Ukrainian pharmaceutical market has shown signs of gradual recovery. In particular, there has been an increase in the volume of medicines sold, although initially only in monetary terms: in 2023, sales in the national currency grew by 23% compared to the previous year, while the number of units sold (in packages) declined by 6.4%.

As of the end of 2024, the total consumption of pharmaceutical products in Ukraine (including both retail and hospital segments) amounted to UAH 171 billion, reflecting a 17% increase compared to 2023. In USD terms, due to exchange rate fluctuations, the growth rate was 6%, with total consumption reaching USD 4.3 billion. In physical terms, approximately 1 billion packages were consumed, representing a 1% increase over the previous year.

The development of the Ukrainian pharmaceutical market remains highly dependent on consumer welfare, as public sector contributions to drug financing are relatively low. In 2024, government expenditures covered only about 13% of total pharmaceutical consumption. Given the ongoing military conflict, a substantial increase in budget allocations for the healthcare sector is unlikely in the near term.

The rise in pharmaceutical prices has been driven by inflation, increasing costs of raw materials, and distribution services. Meanwhile, the expansion of pharmacy chains in territories liberated from occupation has contributed positively to sales growth. Price sensitivity has significantly influenced consumer preferences, leading to increased demand for domestically produced low-cost medicines. The average price per package in 2022 and the first half of 2023 ranged between UAH 100 and 150, with over half of all medicines in early 2023 purchased for under UAH 100. Notably, approximately 70% of pharmaceutical companies operating in Ukraine are domestic producers.

Table 2.2 presents the rankings of Ukrainian pharmaceutical companies based on 2024 data.

Table 2.2 – Rating of Ukrainian pharmaceutical companies in 2024

Company	Average score from the jury	Place in the rating	Points	Points, %
Farmak	4,8	1	12,21	100
ARTERIUM	4,3	2	12,09	98,99
Pharmaceutical company “Zdorovya”	4,0	3	10,87	89,07
Darnytsa	5,0	4	10,52	86,14
YURiA-PHARM	4,3	5	8,30	68,02
InterKhim	3,8	6	7,44	60,96
Borshchagivskyi HFZ	3,5	7	6,20	50,81
Unipharma	5,0	8	6,11	50,02
Chervona zirka	4,3	9	5,37	43,96
Kiyv vitamin plant	3,2	10	4,99	40,87

Source: [27]

According to table 2.2, Farmak ranks first in the Ukrainian Business Award ranking. Farmak is one of Ukraine’s largest pharmaceutical exporters, distributing its products to over 50 countries worldwide. Each year, the company introduces approximately 20 new medicinal products, with more than 100 complex formulations currently under development. In total, its portfolio includes over 400 different pharmaceuticals. In 2021, Forbes recognized Farmak as one of the top 10 most innovative companies in Ukraine, and in 2023, it was named the number one employer in the Ukrainian pharmaceutical sector.

Globally and across the European region, growth in the pharmaceutical market has slowed since the end of the COVID-19 pandemic. U.S.-based pharmaceutical companies continue to dominate the global market in terms of capitalization, brand value and strength. They also lead in the development of new financing models and organizational approaches to pharmaceutical R&D. In Ukraine, the growth trajectory of the pharmaceutical market was disrupted by the outbreak of war. However, within a year, the domestic pharmaceutical industry, along with distribution and retail pharmacy networks, managed to restore production and logistical operations. This recovery contributed to improvements in both domestic sales and export performance. Among the top ten pharmaceutical companies in Ukraine by sales volume, seven are domestic producers.

2.2 General characteristics and analysis of the main financial indicators of the economic activity of “Medical Center “M.T.K.” LLC

“YURiA-PHARM” is a Ukrainian pharmaceutical group of companies operating in more than 50 countries, with exports accounting for approximately 25% of its turnover. Among both domestic and international pharmaceutical companies, it ranks in the top five by volume of trade. The corporation’s product portfolio expands annually by around 20 new products and currently includes over 600 registration certificates (addition A) [19].

The company’s manufacturing history dates back to June 1968, when one of the country’s most advanced facilities for the production of infusion solutions was launched on the basis of the Cherkasy City Dairy Plant. In 1990, the facility was renamed JSC “Yuria”. At the beginning of the 1990s, a retail pharmacy business was also established – “Medical Center “M.T.K.” – which has since evolved into one of the largest distribution enterprises, with a total area of licensed pharmacy warehouses exceeding 33,000 square meters [19].

In 1998, the pharmaceutical company LLC “YURiA-PHARM” was founded. In 2013, the company transitioned from a national manufacturer to an international corporation, exporting its products to over 20 countries and actively expanding into new foreign markets.

The corporation’s core business areas include research and development (R&D), production, marketing, and pharmaceutical distribution.

The distribution function within the corporation is handled by LLC “Medical Center “M.T.K.”, which operates 10 licensed pharmacy warehouses and 12 regional licensed centers [18]. In Khmelnytskyi Oblast, the warehouse is located in the city of Horodok. From this location, pharmaceutical products are delivered to pharmacies and healthcare institutions throughout the region, as well as partially to the city of Rivne. The pharmacy network of LLC “Medical Center “M.T.K.” in the city of Khmelnytskyi includes five pharmacy locations at: 46 Myru Avenue; 1a Pilot

Street; 87/1 Volodymyrska Street; 1 Proskuriv Underground Lane; and 11 Hryhorii Skovoroda Street.

The object of this research is the operation of the pharmaceutical warehouse located in Horodok, taking into account its organizational structure (figure 2.5).

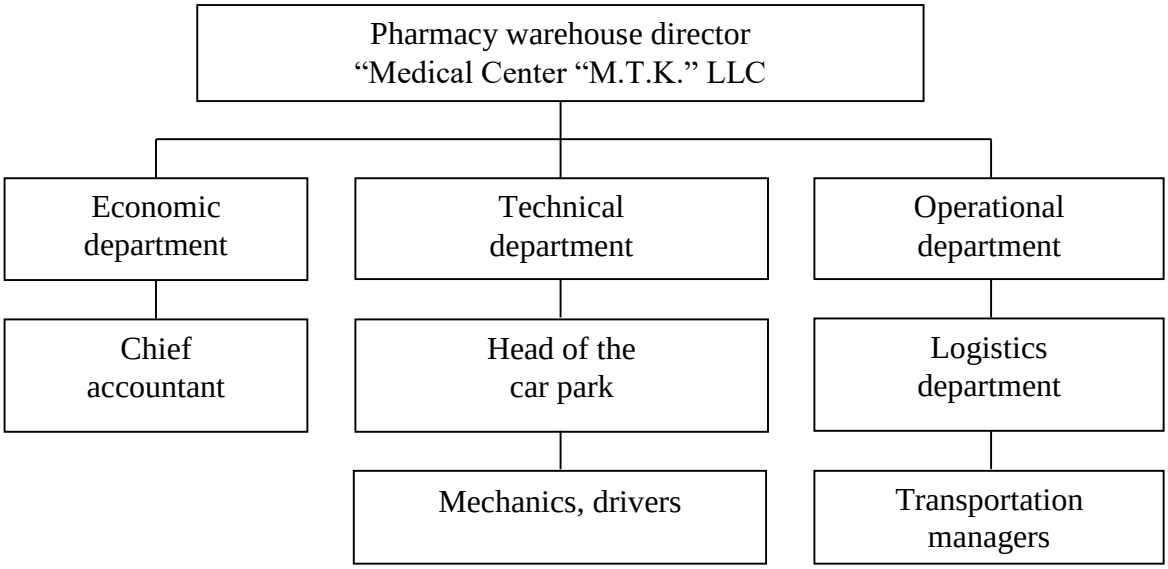


Figure 2.5 – Diagram of the organizational structure of a pharmacy warehouse “Medical Center “M.T.K.” LLC

Source: [18]

As illustrated in figure 2.5, the organizational structure of the pharmaceutical warehouse is designed to effectively fulfill the core functions typical of a distributor of pharmaceutical products manufactured by the YURiA-PHARM corporation. These functions include:

– conducting storage and warehousing operations for products;

– ensuring product preservation and protection, as well as risk insurance;

– performing monitoring activities and providing informational support to customers;

– developing optimal delivery routes for pharmaceutical products to ensure their continuous availability;

– organizing the transportation of goods, including the return of unsellable products, reusable containers, and waste;

– managing inventories, consolidating and distributing goods;

– maintaining product quality standards and logistical service levels.

Analytical data on the key financial indicators of LLC “Medical Center “M.T.K.” for the period 2022–2024 are presented in table 2.3.

Table 2.3 – Main financial indicators of economic activity “Medical Center “M.T.K.” LLC for 2022-2024

Indicator	Year			Growth rates, %	
	2022	2023	2024	2023/ 2022 yy.	2024/ 2023 yy.
Net income from sales of products (goods, works, services), thousand UAH	3101524	4273331	4731067	137,78	110,71
Cost of goods sold (goods, works, services), thousand UAH	2531313	3475710	3588133	137,31	103,23
Gross profit, thousand UAH	570211	797621	1142934	139,88	143,29
Other operating income, thousand UAH	53953	178496	162283	330,84	90,92
Administrative costs, thousand UAH	73893	85171	102164	115,26	119,95
Selling expenses, thousand UAH	323697	497931	590232	153,83	118,54
Other operating expenses, thousand UAH	180980	205364	211308	113,47	102,89
Financial result from operating activities, thousand UAH	45594	187651	401513	411,57	213,97
Other financial income, thousand UAH	141490	446141	585675	315,32	131,28
Financial expenses, thousand UAH	29370	32844	29948	111,83	91,18
Financial result before tax, thousand UAH	157714	600948	957240	381,04	159,29
Income tax, thousand UAH	8763	41642	65877	475,20	158,20
Net profit, thousand UAH	148951	559306	891363	375,50	159,37

Source: developed based on the company’s financial statements [32]

Figure 2.6 illustrates the revenue dynamics of LLC “Medical Center “M.T.K.”, which shows a consistent upward trend during the analyzed period. The largest share of the company’s revenue comes from net income from sales of products (goods, works, services). In 2023, compared to 2022, this indicator increased from 3101524 thousand UAH to 4273331 thousand UAH, which represents a 38% growth. In 2024, the growth rate slowed down slightly, with an increase of only 11%, reaching 4731067 thousand UAH.

The significant revenue increase in 2023 is largely attributed to fluctuations in the exchange rate of the hryvnia against major foreign currencies, as the company

exports about 25% of its products. Additionally, the rise in income is partially related to inflation-driven price increases.

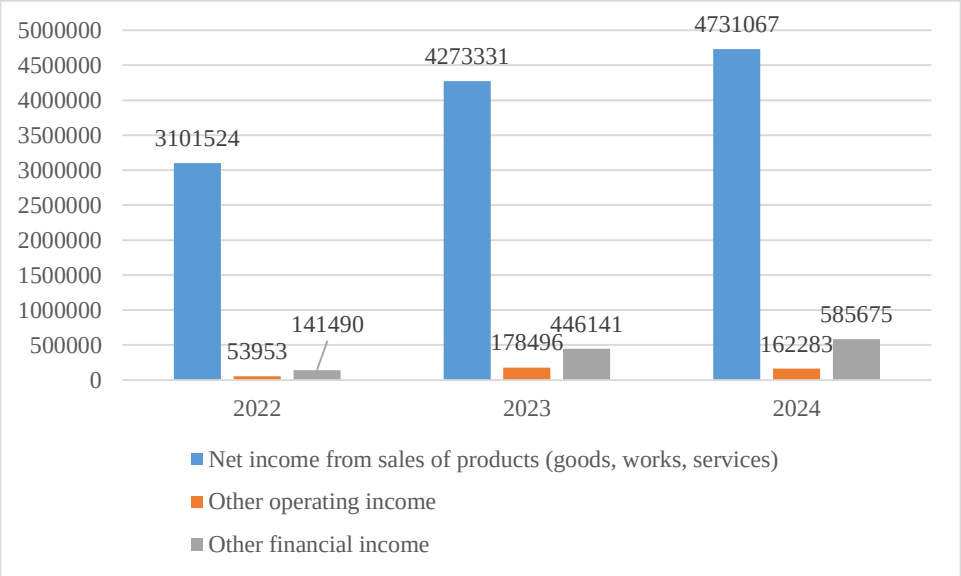


Figure 2.6 – Revenue dynamics “Medical Center “M.T.K.” LLC for 2022-2024, thousand UAH

Source: developed based on the company’s financial statements

Figure 2.7 shows the dynamics of the company’s costs.

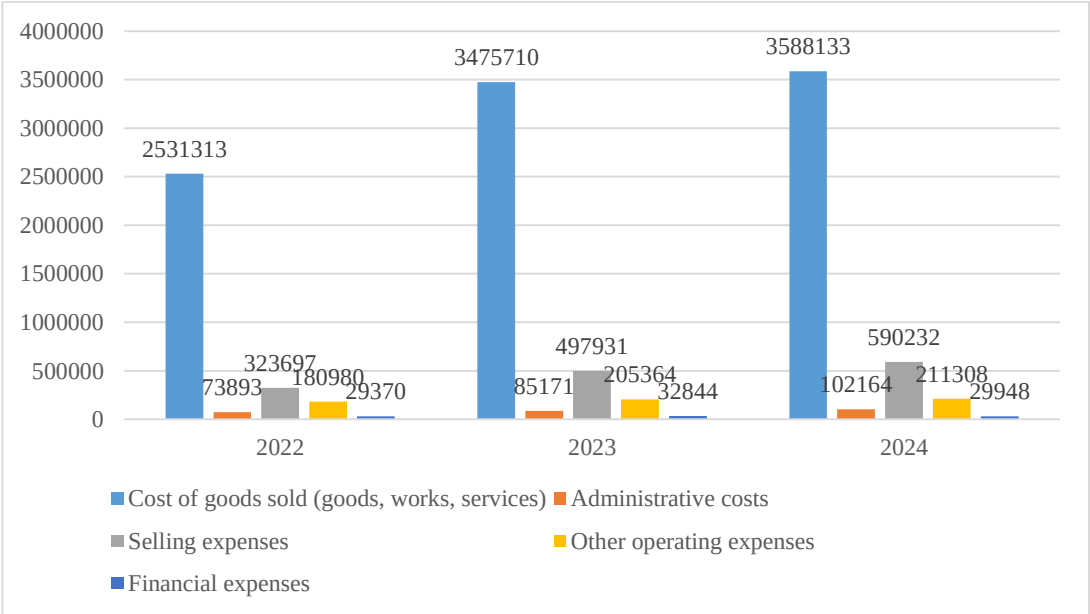


Figure 2.7 – Cost dynamics “Medical Center “M.T.K.” LLC for 2022-2024, thousand UAH

Source: developed based on the company’s financial statements

The expenditures of LLC “Medical Center “M.T.K.” also demonstrated a steady upward trend, growing from 2958273 thousand UAH in 2022 to 4521785 thousand UAH in 2024, which marks a 53% increase. The largest portion of the company’s expenses is represented by the cost of goods sold.

In 2023, this expense grew by more than 37% compared to the previous year.

Figure 2.8 shows the dynamics of the financial result before tax and corporate income tax for 2022-2024.

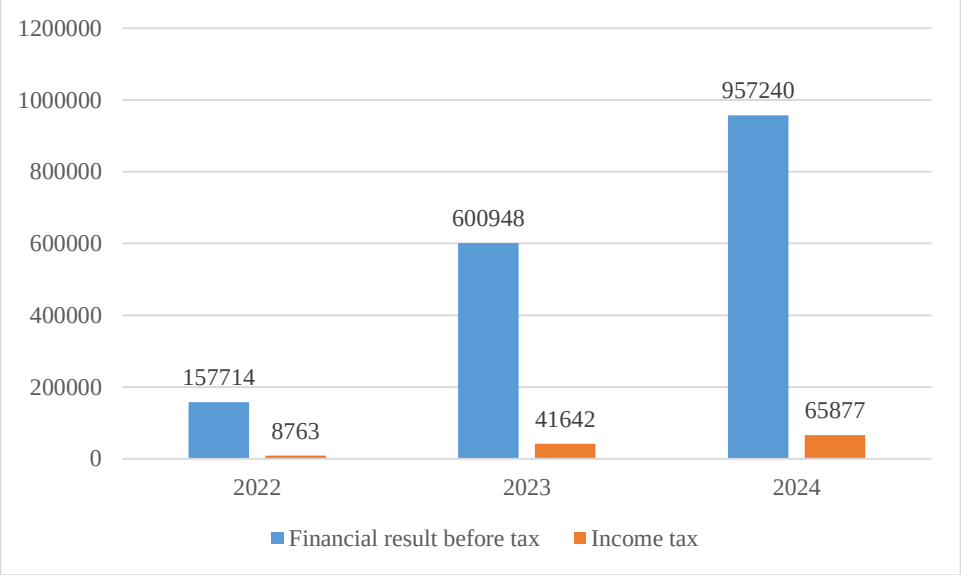


Figure 2.8 – Dynamics of financial result before tax and income tax “Medical Center “M.T.K.” LLC for 2022-2024, thousand UAH

Source: developed based on the company’s financial statements

As shown in figure 2.8, there was a substantial increase in the company’s financial result before tax – more than 6 fold over the analyzed period – and in the amount of profit tax paid – more than 7 fold. The highest pre-tax profit was recorded in 2024 at 957240 thousand UAH. The lowest was in 2022 at 157714 thousand UAH. In 2023, the pre-tax profit amounted to 600948 thousand UAH.

The largest profit tax payment was made in 2024, amounting to 65877 thousand UAH, while the smallest was in 2022 – 8763 thousand UAH.

Figure 2.9 shows the dynamics of net profit of LLC “Medical Center “M.T.K.” for 2022-2024.

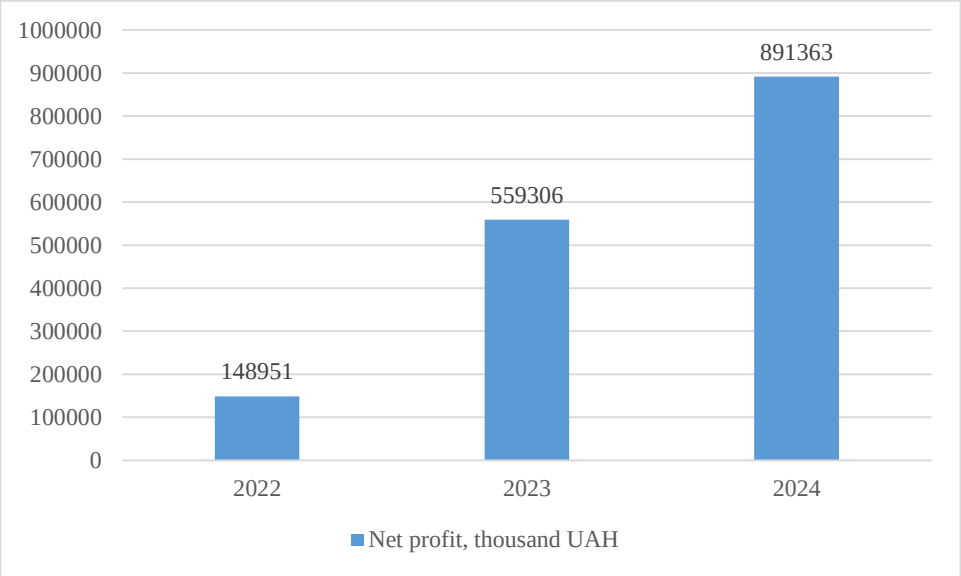


Figure 2.9 – Net profit dynamics “Medical Center “M.T.K.” LLC

Source: developed based on the company’s financial statements

Note that the growth rate of this indicator over the studied period is similar to the dynamics of the financial result indicator before tax, in particular, the company received the highest amount of net profit in 2024 – 891363 thousand UAH, which exceeds the previous year by more than 1.5 times, and 2022 – by 6 times.

In order to better understand the financial condition of the enterprise, we will calculate the main financial indicators (table 2.4).

Table 2.4 – Main financial indicators of LLC “Medical Center “M.T.K.”

Indicator	Years		
	2022	2023	2024
Revenue, thousand UAH	3101524	4273331	4731067
Net profit, thousand UAH	148	559306	891363
Assets, thousand UAH	1576746	1955249	2502588
Cash and cash equivalents, thousand UAH	358112	290273	93108
Long-term liabilities, thousand UAH	65749	37265	56095
Current liabilities, thousand UAH	355636	553878	816458
Equity, thousand UAH	1155361	1364106	163035
Current liquidity ratio	3,82	3,05	2,58
Autonomy ratio	0,73	0,70	0,65
Return on assets	0,09	0,29	0,36
Return on equity	0,14	0,44	0,60
Non-current assets coverage ratio	5,32	5,14	4,08

Source: developed based on the company’s financial statements [32]

The analysis of the data in table 2.4 indicates that all the key financial indicators of LLC “Medical Center “M.T.K.” for the years 2022-2024 demonstrate that the company’s financial condition is stable and enables efficient operations. The decrease in the ratio of fixed assets coverage by equity in 2024 was due to a significant increase in revenue.

Thus, during the analyzed period, LLC “Medical Center “M.T.K.” substantially increased its sales volume in monetary terms, primarily due to fluctuations in the exchange rate of the hryvnia against major foreign currencies. Therefore, the management of LLC “Medical Center “M.T.K.” needs to seek additional opportunities to improve the efficiency of its distribution activities by optimizing costs. In our opinion, such opportunities can be found in the optimization of distribution route planning for LLC “Medical Center “M.T.K.” in the Khmelnytskyi region.

2.3 Analysis of the marketing activities of the corporation “YURiA-PHARM” and the distribution structure of “Medical Center “M.T.K.” LLC in the Khmelnytskyi region

The marketing activities of the pharmaceutical warehouse of LLC “Medical Center “M.T.K.” are coordinated and supervised by the central office of the “YURiA-PHARM” corporation. Therefore, it is appropriate to analyze the marketing strategy and practices of the corporation itself. “YURiA-PHARM” owns a registered trademark, with various logo options shown in figure 2.10.

As illustrated in the figure, the logo is designed in white and green colors, and the graphic element is associated with the company’s core activity – the production of infusion solutions. The brand book is publicly available on the corporation’s official website in the “Media Center” section, and it also allows for black-and-white versions of the logo.

Figure 2.10 – Variants of the logo of the corporation “YURiA-PHARM”

Source: [19]

We believe that the chosen color palette of the logo is well thought out: white symbolizes purity, light, and joy, and is associated with daylight, while green represents life and hope. The combination of these colors effectively reflects the core focus of the corporation “YURiA-PHARM”.

It should be noted that all of the corporation’s products are packaged using its corporate branding. Depending on the intended use of the pharmaceutical products, different shades and color combinations are applied, as illustrated in figure 2.11.

Figure 2.11 – Using corporate symbols in the design of product packaging of the corporation “YURiA-PHARM”

Source: [19]

A notable aspect of the corporation's marketing strategy is that certain popular product groups and specific items receive dedicated marketing support, including the development of individual websites (addition B).

In addition to the logo's visual design and color scheme, the company's main slogan – "Life-giving power of solutions" – is prominently used. In our view, the slogan effectively conveys the company's primary area of expertise.

The business philosophy of the corporation is also clearly reflected on the product packaging and includes the following key statements:

– purpose: "Life is the greatest earthly value! We are called to preserve and improve it!"

– mission: "We develop unique solutions for human health and treatment. We earn the respect of society, the recognition of doctors, and the trust of patients. We unleash the creative potential of our employees and partners and improve their well-being. Our innovations set trends in the pharmaceutical industry. We are part of society, and society must be healthy!"

– vision: "YURiA-PHARM" – a leading international specialized pharmaceutical corporation and the best employer in the industry".

– values: "Clients and partners who trust us; an ambitious team of professionals united by a strong corporate spirit; the highest quality in both our products and client relationships; effective internal communication; maximum business performance and profitability; and the opportunity for every employee to achieve self-realization".

The corporation actively works to strengthen its image as a manufacturer of high-quality products. In particular, a quality management system has been introduced and implemented in stages:

– in 2008, "YURiA-PHARM" received a certificate of compliance with international quality management standards ISO 9001-2001 (ISO 9001:2000, IDT);

– in December 2011, the certification body "UMCS" issued a certificate confirming compliance with the requirements of DSTU ISO 13485:2005 (ISO 13485:2003, IDT);

– in November 2012, the quality management certification body BSI confirmed that the company's quality system complied with ISO 13485:2003. That same year, the State Service of Ukraine on Medicines issued a certificate of compliance with Good Manufacturing Practice (GMP) standards;

– in May 2013, "UMCS" also issued a certificate attesting that the production of single-use injection syringes met the Technical Regulation on medical devices. In September 2013, the Romanian Ministry of Health, through the National Agency for Medicines and Medical Devices, issued a GMP certificate under Article 111(5) of Directive 2001/83/EC;

– in 2016, the corporation's production site in Italy – Diaco Biofarmaceutici – successfully passed Italian certification and launched its first products;

– in 2017, the Center for Personalized Pharmacy "Hemoteka" was established;

– in 2018, registered, certified, and launched the development of its own distribution network in Uzbekistan under the brand "GD-Pharm".

All products of the corporation "YURiA-PHARM" are labeled with quality assurance marks, which positively influence consumer perception and contribute to the company's positioning as a certified and high-quality pharmaceutical manufacturer.

Thanks to its robust quality management system, corporation "YURiA-PHARM" ranks among the TOP-5 largest domestic pharmaceutical manufacturers and is included in the TOP-10 leaders of Ukraine's pharmaceutical market.

An important tool in the corporation's marketing strategy is its official website (https://www.uf.ua/), whose content and design support the image of the corporation "YURiA-PHARM" as a modern and consumer-oriented manufacturer (figure 2.12).

The official website of the corporation "YURiA-PHARM" is designed in the company's signature color scheme, which enhances brand recognition. The interface is user-friendly, and the website's domain name is easy to remember. The site is integrated with major search engines, allowing for quick access through contextual search. From the homepage, users can easily navigate to the corporation's social media presence on Facebook or view promotional videos on YouTube [20; 21; 22].

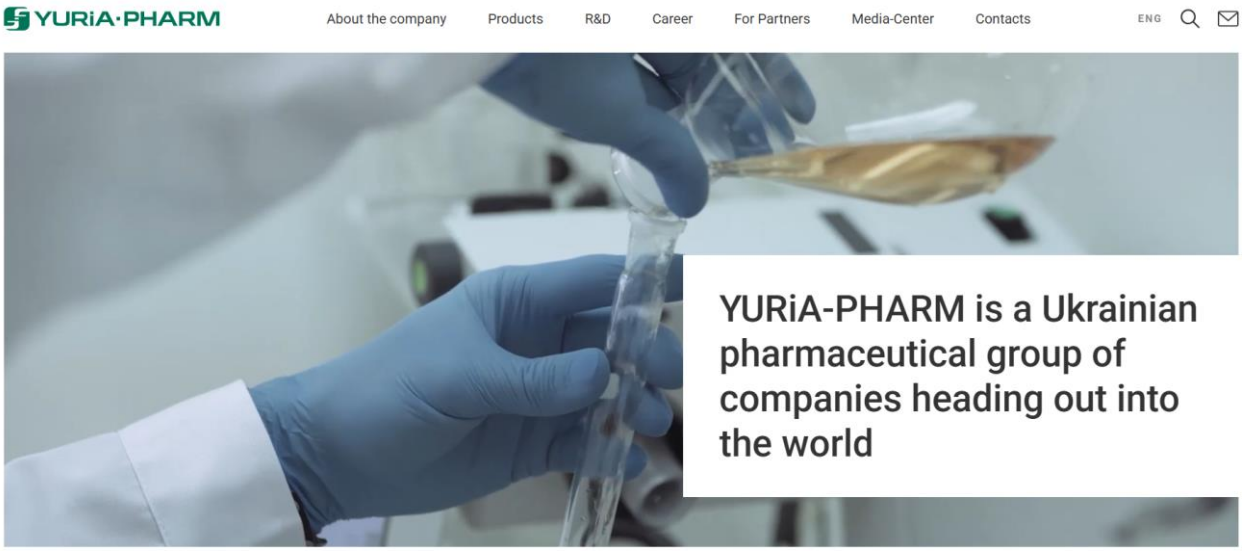


Figure 2.12 – Website of the corporation “YURiA-PHARM”

Source: [19]

The homepage effectively reflects the company’s primary field of activity – pharmaceutical manufacturing and distribution. If needed, customers can download the product catalog, select the desired item, and contact the company either via phone or email. Additionally, a feedback form is available for users to submit inquiries and receive prompt responses.

The website is also well-suited for international clients, with an option to switch the interface to English. The navigation structure is logically organized, allowing visitors to obtain the desired information directly from the homepage, while also providing clear pathways to return to previous pages or access other sections. For expanded information on specific product categories, interactive links are provided.

Overall, the marketing strategy of “YURiA-PHARM” is implemented at a highly professional level. Therefore, a more detailed analysis of the distribution system of the pharmaceutical warehouse is warranted.

The pharmaceutical warehouse of “Medical Center M.T.K.” LLC, located in the town of Horodok, Khmelnytskyi region, operates as a distribution facility that has developed its own logistics service model and established transportation standards. The foundation of its transport and logistics services lies in a well-equipped technical base.

A notable feature of the warehouse's transport operations is its specialization in handling pharmaceutical products, necessitating adherence to strict transport requirements. The vehicle fleet of the regional warehouse is characterized by high mobility and relatively low fuel consumption.

An analysis of the warehouse's vehicle fleet is presented in table 2.5.

Table 2.5 – Structure of vehicles of the pharmacy warehouse of LLC "Medical Center "M.T.K." in the city of Horodok, Khmelnytskyi region

Car brand	Body type	Norm of toxicity	Fuel consumption per 100 km, l.	Load capacity, tons	Number of cars
Volkswagen Crafter 35 Kasten L3H3	Cargo van	Euro 5	8,8	1,20	1
Volkswagen Crafter 35 Kasten L4H3	Cargo van	Euro 5	8,8	1,80	2
Volkswagen Crafter 35 Kasten L5H3	Cargo van	Euro 5	8,8	2,40	1
Volkswagen Caddy Cargo Maxi PRO	Cargo semi-trailer	Euro 6	5,8	0,80	2

Source: based on technical documentation

According to the data presented in table 2.5, the pharmaceutical warehouse is equipped with transportation vehicles that are optimally suited for the specific nature of the goods being delivered. This alignment is particularly important due to the fluctuating demand from hospitals and pharmacies, which is influenced by varying order volumes, delivery times, stock availability, and required reliability of shipment. Therefore, the key criteria for effective transportation in this context are the frequency and speed of deliveries.

Daily distribution of pharmaceutical products across the region, with a constantly changing assortment, necessitates a flexible logistics model. The selected fleet of transport vehicles (table 2.5) is considered optimal in terms of delivery speed and fuel efficiency.

Another important component of the warehouse logistics system is the organization of warehousing operations, where the efficiency is primarily determined by how well the loading and unloading processes are managed.

Figure 2.13 presents the transport and technological scheme of cargo delivery implemented at the warehouse of LLC “Medical Center “M.T.K.”.

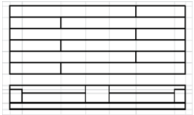
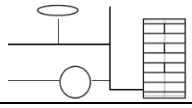
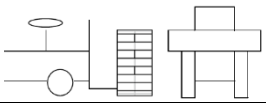
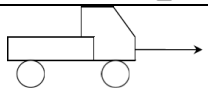
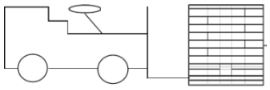
The name of the operation	Graphic representation of the operation	Description of the operation	List of technical means
Cargo storage		Storage of boxes on pallets in the warehouse	Warehouse, pallets
Cargo movement in the warehouse		Moving pallets in the warehouse using an electric forklift	Electric forklift, operator
Cargo loading		Loading pallets into a car using an electric forklift	Electric forklift, operator, car
Cargo transportation		Moving a loaded car to the recipient	Car, driver
Cargo unloading		Unloading a car using an electric forklift	Electric forklift, operator

Figure 2.13 – Transport and technological scheme for the delivery of goods to the pharmacy warehouse of LLC “Medical Center “M.T.K.”

Source: based on technical documentation

As illustrated, the logistics model of the warehouse includes all key warehousing processes. Each stage is regulated by specific technical documentation, and designated personnel are assigned to ensure smooth execution of operational tasks.

In summary, based on the analysis of operational, marketing, and distributional performance indicators of both LLC “Medical Center “M.T.K.” and the “YURiA-PHARM” corporation, it can be concluded that the enterprise functioned efficiently across all major areas during the study period. Nevertheless, one critical element of the distribution process – transportation routing – has yet to be thoroughly examined. This aspect will be the focus of the following section of this qualification work.

Conclusions to the second chapter

It has been established that, on both the global and European levels, the growth rate of the pharmaceutical market has slowed following the end of the COVID-19 pandemic. U.S.-based companies continue to lead in terms of market capitalization, brand value, and influence. In Ukraine, the development of the pharmaceutical sector was disrupted by the onset of the full-scale war. However, within a year, the domestic pharmaceutical industry, along with distributors and pharmacy chains, managed to restore production and logistics operations, which contributed to improvements in both domestic sales and export performance. Among the top ten pharmaceutical companies in terms of sales volume on the Ukrainian market, seven are national manufacturers. In particular, “Farmak” and “Arterium” maintain leading positions in the overall ranking.

The financial analysis of the research subject – LLC “Medical Center “M.T.K.” – confirmed that the company maintains a stable financial position, enabling it to operate efficiently.

The marketing activities of the corporation “YURiA-PHARM” are carried out at a high professional level. The official website design adheres to the company’s corporate color scheme, enhancing brand recognition. All products are marked with quality certification labels, positively influencing consumer perception and reinforcing the company’s image as a producer of certified and high-quality pharmaceutical products.

The distribution infrastructure of the pharmaceutical warehouse operated by LLC “Medical Center “M.T.K.” in the city of Horodok, Khmelnytskyi region, is equipped with vehicles suited to the specific requirements of pharmaceutical transportation. This alignment is particularly important given the fluctuating demand from healthcare institutions and pharmacies, which is characterized by variable order volumes, delivery schedules, product availability, and the required reliability of transportation.

3 Development of ways to increase the efficiency of distribution activities of “Medical Center “M.T.K.” LLC in Khmelnytskyi region

3.1 Marketing desk research on regulatory support for the transportation of medicines

The transportation of medicinal products within the territory of Ukraine is regulated by the Licensing Conditions for conducting business activities in the manufacturing of medicinal products, wholesale and retail trade in medicinal products, and the import of medicinal products (excluding active pharmaceutical ingredients), approved by Resolution № 929 of the Cabinet of Ministers of Ukraine dated November 30, 2016 (hereinafter referred to as the Licensing Conditions). In accordance with Clause 103 of the Licensing Conditions, a licensee engaged in the wholesale trade of medicinal products must ensure compliance with both general and specific storage conditions defined by the manufacturer throughout all stages of the wholesale supply chain, including during transportation [7].

Requirements for the transportation of medicinal products are outlined in Clauses 133-139 of the Licensing Conditions. Specifically, during the transportation process, the licensee is responsible for maintaining storage conditions consistent with those established by the manufacturer, as well as ensuring the protection of medicinal products from damage, falsification, theft, and any form of compromise such as spillage, scattering, or breakage.

Medicinal products must be transported under conditions that preserve their quality, integrity, and safety, while preventing exposure to dust, atmospheric precipitation, or foreign odors. If special storage conditions are required, the transportation process must adhere to information provided on the product packaging or in the medicinal product’s instructions for use (Clause 136) [7].

Medicinal products must also be protected against packaging damage, spillage, contamination, or cross-contamination with other substances. Co-

transportation with foodstuffs or other types of cargo is strictly prohibited. Transportation must consider the physical and physicochemical properties of medicinal products, ensuring protection against environmental factors.

During transportation, the following must be ensured:

– separate transportation of potent and narcotic drugs from other medicinal products;

– protection from light using containers made of light-resistant materials;

– protection from moisture;

– protection against temperature extremes regardless of external environmental conditions.

The transportation of narcotic drugs, psychotropic substances, and precursors must comply with current national regulations governing their circulation. These substances may only be transported based on strict accountability documentation and under conditions that guarantee security and preservation.

Cargo requiring special attention must be labeled accordingly with transportation markings such as “Handle with Care”, “Protect from Heat”, “Glass”, “Fragile”, “Keep Upright”, or “Protect from Cold”. Containers carrying medicinal products should be securely placed within the vehicle to ensure stability during transit.

Proper packaging of medicinal products must be ensured to maintain quality throughout loading, transportation, and unloading. Products requiring specific temperature conditions must be transported using specially equipped vehicles with refrigeration units containing thermometers or using thermal containers.

Vehicles must be equipped with dedicated loading containers, pallets, or platforms made from materials suitable for wet cleaning. Both the vehicle and its equipment must undergo wet cleaning using disinfectants approved for use in Ukraine.

Wet cleaning with disinfectants must be conducted after each complete unloading of the vehicle. The cleaning process must be recorded in a dedicated logbook.

It is prohibited to transport medicinal products using vehicles that cannot ensure the preservation of product quality. The carrier must possess a sanitary passport for each vehicle used in transportation. Copies of these documents must be kept by the responsible personnel of business entities and the drivers.

Sanitary passports are issued following an inspection of the vehicle by authorized officials of the State Service for Medicinal Products and Drug Control in the region where the carrier is located. The documents must be signed by the management and sealed accordingly. The validity period of a sanitary passport is three years, and its extension is permitted only after a follow-up inspection of the vehicle.

A driver-forwarder who directly handles medicinal products is required to possess a personal medical record book confirming completion of a preventive medical examination in accordance with current regulations. Additionally, the individual must undergo specialized training on the preservation of the quality of medicinal products during transportation and must be provided with appropriate technical clothing (e.g., a lab coat or jacket, and gloves). The training is conducted by an authorized representative of the business entity.

Technical clothing must be kept in a sanitary condition, changed at least once a week, stored in sealed packaging, and worn during loading and unloading operations involving medicinal products.

The business entity must approve internal guidelines for employees (including drivers, driver-forwarders, and loaders) whose duties are directly related to the transportation, loading, and unloading of medicinal products.

To carry out the transportation of medicinal products, the business entity is required to use either its own or a leased vehicle, equipped and documented in accordance with current standards, ensuring compliance with general and specific storage conditions as dictated by the composition, physicochemical properties, and sensitivity to environmental factors of the medicinal products.

When concluding agreements with suppliers, the business entity and the contracting party must clearly define the delivery and transportation conditions, taking into account the specific characteristics of the medicinal product assortment.

The authorized person responsible for incoming quality control must periodically and selectively verify the conditions under which medicinal products are transported, particularly at loading and unloading stages. This includes checking conditions for thermolabile products, protection from light, sanitary condition of the vehicle, package integrity, and the presence of a sanitary vehicle passport, with corresponding notes made on the delivery document in the absence of violations.

If transportation conditions are violated, the authorized person shall prepare an official report on the violations, conduct a visual quality inspection of the products, and, in the case of negative findings, document the defects. This documentation serves as a basis for returning the batch to the supplier or demanding financial compensation.

In cases of doubt regarding product quality, the authorized person collects samples and sends them to the regional inspection body for laboratory analysis. Until a final decision is made regarding product quality, the questionable products must be quarantined separately from other medicinal products and clearly labeled “Quarantine”. The business entity is also required to have:

– a contingency plan in case of violations of transportation conditions;

– a plan for ensuring proper transportation conditions when distributing products to suppliers (wholesale) or structural subdivisions (retail).

Medicinal products may be transported only when accompanied by appropriate consignment documentation and quality certificates issued by the manufacturer for each batch, or by certified copies stamped by the business entity.

Other legal requirements concerning cargo transportation are stipulated by Ukrainian laws, including the Law “On Transport”, the Law “On the Transportation of Dangerous Goods”, and the Rules for the Transportation of Goods by Road in Ukraine (Order № 363 of the Ministry of Transport, October 14, 1997, registered with the Ministry of Justice of Ukraine on February 20, 1998, № 128/2568).

It is strictly prohibited to transport substandard, falsified, expired (except when delivered for disposal), unregistered (unless otherwise permitted by law), or banned medicinal products, as well as those lacking manufacturer-issued quality certificates.

Sending medicinal products by mail, passenger buses, railway, or air passenger transport for commercial distribution is forbidden.

Quality assurance of medicinal products during transportation is verified during scheduled inspections of the business entity for compliance with Ukrainian legislation, or through unscheduled inspections by the State Service of Ukraine on Medicines and Drugs Control.

Inspections are conducted in the presence of the head of the business entity or an authorized representative.

During inspections, state inspectors assess actual transportation conditions in the vehicle's cargo compartment at the point of receipt or dispatch.

If transportation violations are identified, a territorial inspection officer may collect product samples in accordance with legal procedures for laboratory testing.

Should any unregistered, falsified, or prohibited medicinal products be discovered in transport, the state inspector must prohibit their transportation and place them under quarantine until circumstances are clarified, as recorded in the inspection report.

State oversight of compliance with sanitary and anti-epidemic regulations during transportation is exercised by officials of territorial departments of the state sanitary and epidemiological service as prescribed by current legislation.

The following transportation rules must be observed:

– the driver or forwarder must carry the sanitary passport of the vehicle, which must be presented upon request by officials of the sanitary-epidemiological service or the state quality control authority. Transportation is prohibited in the absence of such a document;

– transportation must be performed in closed vehicles equipped with security, fire safety equipment, and cleaning tools;

– during the winter, products that must be kept at room temperature and protected from freezing must be transported in vehicles with heated cargo compartments;

– during the summer, medicinal products requiring refrigeration (2°C to 8°C) or cool storage (8°C to 15°C) must be transported in coolers;

– vehicles must be equipped with pallets, racks, and shelving, and maintained in a clean state with weekly wet cleaning of floors;

– after unloading, the cargo area must be cleaned, washed, and disinfected using Ministry of Health-approved agents, with records made in the logbook.

On February 12, the Parliament of Ukraine adopted Law № 4239 “On Amendments to Certain Laws of Ukraine Regarding the Specifics of State Registration of Medicinal Products That May Be Procured by an Entity Authorized to Carry Out Procurement in the Healthcare Sector, and the Regulation of Certain Issues Related to the Sale of Medicinal Products”.

As a result, amendments were introduced to the fundamental Law of Ukraine “On Medicinal Products” dated April 4, 1996, № 123. In particular, the definition of the term “pharmacy” was clarified and is now understood as a healthcare facility primarily responsible for providing pharmaceutical services to the population. Additionally, the legislative terminology was expanded to include the term “pharmacy network”, which is defined as a set of two or more pharmacies – regardless of their legal or ownership form – interconnected either directly or indirectly. The law also established a maximum limit for the wholesale and distribution markup, which must not exceed 8%. From the date of official publication of the law (February 28, 2025), new restrictions regarding the supply of medicinal products by manufacturers or importers came into effect. According to the revised provisions, manufacturers and importers must ensure equal conditions for the distribution of finished medicinal products throughout the calendar year, with volumes not exceeding 20% of the net sales revenue of the respective product from the previous calendar year to any distributor [30].

In summary, the analysis of regulatory frameworks governing the transportation of medicinal products in Ukraine demonstrates a well-defined legal structure. Adherence to these provisions ensures the integrity of medicinal products and the effective functioning of the logistics service, enabling enterprises to focus on the timely and efficient delivery of medicines.

3.2. Marketing audit of distribution routing of “Medical Center “M.T.K.” LLC in Khmelnytskyi region

Efficient utilization of the existing vehicle fleet is a critical factor in ensuring the profitability of any transportation enterprise. One of the key components for improving transport efficiency is the development of optimal vehicle routing schemes. In order to enhance the logistics system of LLC “Medical Center “M.T.K.”, it is advisable to conduct a marketing audit of the current delivery routes.

Within the Khmelnytskyi region, the company operates six primary routes, which are organized as circular distribution paths: each day, a vehicle departs from the pharmaceutical warehouse, delivers medical products to multiple recipients, and returns to the warehouse.

Route 1 includes the following settlements: Horodok – Iziaslav – Hrytsiv – Slavuta – Netishyn – Shepetivka – Horodok (figure 3.1).

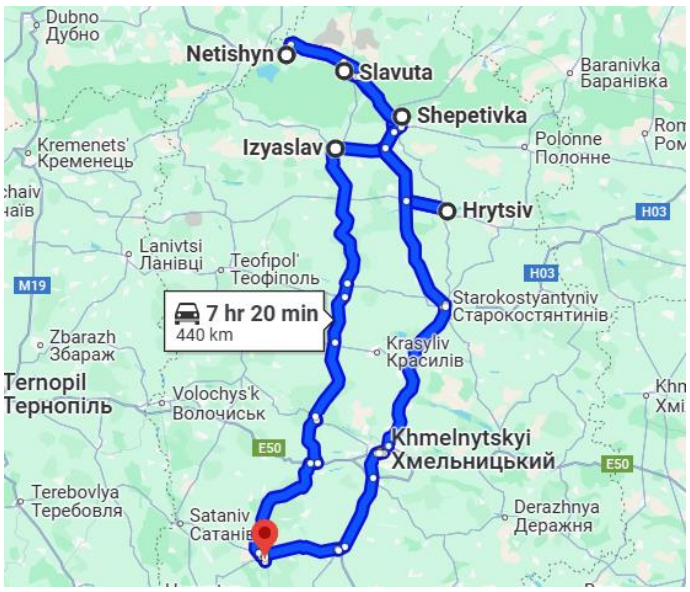


Figure 3.1 – Route 1 for the transportation of medicines

Source: built on the basis of enterprise information

This route encompasses five localities, excluding the departure point. A distinguishing feature of this route is the presence of several branches off the central axis, which increase its total length. Additionally, the return journey to Horodok

follows secondary roads with poor surface conditions, which negatively affect vehicle condition, shorten service life, and raise maintenance costs for the chassis. The total distance of the route is 440 km, and the estimated transportation time is 7 hours and 20 minutes, not including unloading time at delivery points.

Route 2 follows the path Horodok – Starokostiantyniv – Polonne – Krasyliv – Horodok (figure 3.2).

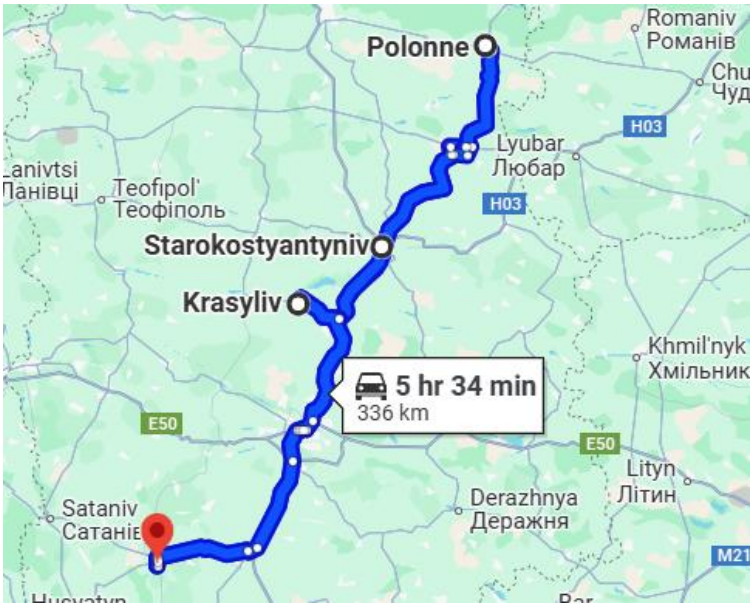


Figure 3.2 – Route 2 for the transportation of medicines

Source: built on the basis of enterprise information

It comprises three localities (excluding the origin). A key advantage of this route is that both the delivery and return journeys are conducted along highway H03, which has high-quality pavement. This helps reduce operational costs by minimizing vehicle wear and maintenance needs.

The route spans 336 km, and the estimated delivery time is 5 hours and 34 minutes, excluding unloading time. A detour is required to reach Krasyliv, followed by a return to the main route.

Route 3 covers the following localities: Horodok – Yarmolyntsi – Vinkivtsi – Nova Ushytsia – Dunaivtsi – Kamianets-Podilskyi – Horodok (figure 3.3).

The total distance is 220 km, and the approximate transportation time is 4 hours. However, the actual travel time may be longer due to poor road conditions

along much of the route, particularly on the segments Solobkivtsi – Vinkivtsi, Vinkivtsi – Nova Ushytsia, Nova Ushytsia – Dunaivtsi, and Kamianets-Podilskyi – Horodok. Operating vehicles under such conditions results in increased strain on the suspension system and leads to more frequent and costly repairs.

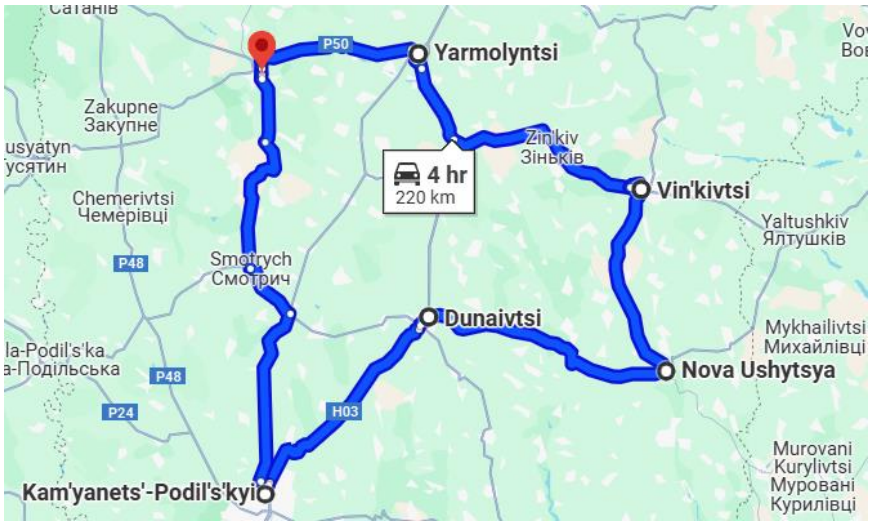


Figure 3.3 – Route 3 for the transportation of medicines

Source: built on the basis of enterprise information

Route 4 – Horodok – Rivne – Netishyn – Hrytsiv – Horodok. The transportation route is illustrated in figure 3.4.

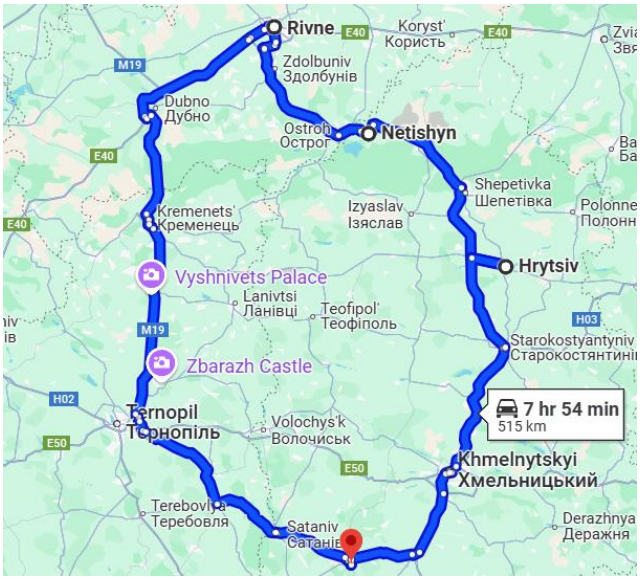


Figure 3.4 – Route 4 for the transportation of medicines

Source: built on the basis of enterprise information

This route includes three settlements, excluding the point of departure. The primary challenge associated with this route does not stem from the quality of road infrastructure. Instead, the issue lies in the significant volume of pharmaceutical orders originating from the city of Rivne, which, as a regional center, requires large quantities of medicinal products.

As a result, orders from Hrytsiv and Netishyn are often only partially fulfilled, necessitating additional transportation runs to these destinations. This increases the overall logistical costs of the regional distribution center. The total length of the route is 515 km, with an estimated travel time of 7 hours and 54 minutes, excluding unloading times at delivery points.

Route 5 – Horodok – Khmelnytskyi – Teofipol – Bilohirya – Sataniv – Horodok. This route serves four settlements (figure 3.5).

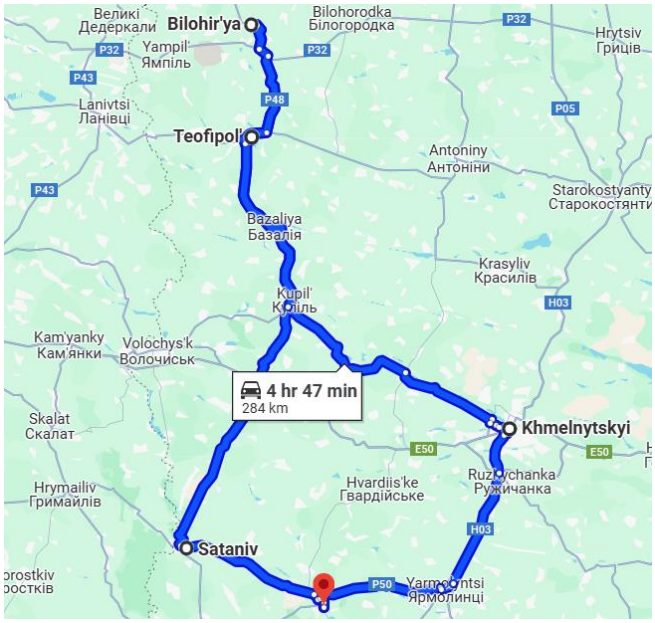


Figure 3.5 – Route 5 for the transportation of medicines

Source: built on the basis of enterprise information

The total route distance is 284 km, with an estimated cargo transport time of 4 hours and 47 minutes, not including unloading durations. A key characteristic of this route is that a significant portion traverses peripheral roads, many of which are in poor condition. This adversely affects the technical condition of the vehicles, leading to reduced service life and increased maintenance and repair costs.

Route 6 – Horodok – Khmelnytskyi – Letychiv – Stara Synyava – Horodok. As illustrated in figure 3.6, this route includes three settlements.

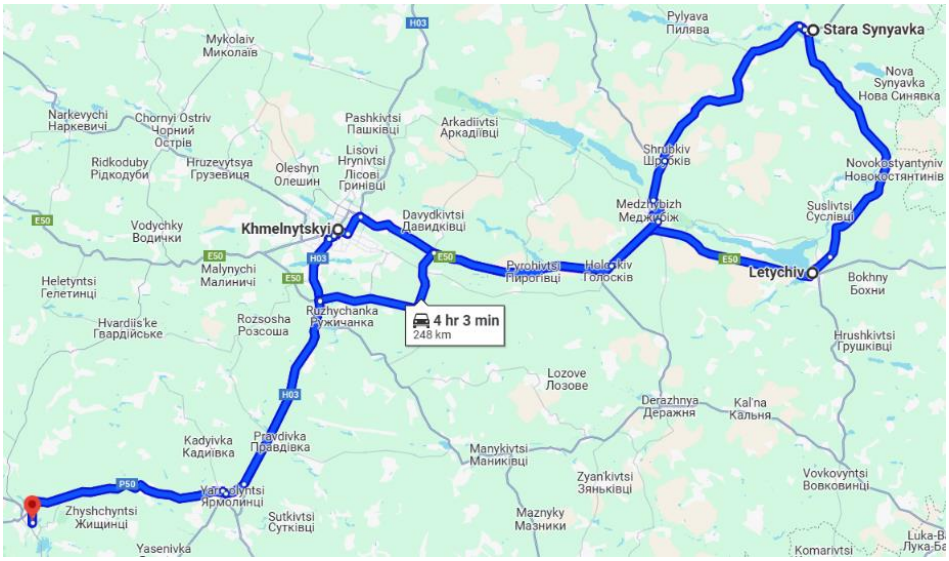


Figure 3.6 – Route 6 for the transportation of medicines

Source: built on the basis of enterprise information

It mainly serves the eastern part of the Khmelnytskyi region and runs along roads that are predominantly in good condition, which contributes to decreased vehicle wear and lower maintenance costs.

The route's total distance is 248 km, with a travel duration of 4 hours and 3 minutes, excluding unloading time.

The analysis of cargo transportation routes operated by the warehouse facility of "Medical Center "M.T.K." LLC demonstrates that the established logistics network covers the major population centers in the northern, southern, western, and eastern parts of the Khmelnytskyi region. The combined route length is 2043 km, and the total time required for transportation across all routes is approximately 33 hours and 38 minutes, not including unloading time.

It is important to note that each route exhibits certain inefficiencies, which presents opportunities for optimization to improve the overall efficiency of the company's logistics system.

3.3 Optimization of distribution routing of “Medical Center “M.T.K.” LLC in Khmelnytskyi region based on factor analysis

The analysis conducted in the previous section of the qualification paper revealed the weaknesses of each of the six existing delivery routes of the pharmaceutical warehouse of LLC “Medical Center “M.T.K.”. This provided a basis for implementing a targeted optimization of transport routing, taking into account the following key factors:

– quality of road surface;

– delivery time;

– order volumes;

– route length;

– coverage of populated areas.

The optimization of all six routes was carried out with a comprehensive consideration of these factors. In particular, preference was given to roads with better surface conditions, while ensuring a rational balance between travel time and route distance. The main objective of the optimization process was to maintain coverage of all populated areas included in the previous stage of the analysis.

Below is a detailed description of each optimized delivery route of the vehicle fleet.

Route 1 – Horodok – Iziaslav – Slavuta – Shepetivka – Polonne – Horodok.

This route serves the northern districts of Khmelnytskyi region. It is structured to ensure sequential visits to each settlement without the need for additional detours. The use of peripheral roads is minimized.

The total length of the route 1 is 367 km, and the estimated delivery time is 6 hours 25 minutes, excluding unloading time at destinations.

The results of optimizing route 1 of the pharmaceutical warehouse of LLC “Medical Center “M.T.K.”, taking into account the above factors, are shown in the figure 3.7.

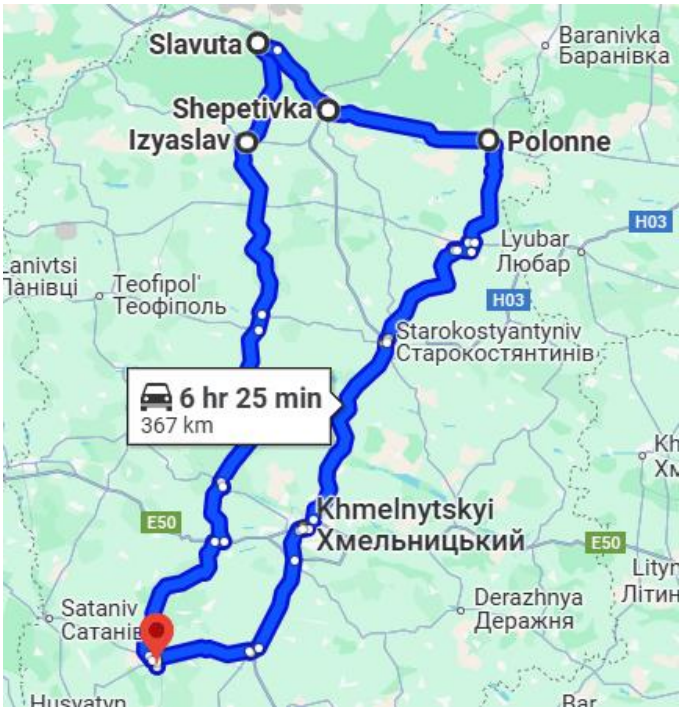


Figure 3.7 – Optimized route 1 for the transportation of medicines

Source: built on the basis of enterprise information

Route 2 – Horodok – Starokostiantyniv – Krasyliv – Bilohiria – Teofipol – Horodok (figure 3.8).

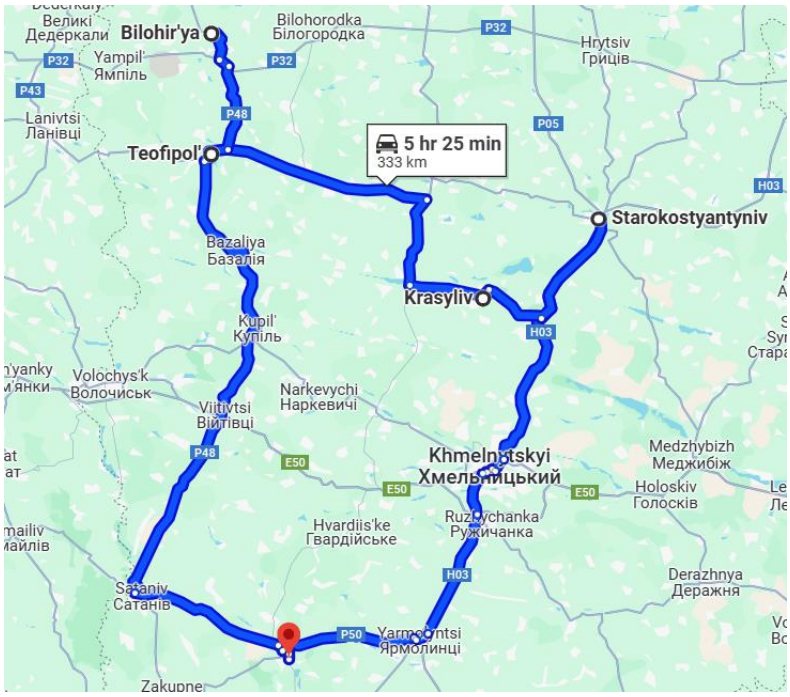


Figure 3.8 – Optimized route 2 for the transportation of medicines

Source: built on the basis of enterprise information

This route covers the central and eastern parts of the Khmelnytskyi region. It is designed to ensure consecutive servicing of all destinations, with minimal use of minor or poorly maintained roads. Although the route includes a few deviations, it remains optimal within the framework of the overall optimization concept.

The total route 2 length is 333 km, and the estimated delivery time is 5 hours 25 minutes.

Route 3 – Horodok – Yarmolyntsi – Dunaivtsi – Nova Ushytsia – Kamianets-Podilskyi – Chemerivtsi – Horodok.

The results of optimizing route 3 of the pharmaceutical warehouse of LLC “Medical Center “M.T.K.”, taking into account the above factors, are shown in the figure 3.9.

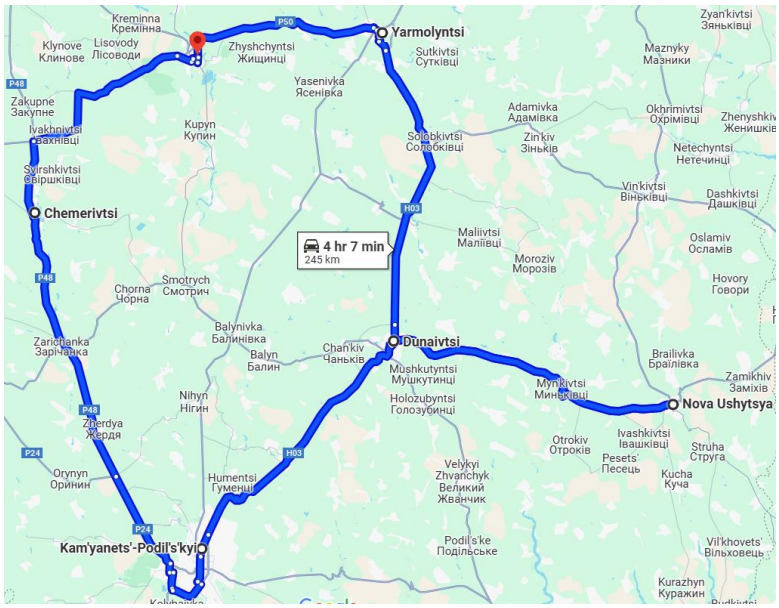


Figure 3.9 – Optimized route 3 for the transportation of medicines

Source: built on the basis of enterprise information

his route serves the southern areas of the region. It is structured to allow for step-by-step coverage of all designated settlements. The only deviation – toward Nova Ushytsia – is included due to the necessity of delivery to this town and the presence of a high-quality road leading to it. The previously used poor-quality road segment Vin’kivtsi – Nova Ushytsia was excluded, thereby minimizing the use of peripheral roads.

The total length of the optimized route 3 is 245 km, and the estimated delivery time is 4 hours 7 minutes, excluding the time needed for unloading at the respective destinations.

Route 4 – Horodok – Rivne – Horodok.

The movement of transport along this route is illustrated in figure 3.10.

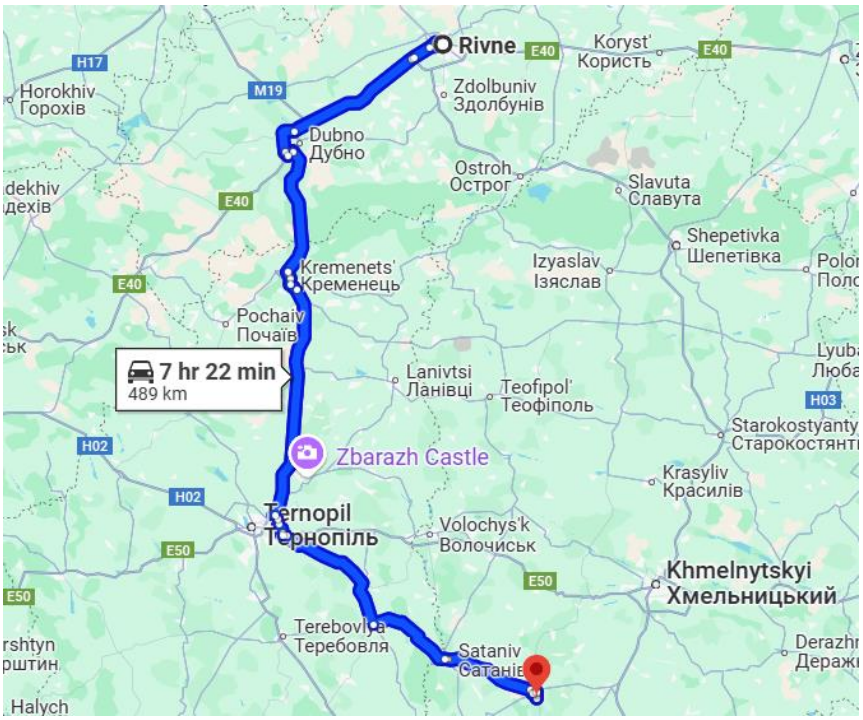


Figure 3.10 – Optimized route 4 for the transportation of medicines

Source: built on the basis of enterprise information

Intermediate settlements such as Hrytsiv and Netishyn have been excluded from this route, allowing for a greater focus on the provision of high-quality services to clients in the city of Rivne.

The total length of the optimized Route 4 is 489 km, and the cargo transportation time is 7 hours and 22 minutes, excluding the time required for unloading at the destination.

Route 5 – Horodok – Khmelnytskyi – Horodok.

Transport movement along this route is shown in figure 3.11.

The optimization of Route 5 followed the same principle as Route 4. Since Khmelnytskyi, like Rivne, is a regional center with a high concentration of clients

of LLC “Medical Center “M.T.K.”, the main goal was to maximize service quality. This was achievable due to the elimination of the need to allocate additional time for visiting other settlements.

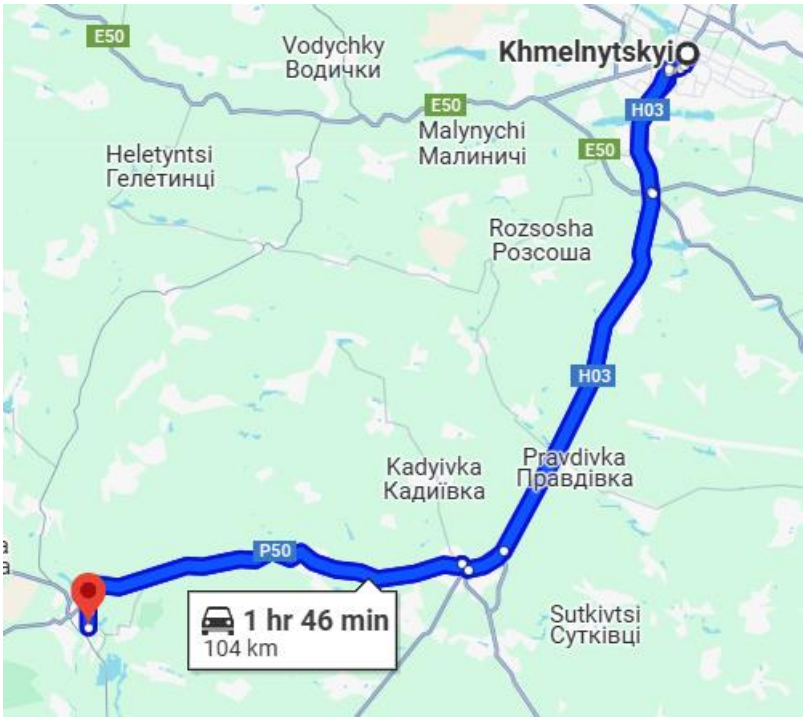


Figure 3.11 – Optimized route 5 for the transportation of medicines

Source: built on the basis of enterprise information

The total length of the optimized Route 5 is 104 km, with a cargo transportation time of 1 hour and 46 minutes, excluding the unloading time at the destination.

Route 6 – Horodok – Letychiv – Stara Syniava – Derazhnia – Vinkivtsi – Horodok.

This route covers settlements located in the western part of Khmelnytskyi region. It was designed to ensure sequential visits to each settlement. The route forms a loop and additionally includes the towns of Derazhnia and Vinkivtsi. Special attention was paid to avoiding roads with poor surface quality wherever possible. The total length of the optimized Route 6 is 280 km, with a transportation time of exactly 4 hours and 41 minutes, excluding the time needed for unloading at the destinations.

Transport movement along this route is shown in figure 3.12.

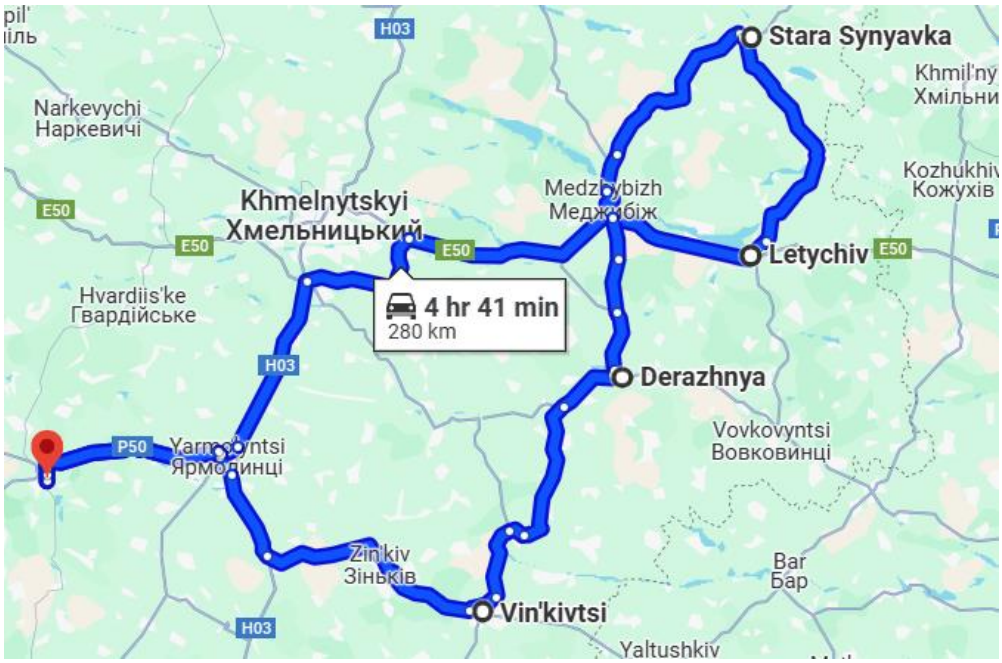


Figure 3.12 – Optimized route 6 for the transportation of medicines

Source: built on the basis of enterprise information

Therefore, the total length of the optimized routes of movement of the pharmaceutical warehouse of LLC “Medical Center “M.T.K.” is 1818 km, and the total time for transporting goods takes 29 hours 46 minutes.

Summarizing the conducted optimization of cargo transportation routes for the regional warehouse of LLC “Medical Center “M.T.K.”, the following conclusions can be drawn:

– the majority of the previously serviced settlements remain covered;

– the proportion of travel on roads with high-quality pavement has been maximized;

– the use of roads with substandard pavement has been minimized;

– total transportation time has been reduced;

– overall route length has been shortened.

A general summary of the route optimization results based on factor analysis is presented in table 3.1.

Table 3.1 – Characteristics of optimized transport routes for the warehouse

Initial traffic routes	Duration (up to)		Duration (after)		Optimized driving routes
	km	hour	km	hour	
1 – Horodok – Izyaslav – Hrytsiv – Slavuta – Netishyn – Shepetivka – Horodok	440	7,20	367	6,25	1 – Gorodok – Izyaslav – Slavuta – Shepetivka – Polonne – Gorodok
2 – Horodok – Starokostyantyniv – Polone – Krasyliv – Horodok	336	5,34	333	5,25	2 – Horodok – Starokostyantyniv – Krasyliv – Bilogirya – Teofipol – Horodok
3 – Horodok – Yarmolyntsi – Vinkivtsi – Nova Ushytsia – Dunaivtsi – Kamianets-Podilskyi – Horodok	220	4,00	245	4,07	3 – Horodok – Yarmolyntsi – Dunaivtsi – Nova Ushytsia – Kamianets-Podilskyi – Chemerivtsi – Horodok
4 – Horodok – Rivne – Netishyn – Hrytsiv – Horodok	515	7,54	489	7,22	4 – Gorodok – Rivne – Gorodok
5 – Horodok – Khmelnytskyi – Teofipol – Bilogirya – Sataniv – Horodok	284	4,47	104	1,46	5 – Horodok – Khmelnytskyi – Horodok
6 – Gorodok – Khmelnytskyi – Letychiv – Stara Sinyava – Gorodok	248	4,03	280	4,41	6 – Horodok – Letychiv – Stara Synyava – Derazhnya – Vinkivtsi – Horodok
Total	2043	33,38	1818	29,46	Total

Source: built on the basis of enterprise information

As illustrated in table 3.1, the optimization process resulted in a total route length reduction of 225 km and a decrease in total travel time by 3 hours and 48 minutes. Considering that this transportation plan is intended for weekly implementation, the long-term impact includes significant cost savings in both fuel consumption and vehicle maintenance. In numerical terms, taking into account the minimum current prices for diesel fuel, this will amount to:

$$\text{Annual cost savings} = 225 \times 50 \times 50 = 562{,}5 \text{ (thousand UAH)}.$$

Therefore, the route optimization for the regional warehouse of LLC “Medical Center “M.T.K.” can be deemed effective.

The analysis and subsequent optimization of the transportation routes for the pharmaceutical warehouse of LLC “Medical Center “M.T.K.” have revealed another

logistical bottleneck – in most cases, the transport vehicles return to the warehouse empty, indicating potential for increased efficiency in logistics operations.

One promising solution to this issue is the implementation of so-called backhaul (return load) transportation, a practice that has recently gained significant popularity. Practical experience demonstrates that incorporating backhaul cargo can substantially reduce total transportation costs, with savings in some cases exceeding 50%.

In the context of LLC “Medical Center “M.T.K.”, such backhaul cargo may include pharmaceutical products or related goods from other manufacturers that can be delivered along return routes.

To identify appropriate backhaul cargo, it is advisable to use specialized online platforms, such as the “Della Freight Transportation” service (http://della.com.ua), one of the leading players in the Ukrainian freight transport market. Della has been operating since 1995 and has extensive experience in organizing domestic and international freight transportation, with a deep understanding of both the advantages and challenges of the logistics market.

The platform provides users with access to a wide range of registered carriers, all of whom have undergone mandatory registration and provided the required documentation for their operations (e.g., licenses for domestic or international freight transportation). The service operates around the clock, allowing users to search for available cargo or register their own vehicles at any time, offering them for potential clients. Additionally, the platform allows for calculating distances, transportation costs, and, if necessary, insuring the cargo (addition C).

Integrating backhaul transportation into the logistics processes of LLC “Medical Center “M.T.K.” would contribute to achieving the following objectives:

– minimizing transportation costs;

– optimizing freight routes;

– improving delivery planning;

– ensuring properly executed transportation and sales contracts;

– consolidating cargo flows during the delivery process.

Statistical data show that the implementation of efficient logistics methods increases the profitability of enterprises by an average of 5%, which constitutes a significant contribution to the overall efficiency of the pharmaceutical warehouse operations of LLC “Medical Center “M.T.K.” [28].

To clearly present the proposed recommendations for improving the distribution activities of LLC “Medical Center “M.T.K.” of the corporation “YURiA-PHARM” based on marketing logistics principles, a summary is provided in table 3.2.

Table 3.2 – Summary of recommendations for enhancing the distribution activities of LLC “Medical Center “M.T.K.” of the corporation “YURiA-PHARM” based on marketing logistics principles

Name of recommended activity	Goal being achieved	Methods, achieving goals	Performance indicators characterizing the result
Optimization of distribution routing of “Medical Center “M.T.K.” LLC based on factor analysis	Reduction of transportation length and time. Reduction of costs for maintenance and repair of rolling stock	Making changes to existing traffic routes taking into account relevant factors	Reduction of total transportation distance by 225 km. and total travel time by 3 hours 48 minutes Annual savings will amount to 562.5 thousand UAH
Reducing the total cost of transportation based on the use of "passenger cargo"	Minimization of freight costs. Consolidation of cargo during delivery. Ensuring the loading capacity of rolling stock	Use of the services of the online freight company by drivers and forwarders of the pharmacy warehouse of LLC “Medical Center “M.T.K.”	Increasing the profitability of the pharmacy warehouse of LLC “Medical Center “M.T.K.” by 5%

Source: built on the basis of enterprise information

Thus, the recommendations have proposed will increase the overall efficiency of the pharmacy warehouse of LLC “Medical Center “M.T.K.” of the corporation “YURiA-PHARM”.

Conclusions to the third chapter

It has been established that the transportation of medicinal products within the territory of Ukraine is regulated by the Licensing Conditions for conducting business activities in the manufacturing of medicinal products, wholesale and retail trade in medicinal products, and the import of medicinal products (excluding active pharmaceutical ingredients), approved by Resolution № 929 of the Cabinet of Ministers of Ukraine dated November 30, 2016 (hereinafter referred to as the Licensing Conditions). In accordance with Clause 103 of the Licensing Conditions, a licensee engaged in the wholesale trade of medicinal products must ensure compliance with both general and specific storage conditions defined by the manufacturer throughout all stages of the wholesale supply chain, including during transportation.

A marketing audit of cargo transportation routes served by the warehouse complex of LLC “Medical Center “M.T.K.” showed that the formed logistics network covers the main settlements in the northern, southern, western and eastern parts of the Khmelnytskyi region. The total length of the routes is 2043 km, and the total time required for transportation by all routes is approximately 33 hours 38 minutes, not including unloading time.

The optimization process resulted in a reduction of the total route length by 225 km and a reduction in the total travel time by 3 hours and 48 minutes. Given that this transport plan is designed for weekly implementation, the long-term impact includes significant savings in both fuel consumption and vehicle maintenance. In numerical terms, taking into account the current minimum prices for diesel fuel, this amounts to 562,5 thousand UAH .

The recommendations have proposed will increase the overall efficiency of the pharmacy warehouse of LLC “Medical Center “M.T.K.”.

Conclusions

The qualification work considers current problems related to improving the distribution activities of a pharmaceutical company based on marketing logistics.

In the first chapter of the qualification work it has been established that contemporary logistics systems effectively facilitate the movement of goods from producers to end consumers through the involvement of specialized entities responsible for the promotion and servicing of freight flows. The fundamental principles of logistics, typically applied within manufacturing and consumer enterprises, are equally applicable to transport sector entities that are integrated into logistics networks.

Transport logistics is characterized by key components such as transportation links with suppliers and consumers, the goods in transit, warehousing infrastructure, and inventory management. The transportation process typically commences at the warehouses of finished goods and concludes with the delivery of freight to the warehouses of consumers or intermediaries. As an integral component of transport logistics, goods are regarded as commodities from the moment they are accepted for shipment until their final delivery. In this context, the organizational and economic characteristics of transportation operations are of particular importance.

Furthermore, it has been determined that modern marketing plays a critical role in the identification, analysis, and forecasting of market demand for specific products, thereby enabling accurate modeling of required production volumes. Marketing constitutes an essential element of a firm’s overall logistics system, encompassing the entire distribution chain – namely, marketing, transportation, and warehousing.

The analysis of the concept and constituent elements of marketing logistics has revealed that it synthesizes the most effective aspects of both marketing and logistics. This integration contributes to enhanced quality in the provision of logistics services, primarily through the application of marketing-based service approaches.

The conceptual framework of the “7Ps” – price, product, promotion, place, people, process, and physical evidence – has been examined, as it underpins the operational structure of marketing logistics.

Finally, the development and implementation of a marketing logistics system within an enterprise have been analyzed. It has been concluded that such a system facilitates the achievement of a systemic and synergistic effect, contributing to the overall efficiency and competitiveness of the organization.

In the second chapter of the qualification work it has been established that, on both the global and European levels, the growth rate of the pharmaceutical market has slowed following the end of the COVID-19 pandemic. U.S.-based companies continue to lead in terms of market capitalization, brand value, and influence. In Ukraine, the development of the pharmaceutical sector was disrupted by the onset of the full-scale war. However, within a year, the domestic pharmaceutical industry, along with distributors and pharmacy chains, managed to restore production and logistics operations, which contributed to improvements in both domestic sales and export performance. Among the top ten pharmaceutical companies in terms of sales volume on the Ukrainian market, seven are national manufacturers. In particular, “Farmak” and “Arterium” maintain leading positions in the overall ranking.

The financial analysis of the research subject – LLC “Medical Center “M.T.K.” – confirmed that the company maintains a stable financial position, enabling it to operate efficiently.

The marketing activities of the corporation “YURiA-PHARM” are carried out at a high professional level. The official website design adheres to the company’s corporate color scheme, enhancing brand recognition. All products are marked with quality certification labels, positively influencing consumer perception and reinforcing the company’s image as a producer of certified and high-quality pharmaceutical products.

The distribution infrastructure of the pharmaceutical warehouse operated by LLC “Medical Center “M.T.K.” in the city of Horodok, Khmelnytskyi region, is equipped with vehicles suited to the specific requirements of pharmaceutical transportation. This alignment is particularly important given the fluctuating demand

from healthcare institutions and pharmacies, which is characterized by variable order volumes, delivery schedules, product availability, and the required reliability of transportation.

In the third chapter of the qualification work it has been established that the transportation of medicinal products within the territory of Ukraine is regulated by the Licensing Conditions for conducting business activities in the manufacturing of medicinal products, wholesale and retail trade in medicinal products, and the import of medicinal products (excluding active pharmaceutical ingredients), approved by Resolution № 929 of the Cabinet of Ministers of Ukraine dated November 30, 2016 (hereinafter referred to as the Licensing Conditions). In accordance with Clause 103 of the Licensing Conditions, a licensee engaged in the wholesale trade of medicinal products must ensure compliance with both general and specific storage conditions defined by the manufacturer throughout all stages of the wholesale supply chain, including during transportation.

A marketing audit of cargo transportation routes served by the warehouse complex of LLC “Medical Center “M.T.K.” showed that the formed logistics network covers the main settlements in the northern, southern, western and eastern parts of the Khmelnytskyi region. The total length of the routes is 2043 km, and the total time required for transportation by all routes is approximately 33 hours 38 minutes, not including unloading time.

The optimization process resulted in a reduction of the total route length by 225 km and a reduction in the total travel time by 3 hours and 48 minutes. Given that this transport plan is designed for weekly implementation, the long-term impact includes significant savings in both fuel consumption and vehicle maintenance. In numerical terms, taking into account the current minimum prices for diesel fuel, this amounts to 562,5 thousand UAH.

The recommendations have proposed will increase the overall efficiency of the pharmacy warehouse of LLC “Medical Center “M.T.K.”.

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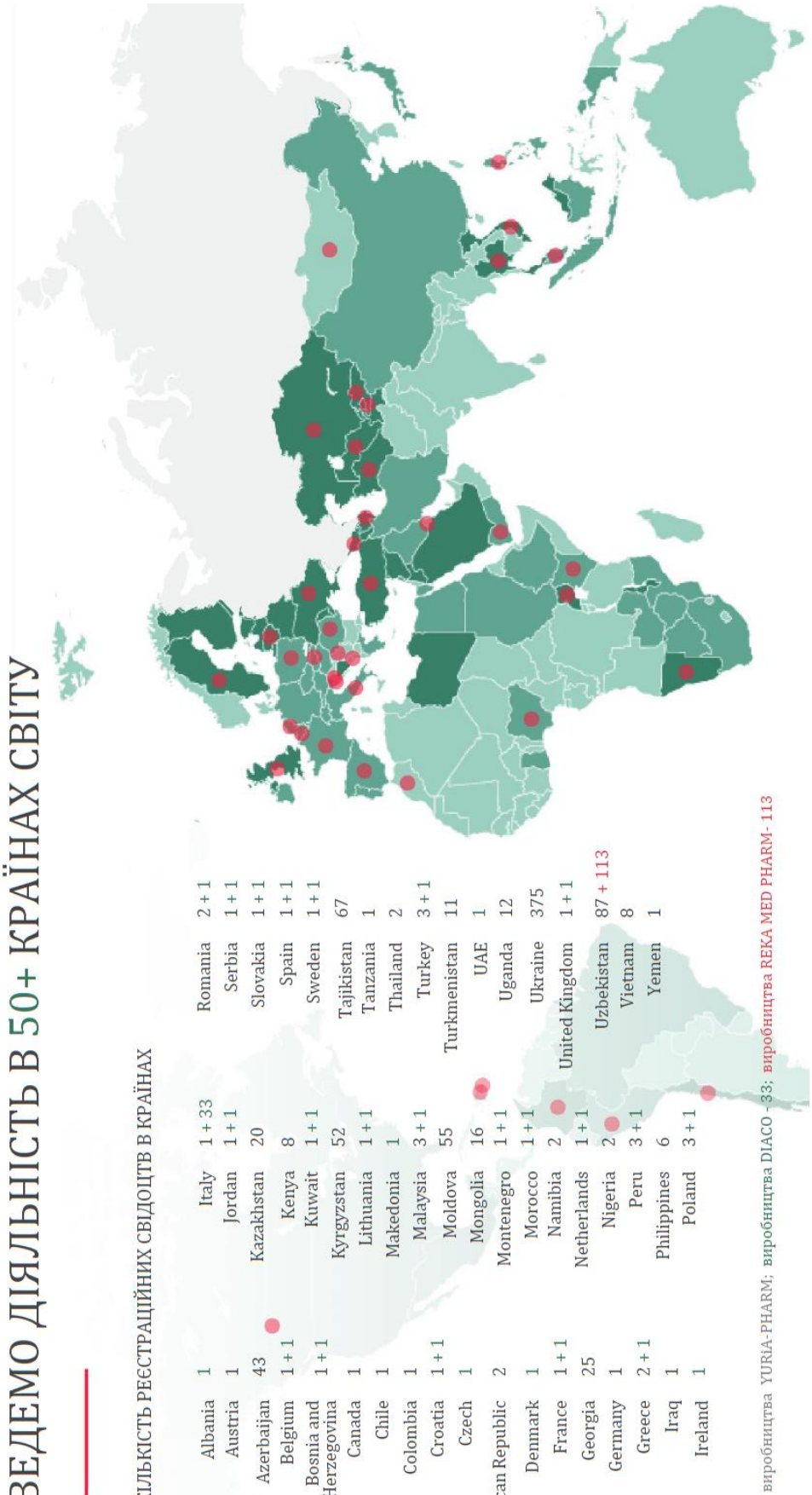
APPENDICES

Addition A

World geography of activity «YURiA-PHARM» corporation



Addition B

Websites of the most popular products «YURiA-PHARM» corporation

https://artro-patch.com.ua/

https://biblok.com.ua/

https://breather.com.ua/

https://gynodek.com/

https://emaplug.com.ua/instruktsiya/

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https://xavron.com.ua/manual/

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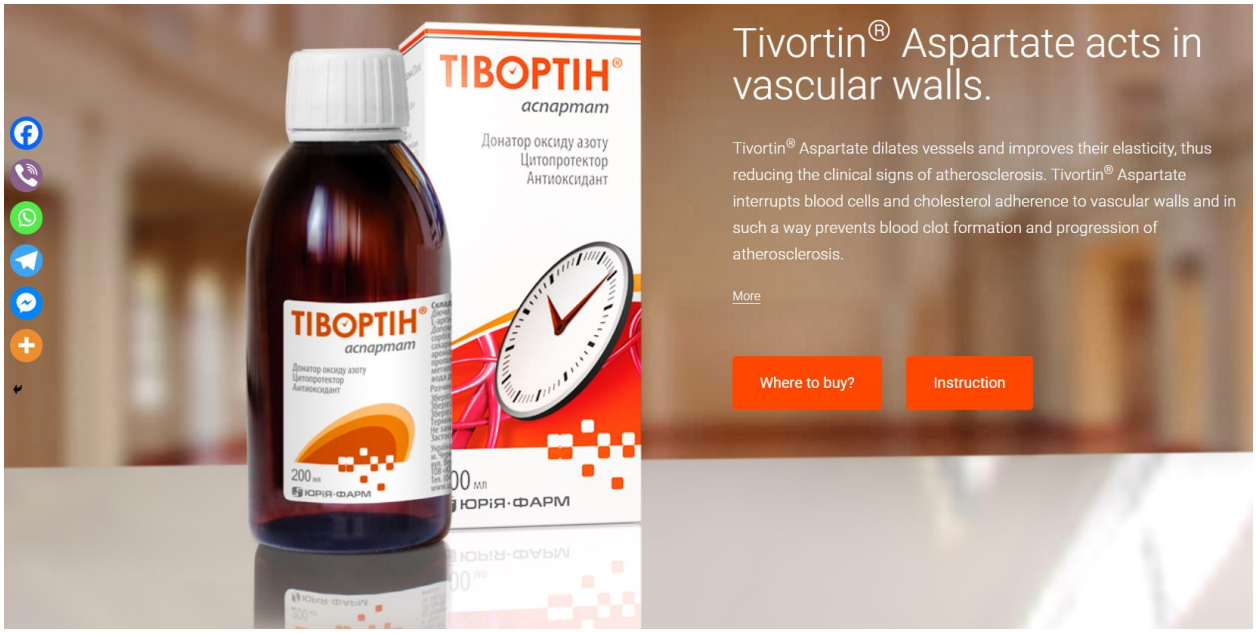
https://revul.com.ua/

https://tivortin.com/



Addition C

Website of the company “Della-freight forwarding”