MINISTRY OF EDUCATION AND SCIENCE OF UKRAINE
NATIONAL AVIATION UNIVERSITY
Faculty of Transport, Management and Logistics
Logistics Department

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# DIPLOMA THESIS

**(EXPLANATORY NOTES)**

OF GRADUATE OF ACADEMIC DEGREE

«MASTER»

THEME: **«Risk management in supply chains of critical medical supplies»**

Speciality 073 «Management»

Educational and Professional Program « Logistics »

Done by Hukaliuk Nadiia M.
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МІНІСТЕРСТВО ОСВІТИ І НАУКИ УКРАЇНИ
НАЦІОНАЛЬНИЙ АВІАЦІЙНИЙ УНІВЕРСИТЕТ
Факультет транспорту, менеджменту і логістики
Кафедра логістики

ЗАТВЕРДЖУЮ
Завідувач кафедри логістики
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# КВАЛІФІКАЦІЙНА РОБОТА

**(ПОЯСНЮВАЛЬНА ЗАПИСКА)**

ЗДОБУВАЧА ОСВІТНЬОГО СТУПЕНЯ

«МАГІСТР»

ТЕМА: «***Управління ризиками в ланцюгах постачань життєво важливих медичних товарів***»

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Київ 2022

NATIONAL AVIATION UNIVERSITY
Faculty of Transport, Management and Logistics
Logistics Department

Academic degree Master

Speciality 073 «Management»

Educational and Professional Program «Logistics»

APPROVED
Head of the Department

Matveev V.V.
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«05» September 2022

# TASK

## FOR COMPLETION THE DIPLOMA THESIS OF GRADUATE

Nadiia M. Hukaliuk
(surname and name)

1. Theme of the diploma thesis: «Risk management in supply chains of critical medical supplies» was approved by the Rector Directive №1225/ст. of September 05, 2022.
2. Term performance of thesis: from September 05, 2022 to November 30, 2022.
3. Date of submission work to graduation department: November 07, 2022.
4. Initial data required for writing the thesis: general and statistical information about risk management in logistic sphere, information of the charitable foundation "AntiAIDS Ukraine", economic and financial indicators of the fund, literary sources on the assessment of risk management in the logical system, literary sources on the organization and management of supply and storage channels of critical medical products in the "cold chain", Internet sources.
5. Content of the explanatory notes: the essence and main tools of risk management organization in the logistics system; the essence and main tools for reducing the negative impact of risks on the economic and logistics activities of the enterprise; analysis of the activities of the CF "AntiAIDS Ukraine"; analysis of economic indicators of the CF "AntiAIDS Ukraine"; assessment of risks with the most negative impact on the activities of CF "AntiAIDS Ukraine"; development of an investment project to improve the condition of the "cold chain" of CF "AntiAIDS Ukraine" in order to reduce the risk of spoilage of critical medical products; calculation of the economic effect of project proposals; conclusions and appendix.
6. List of obligatory graphic matters: tables, charts, graphs, diagrams illustrating the current state of problems and methods of their solution.

7. Calendar schedule:

| № | Assignment | Deadline for completion | Mark on completion |
|---|---|---|---|
| 1 | 2 | 3 | 4 |
| 1. | Study and analysis of scientific articles, literary sources, normative legal documents, preparation of the first version of the introduction and the theoretical chapter | 05.09.22-28.09.22 | Done |
| 2. | Collection of statistical data, timing, detection of weaknesses, preparation of the first version of the analytical chapter | 29.09.22-10.10.22 | Done |
| 3. | Development of project proposals and their organizational and economic substantiation, preparation of the first version of the project chapter and conclusions. Editing the first versions of maser thesis | 11.10.22-28.10.22 | Done |
| 4. | Preparing the final version of the master thesis, checking by standards inspector | 29.10.22-02.11.22 | Done |
| 5. | Approval for a work with supervisor, getting of the report of the supervisor, getting internal and external reviews, transcript of academic record | 03.11.22-06.11.22 | Done |
| 6. | Submission work to Logistics Department | 07.11.22 | Done |

Graduate_____
(signature)

Supervisor of the diploma thesis _____
(signature)

8. Consultants of difference chapters of work:

| Chapter | Consultant (position, surname and name) | Date, signature | |
|---|---|---|---|
| | | The task was given | The task was accepted |
| Chapter 1 | Associate Professor, Savchenko L.V. | 05.09.22 | 05.09.22 |
| Chapter 2 | Associate Professor, Savchenko L.V. | 29.09.22 | 29.09.22 |
| Chapter 3 | Associate Professor, Savchenko L.V. | 11.10.22 | 11.10.22 |

9. Given date of the task September 05, 2022.

Supervisor of the diploma thesis: _____ Savchenko L.V.
(signature of supervisor) (surname and name)

Task accepted for completion: _____ Hukaliuk N.M.
(signature of graduate) (surname and name)

# ABSTRACT

The explanatory notes to the diploma thesis «Risk management in supply chains of critical medical supplies» comprises of 110 pages, 15 figures, 18 tables, 123 references.

KEY WORDS: RISK MANAGEMENT, SUPPLY CHAIN MANAGEMENT, FREIGHTAGE, COLD SUPPLY CHAIN, SUPPLY PROCESS REENGINEERING, REDUCING THE NEGATIVE IMPACT OF RISKS, CHARITY ACTIVITY

The purpose of the research is to study theoretical aspects and to develop practical recommendations for reducing the negative impact of risks that arise during the transportation and storage of critical medical goods.

The object of the research is the organization of supply logistics in the charity fund "AntiAIDS Ukraine".

The subject of the research is the risk management in supply chain of critical medical supplies in the charity fund "AntiAIDS Ukraine".

The base of the research is charity fund "AntiAIDS Ukraine".

In the design-recommendation part of the diploma thesis, proposals were developed to reduce the negative impact of risks on the fund's activities and to reorganize the "cold chain" of the charity fund "AntiAIDS Ukraine".

Methods of research are scientific inquiry, empirical, analysis and synthesis, modeling, expert assessments.

Materials of the thesis are recommended for use during scientific research, in the educational process and in the practical work of specialists of logistics departments.

**CONTENT**

# INTRODUCTION

Risk is an integral part of life. It accompanies all life decisions: from the choice of food, clothing, and other material assets to more global issues, such as: the choice of test methods for any high-tech products that require high measurement accuracy; the risk of reducing the efficiency of the quality management system processes; accidents at work, etc.

Risk-based thinking is necessary in order to increase the effectiveness and achieve the sustainable success of the organization, therefore, in order to control them, risks must be quantitatively and qualitatively assessed.

Risk-based thinking allows the organization to identify internal and external factors that can lead to deviation from the planned results of the QMS processes, as well as to use preventive management actions to minimize negative consequences and maximize the use of emerging opportunities. Therefore, the organization should develop a document – regulations on risk identification and management.

Risk management requirements are included in many updated versions of management system standards. Risk management, as a science, began to develop in Ukraine only at the beginning of the 21st century, it is now clear that it is a new management philosophy all over the world.

The Ukrainian economy is gradually adapting to market relations, and this indicates an increase in the number of uncertainties. Such factors can be high interest rates on loans, unstable trade relations, inflation and much more. Technological progress also contributes to the growth of the number of such factors. On the one hand, all these factors form risks, on the other hand, they offer new management opportunities.

Under these conditions, the qualifications of top management are growing. If we imagine that a company is a living organism, then risk management is therapeutic and preventive assistance for the company. Thanks to risk management, the company conducts risk assessment, manages identified risks, and also monitors the results of work to eliminate them.

Kevin W. Knight AM, Chairman of the ISO working group that developed the draft ISO 31000 “General Guidelines for the Principles and Implementation of Risk Management”, comments: “All organizations, no matter how big or small, face internal and external factors that create uncertainty.The effect of this uncertainty is "risk", and it is inherent in all activities.”

The relevance of the thesis related to the market demands of companies participating in the production and sales process are very high, and the external business environment is constantly changing. To ensure market presence, companies are forced to respond quickly to changes in the external environment, the emergence of new technologies, and to deal with the enormous flow of information inside and outside the organization. Critical business processes that shape a company's profits and sales use the analysis of the external environment and its changes.

Uncertainty is present in any area of the company's activities, which means that there are risks associated with this uncertainty that must be controlled. The introduction of an integrated approach to risk management allows the company to form an objective view of the current and planned activities of the organization, taking into account possible negative events or new opportunities, to anticipate risks and make decisions based on information about them, to respond to risks in a timely manner and reduce the negative impact of risks in case of their occurrence. implementation.

Elements of risk management are present in almost every employee activity in any organization, regardless of the type or nature of the activity. Each employee of the company makes several decisions related to their activities, and all these decisions affect the level of risk throughout the organization.

The key aspects of enterprise risk management are revealed in their works by O. Havrish, M. Kyzim, I. Kreydich, Y. Lityuga, V. Martynenko, O. Morgenstern, F. Knight, J. Neuman, L. Revenko. The analysis of economic-mathematical models and methods in risk management of logistics systems is carried out in the works of V. Vitlinskyi, I. Lyashenko, S. Solntsev, and N. Shmygol. Among the domestic scientists who were engaged in the study of issues of managing the efficiency of the logistics system, V. Alkema, L. Horoshkova, M. Yu. Grigorak, O. Yeletenko, L. Kovalska, E. Krykavskyi,

O. Kuzmin, R. Larina, V. Marchenko, M. Oklandera, S. Svyridka, O. Tkachuk, N. Khvishtun, N. Chukhrai.

Paying tribute to the significant contribution of these authors, it should be noted that a significant part of the issues related to the application of risk management in the logistics of enterprises whose economic activity is related to the transportation of critical medical goods is not fully disclosed. In particular, the theoretical and methodological provisions and practical recommendations for improving the risk management of the logistics system of enterprises whose main stocks consist of critical medical goods need further development.

The object of the research is the organization of supply logistics in the charity fund "AntiAIDS Ukraine".

The subject of the research is the risk management in supply chain of critical medical supplies in the charity fund "AntiAIDS Ukraine".

The base of the research is charity fund "AntiAIDS Ukraine".

The purpose of the research is to study theoretical aspects and to develop practical recommendations for reducing the negative impact of risks that arise during the transportation and storage of critical medical goods.

Achieving the set purpose is determined by the need to solve the following tasks:

– to investigate the essence and significance of risk management as a factor of enterprise competitiveness;

– to investigate the advantages and disadvantages of risk management of the logistics system as an enterprise management system;

– to justify modern methodical approaches to the organization of risk management of the logistics system of the enterprise;

– to analyze the existing mechanisms and principles of risk management implementation at the enterprise;

– to characterize the organization of transportation in the "cold chain" based on standardization and certification;

– to conduct an analysis of the object and subject of the management system of CF "AntiAIDS Ukraine";

– to carry out a financial and economic analysis of the results of economic activity of CF “AntiAIDS Ukraine”;

– to carry out an expert assessment of risks and identify those that have the most negative effect on the activities of CF “AntiAIDS Ukraine”;

– to develop measures to optimize the transportation of critical medical goods in the “cold chain” of CF “AntiAIDS Ukraine”;

– to develop directions for the formation of competitive advantages based on the improvement of the organization of transportation in the “cold chain” of CF “AntiAIDS Ukraine”;

– evaluate the effectiveness of the proposed measures.

To achieve the goal set in the master's thesis, a systematic approach to the study of economic phenomena and processes in their interaction and interdependence was applied. At various stages of the research, the following basic methods were applied: abstract-logical (when determining the structure of the thesis and the scheme of construction of scientific research, identifying the most essential concepts and classifications, substantiating conclusions and proposals); monographic (when studying best practices, researching progressive methods of economic activity of enterprises, analyzing the cause of bankruptcy of enterprises); economic and statistical (for the quantitative assessment of the risks of the logistics system of CF “AntiAIDS Ukraine”, conducting an analysis of its financial and economic activity); comparative analysis; SWOT analysis.

In the process of writing the thesis, materials from the foundation's internal reporting, data from statistical directories, and materials from practitioners in the field of logistics and management, published in periodicals, monographs, textbooks, and electronic sources, were used.

The scientific novelty of the obtained results of the diploma master's thesis consists in the systematization of theoretical, methodical and practical provisions regarding the improvement of the impact of the risks of the logistics system of transportation of critical medical goods of the CF “Anti-AIDS Ukraine”.

The practical significance of the obtained results lies in the fact that the theoretical, methodical and practical recommendations proposed in the master's thesis on reducing the impact of negative risks on critical medical goods transportation systems can be implemented in the practical activities of the CF “AntiAIDS Ukraine”.

# CHAPTER 1
# THEORETICAL BASICS OF RISK MANAGEMENT LOGISTICS SYSTEM OF THE ENTERPRISE

## 1.1 The essence of risk management of the logistics system of the enterprises

The current state of economic interaction between enterprises largely depends on the efficiency of their logistics systems, the main purpose of which is the proper management of material flows and related flows due to the clear coordination of the actions of specialists of various services that take part in the management of material flows.

The effectiveness of the logistics system is largely determined by the ability to minimize unpredictability and the possibility of events with negative consequences caused by certain actions or decisions that will take place in the future, that is, various risks that to one degree or another affect the change in the state of the logistics system.

Risk is one of the key factors affecting the resulting indicators of the enterprise's production and economic activity. The unstable political and economic situation in the country, the lack of a clear legislative and regulatory framework, the intensification of the use of modernized management technologies requires modern enterprises to change the management vectors, which are oriented towards the use of the latest management methods, which are able to adapt to the situation of uncertainty and risk, which is objective today's reality.

As a result, there is a need to manage the risks of the logistics system of enterprises, which, thanks to the timely detection of negative effects on the system and identification of risks, the application of appropriate risk management methods, ensures the minimization of their destructive impact on the logistics system and, at the same time, the development of preventive measures capable of preventing the occurrence of such risks in future.

Improvement of management mechanisms based on risk management tools is relevant for ensuring the efficiency and reliability of the economic system at all its levels, which includes a complex of management decisions aimed at timely identification of the risks themselves, analysis and assessment of risk-generating factors with the aim of reducing their negative effects as both now and in the future.

A systematic approach to modeling processes in complex systems, such as a logistics system (LS), which is based on a combination of different management approaches with a set of relevant influence tools and focuses on ensuring the viability of the system, its reliability and resistance to the influence of the external and internal environment - and is the basic concept of risk management [1, p. 189].

The use of risk management mechanisms is due to a number of advantages from their approval, determining [2, p. 207]:

–improving the effectiveness of strategic planning at the enterprise;

–increasing the productivity of the enterprise's production and economic activity;

–effective use of enterprise resources;

–improvement of communication between employees and management;

–identification of risks that affect the operation of the enterprise;

–development of a methodology for studying risks in order to prevent their occurrence.

The development of risk management of the LS includes several stages [3, p. 43-33]:

1. Understanding risk as an economic phenomenon of every enterprise and the LS, regardless of the type of activity, form of ownership, etc. and identifying it with the losses and damages that arise and the amount of which will vary depending on the type of risk, the level of its impact and the availability of appropriate methods and means to eliminate them or reduce the negative effect.

2. Expansion of the types of identified risks, awareness of the need to account for them in the organization's activities - it is important to take into account the risks of the external and internal environment, so that it is possible to plan

management tactics in advance, which includes a set of appropriate tools for identification, assessment and analysis of risks.

3. Understanding risks as the probability of not achieving the goal and risk management as an integrated process, expanded and continuous - the process of risk management is not a one-time process, its nature should be dynamic, because risks are always present in the company's activities; the difference is that their influence in different periods of time can be smaller or larger depending on the strength of the influence of external and internal environmental factors.

4. Classification of global, national and regional risks, enterprise risks, risks of the LS. A clear distinction should be made between risks over which the enterprise and its assets have influence and can predict their effect in the future (risks of the internal environment) and risks over which an individual enterprise has limited influence (risks of the external environment), but they must be taken into account in the process of developing the enterprise and the LS management strategy in order to reduce the negative impact to a minimum level.

According to the risk management standard of the Federation of European Associations of Risk Managers (FERMA), risk management is a central part of the strategic management of an organization, the task of which is to identify risks and manage them. National standards are in force in Australia and New Zealand ("AS/NZS 4360:2004"), Canada ("CAN/CSA-Q850-97"), Japan ("JI Q 2001"), Great Britain in the field of project risk management ("BS -6079-3:2000"), [4, p.104- 106].

In Ukraine, there is a National Standard - Risk management: methods of general risk assessment (IEC/ISO 31010:2009, IDT; DSTU IES/ISO 31010:2013) [5], which discloses the content of risk management and the main methods of their assessment.

In order to understand the meaning and essence of the concept of "risk management", the main aspects of research in this direction, the fundamental provisions of risk management, the views of the representatives of the schools of risk management: American, English, German and Japanese, a brief description of which is presented in the table, should first be revealed in the table 1.1.

Table 1.1 – Characteristics of the main schools of risk management

| School | Representatives | Essential characteristics of views on the risk management system |
|---|---|---|
| American | H. Grüning [6], A. Damodaran [7], J. Kalman [8], M. McCarthy [9], D. Jorion [10]. | The risk management methodology is based on the integration of various risk sectors, economic justification and financial assessment of risk with arguments for its positive effect and thereby increasing profits. |
| English | T. Andersen [11], D. Bedford [12], A. Griffin [13], P. Sweeting [14], P. Hopkin [15]. | The risk management method involves abandoning traditional management methods, highlighting new approaches in management, which involves quantitative and qualitative assessment of risks, influencing factors, highlighting the concept of "uncertainty". |
| German | A. Kempf [16], I. Koch [17]. | The risk management methodology is based on the use of modern microeconomics and empirical research to analyze various types of risks (market, credit, operational, financial) and create a complex system of planning and managing them. |
| Japanese | E. Mamdani [18]. | The risk management methodology uses foreign (american) experience, while emphasizing the application of fuzzy logic and fuzzy sets for risk assessment and analysis. |
| Ukrainian | B. Vitlinsky [19], C. Ilyashenko [20], V. Sergeev [21]. | The risk management method has a limited practical scope - banking and insurance; "episodic" nature and application of risk management tools, limited areas. |

The main schools of risk management went through several stages of development and were characterized by the fact that the tools of risk management were gradually included in each of the areas of the company's activity, thereby requiring constant addition and improvement of the existing theoretical and practical provisions.

The American school of risk management is characterized by a focus on the study of banking risks, corporate and financial risk management; capital valuation and portfolio investment management, corporate finance and strategic risk management. For this, models of financial risk forecasting and investment management were used, and top management focused on researching the experience of leading corporate leaders, revealing internal sources of risks, their impact, methods of neutralization and appropriate management methods.

The English school of risk management is based on the methodology of assessing various types of risk present in the company's activities, using both traditional assessment methods and working in the direction of finding new ideas and concepts of risk management; quantitative and qualitative assessment of internal and external risk, consideration of fundamental concepts of risk, such as "uncertainty", "expert assessment of uncertainty". Application of a complex approach to identification, assessment of risks, modeling of the risk management process, development of relevant management strategies are characteristic features of the English school of risk management.

The German school of risk management, unlike the American school, in its research took into account not only the successful experience of leading companies in neutralizing financial and investment risks, but also investigated other types of them - credit, market, operational, using a multi-stage evaluation system using the techniques of fuzzy logic and fuzzy sets for predicting their negative impact, as well as developing a set of appropriate management methods.

The Japanese school of risk management developed and supplemented the concept of the American and German school of risk management, focusing on the use of the theory and practice of fuzzy logic and fuzzy sets for the identification, assessment of risks and the development of sets of appropriate methods of managing them.

As for the domestic school of risk management, at the current stage of development, it is characterized by the fragmented nature of research, the insufficient number of theoretical and methodological developments in this direction, the lack of

qualified specialists in risk management, which thereby creates the basis for more in-depth research based on the study successful foreign experience with its subsequent adaptation at Ukrainian enterprises.

As was rightly noted in the work of N. M. Chernenko [23, p. 134], coordination of functions between risk reduction practices and risk management financing is not yet fully applied at domestic enterprises; when making strategic decisions, the basics of risk management are not taken into account, an internal audit is not carried out to obtain a comprehensive analysis of activities.

The directions of domestic risk management are aimed at the development of measures aimed at the prevention and prevention of risks of the internal and external environment in order to apply measures to prevent their destructive effect; minimization of negative consequences that risks may cause; obtaining information about the degree of exposure to risks, taking into account management experience with the aim of preventing losses and forecasting the future situation.

Summarizing approaches to the development of risk management, the features of the new paradigm were highlighted in comparison with traditional approaches to risk management: a continuous management process, coordination of management decisions by the head of the enterprise, a wide range of risks analyzed [24].

Risk management in the organization is a complex and multidirectional process, in which each component taken separately can affect other components, between which there is a relationship, which in the interpretation of COSO are the following [4, p. 105]:

– determination of the internal environment;

– goal setting;

– identification of risk events;

– risk assessment;

– risk response;

– means of control;

– information and communications;

– monitoring.

The effectiveness of risk management depends on the effectiveness of its implementation in all subsystems of the object – the enterprise, at all links and processes. LS, as a key link of the enterprise on the way to ensure the efficiency of economic processes, cost reduction is an integral basis of its successful functioning, and therefore is also exposed to risks. Being a complex system by its nature, with many elements in its structure and stable relationships between them, it requires the development of a specific risk management technique that will take into account all its features.

The need for logistics management at production enterprises, directions for the effective use of logistics are revealed in the works of M. Grigorak [25]. The study illustrates the impact of non-production factors that belong to the competence of logistics, thereby emphasizing the use of its potential in order to ensure the efficiency and reliability of enterprises and their logistics.

The optimal approach to organizing risk management at domestic enterprises is to create an independent risk management unit (risk management service).

The difference between LS risk management and enterprise risk management is that risk management tools are applied both in relation to LS in its general form and in the context of its main components, highlighting the appropriate risk management tools in each of its subsystems. This means that the tasks are detailed and at the same time, if necessary, specified in the corresponding subsystem, while not rejecting it as secondary or less important. This approach, despite its laboriousness, will make it easy and cost-effective to adapt LS to changes in the environment due to the impact of risks.

Based on the foregoing, we propose the following interpretation of the concept of "risk management LS of an enterprise" - this is the identification, assessment, management and control of risks in each LS subsystem, the ability to quickly adapt to external conditions and features of its functioning, optimization of flows, coordination of LS work, while meeting the goals set by the company.

The rapid flow of the external and internal environment of the enterprise and its LS leads to a shift in management emphases and requires the use of advanced management technologies. In order to have its own “market niche”, to be competitive,

it is not enough to own material, informational, human and financial resources. There is a significant need for quality management, which is impossible without effective management methods, one of which is risk management. Risk management tools are aimed at improving the efficiency of strategic planning; improving the efficiency of the enterprise and its LS; optimal use of enterprise resources; coordination of material, informational, financial flows of LS; improved communication, open management; identification of risks that affect the activities of the enterprise and its LS; prevention of risks by timely provision of information for their identification, analysis and evaluation.

The process of risk management of risk management should be integrated into the general process of enterprise management in order to adapt to changes in the external environment as quickly and accurately as possible. The question arises about the formation of a mechanism of risk management at domestic enterprises and their LS companies, which will be based on the analysis, identification, assessment and management of risks in order to reduce their negative impact, which is aimed at providing conditions for making strategic, innovative and other decisions.

### 1.2. Risks of the logistics system of the enterprise

The main task of logistics in modern conditions is aimed at applying a set of methods and techniques that make it possible to create and modify objects that include small-scale components (elements of the logistics system) in a controlled manner and, as a result, obtain fundamentally new qualities that allow them to be implemented integration into a fully functioning larger scale system.

One of the most important objects of research in logistics is the LS.

T. Skorobogatova [26, p. 35] defines LS as an ordered hierarchical structure that provides planning, organization, movement and development of resource, production, innovation, personnel potential, which takes the form of a logistics flow from the

moment of receiving raw materials and materials for production and ending with the sale of finished products to the final consumer.

I. Puzanova [27, p. 10] defines LS as a complex, organizationally complete economic system, which contains in its structure a number of elements interconnected by the process of material management and accompanying flows, in which tasks and limits of responsibility are clearly defined at some given time interval.

The schematic structure of the LS, its components and management subsystems, internal and external environment, is shown in fig. 1.1.

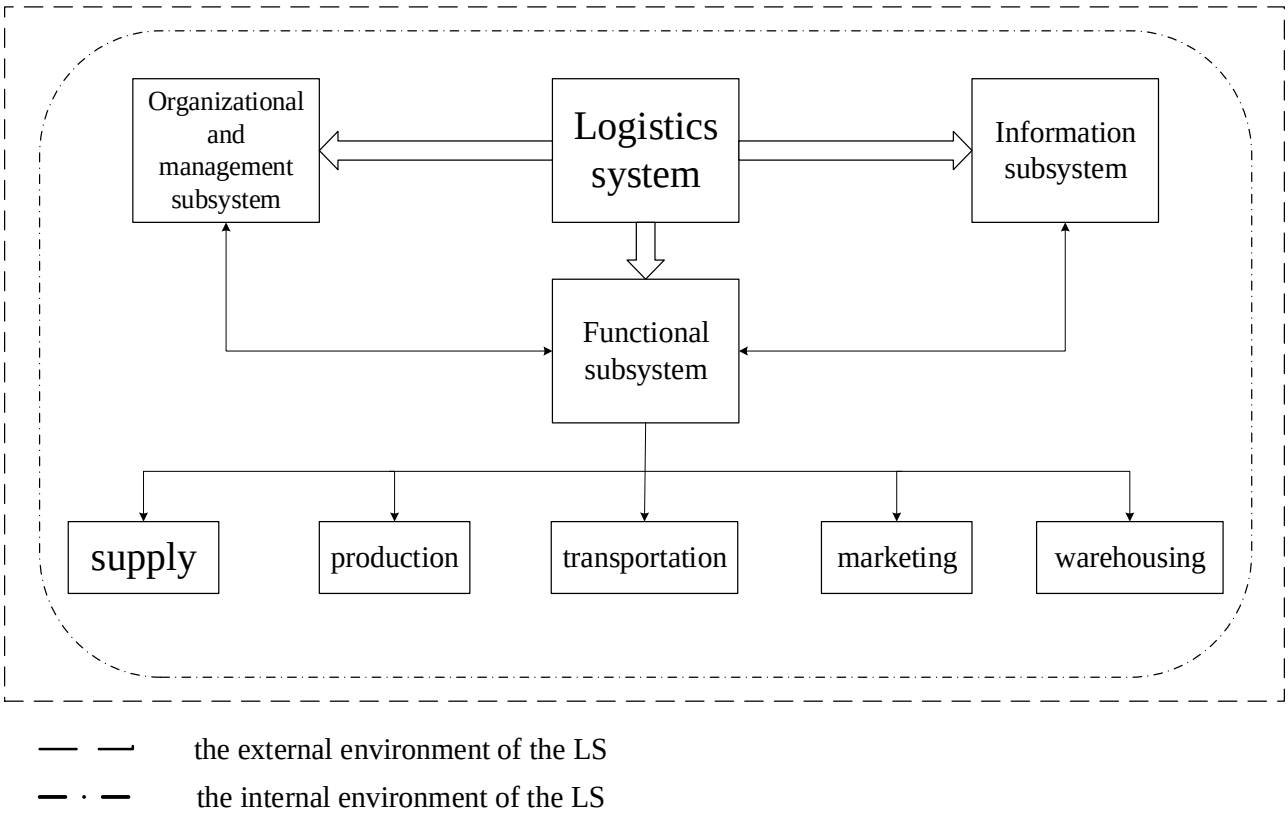


Figure 1.1 – The logistics system of the enterprise in terms of its main components

The information subsystem as the basis of management of the enterprise and its OS provides for the search, collection, processing and sending of information both within the OS and in relation to the external environment. The quality of management decision-making depends on the reliability, timeliness and completeness of information, both in terms of the company and in relation to the enterprise as a whole.

The resource subsystem is responsible for providing the enterprise and its LS with all the necessary resources to achieve the main goal of LS - delivery of the right products at the right time at minimum costs and includes: material resources, financial and investment resources, labor resources, information resources, etc.

The difference between LS risk management and enterprise risk management is that risk management tools are applied both in relation to LS in its general form and in terms of its main components, highlighting the appropriate risk management tools in each of its subsystems. This means that tasks are detailed and at the same time, if necessary, specified in the relevant subsystem, while not dismissing it as secondary or less important. This approach, despite its laboriousness, will allow to easily and with the least costs to adapt LS to changes in the environment due to the impact of risks.

As noted in the work of O. Zborovska [79. Olga Zborovska. ed. Management of risk saturation of economic activity of enterprises. Cherkasy: RVV ChDTU, 2013.28, p. 42], the main cause of risk is uncertainty, which is caused by the variability and instability of economic processes, limited information, and the absence of clearly established goals and objectives.

Any systems, especially logistics systems, are by their nature complex, characterized by a high degree of dynamism and uncertainty. Ignoring and disregarding these features leads to the occurrence of risks [29, p. 342].

Risks take place in the process of development, adoption and adoption of management decisions and have a dual nature: some of them positively affect the work of the enterprise and its LS (stimulators), stimulating them to develop, while others, on the contrary, have a negative impact, forcing to work in conditions of uncertainty (destimulants). Such risks may arise as a result of insufficient awareness of consumers, competitors and the market as a whole; in connection with the absence of long-term development plans and incorrect determination of priorities in activities; using ineffective/poor management methods, etc. As a result, it is necessary to identify risks in a timely manner, classify them for further development of ways to reduce their negative impact or, if possible, completely neutralize them. When studying the genesis of risk, the concepts with which risk is identified, it should be emphasized that in

management, business and everyday life, the concepts associated with risk are very vague and imprecise [28].

Some authors interpret risk as an activity based on overcoming uncertainty in a situation of inevitable choice, in the process of which it is possible to analyze the probability of achieving the desired result, failure and deviation from the goal contained in the chosen alternatives [30].

Other authors interpret the risk as "possible losses" or "damage" in the process of functioning of the organization, i.e. as the danger of potentially possible loss of resources or receipt of income not in full in the process of implementing a management decision, compared to the planned results [31].

As an economic category that affects the efficiency of the logistics system, risk has the following characteristics (fig. 1.2).

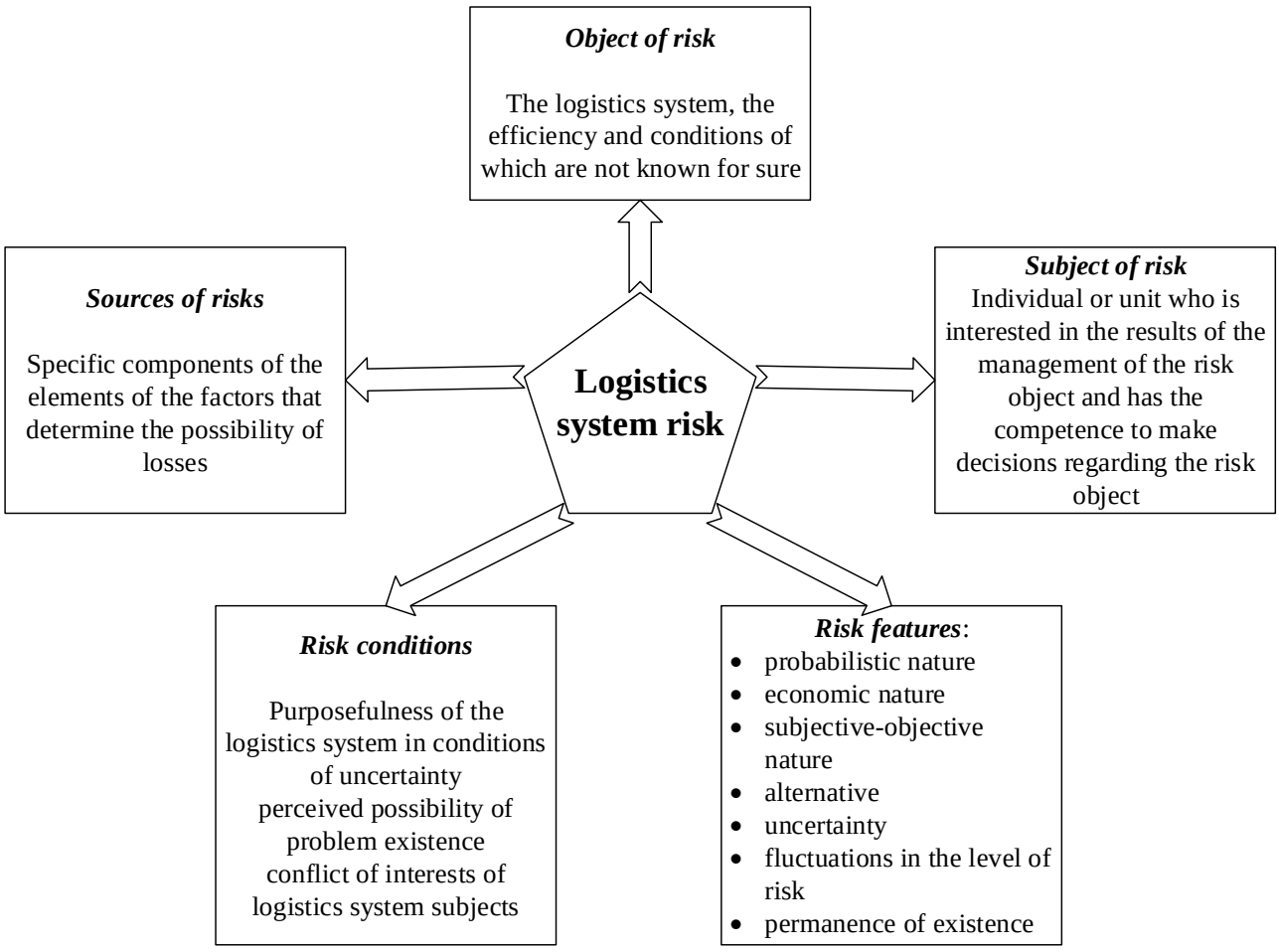


Figure 1.2 – Risk characteristics of the logistics system as an economic category

Considering the problems of LS risk, some authors highlight the concept of "logistic risk" in this context. Logistic risk is understood as the danger of a delay in the operation of the supply chain, disruption of supply or disruption in the operation of one or more links of the chain [32, p. 45].

In the work [33, p. 346] risks in logistics are grouped into the following groups:

– commercial risks - supply disruptions, unpreparedness of the cargo, violation of terms and untimely fulfillment of financial obligations;

– risks of property loss due to natural disasters and adverse transportation conditions;

– risks of property loss as a result of strikes, mass riots, military operations;

– risks caused by violation of safety equipment and fire safety;

– risks of theft of property;

– environmental risks (defects of the product, or inconsistency of its properties with the packaging, which can harm the environment);

– technical risks - failure and breakdown of vehicles and, as a result, possible delays in cargo delivery and an increase in the probability of other risks;

– risks caused by the low qualification of counterparties in the legal profession - negligence, loss of documents, their delay, etc.;

The risk of the logistics system is the perceived possibility of danger by the subject of the logistics system, which is associated with the probability of failures in the work of one or more links of the logistics chain due to the disturbance of the effects of external and internal environmental factors, the consequences of which, from the point of view of the subject of management, are are undefined and appear in the form of changes in flow parameters from the given ones.

Demand requires flexibility from the logistics service. As a rule, the entire supply chain reacts to any changes taking place in the market, and more and more intermediate stages of the chain appear, such as distribution centers, cross-dock sites, transshipment warehouses.

The classification of risks means the systematization of risks on the basis of certain signs and criteria, which allow combining subsets of risks into general groups, which serves as a further basis for their identification and evaluation (table 1.2).

Table 1.2 – Grouping of logistics system risks

| Classification feature | Criterion of differentiation | Types of risks |
|---|---|---|
| 1. By basic elements | The environment of origin of logistics system risks | – logistic;<br>– non-logistic. |
| 2. By scale | The degree of spread of risks at the level of logistics systems | – global;<br>– macrologistic;<br>– mesological;<br>– micrologistic. |
| 3. By frequency of exposure | Repeatability of action on the logistics system | – disposable;<br>– periodic;<br>– permanent. |
| 4. By target orientation | The degree of influence on the elements of the logistics system | – system-wide;<br>– elementary. |
| 5. By the possibility of influencing their action | The possibility of neutralizing the negative impact on the logistics system | – those that are not affected;<br>– those exposed. |
| 6. According to the conditions of occurrence | The degree of awareness of the risk of the logistics system | – conscious;<br>– unconscious |
| 7. By functional subsystems | The functional environment of the occurrence of risks of the logistics system | – transportation risks;<br>– storage risks;<br>– marketing risks;<br>– supply risks;<br>– production risks. |
| 8. By the nature of the impact | The ability of individual risks to influence the logistics system of the enterprise | – that have the potential to have a positive impact;<br>– that have the potential to have a negative impact;<br>– that have a neutral impact potential. |
| 9. By coverage | The degree of coverage of risks affecting the logistics system | – individual;<br>– group. |
| 10. By object of losses | The type of loss of the logistics system | – risks of unforeseen material losses;<br>– risks of loss of working time;<br>– risks of loss of funds. |

In the process of identifying the risks of LS, those that have the greatest impact, reducing efficiency and reliability, should be singled out, and therefore one of the main tasks is the classification of risks specifically in terms of LS.

Taking into account the risks in the management of the enterprise's assets allows to ensure the flexibility of assets, their adaptation to the variability of the market situation (fig. 1.3).

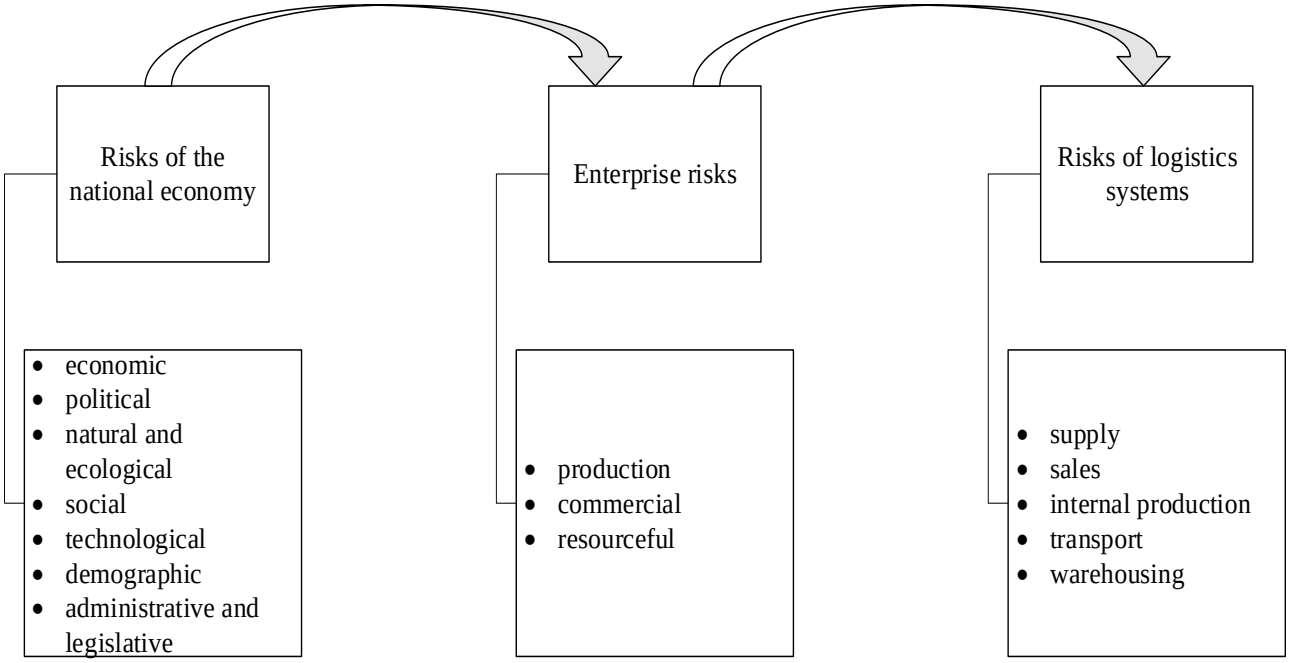


Figure 1.3 – Hierarchy of risks and their correlation

Each of the above types of risk can be made more specific by distinguishing other types, depending on certain factors: time, field of activity, significance, level of awareness, etc. Therefore, in the process of LS management, these points should be taken into account, taking into account that even if the influence of internal risks is minimal even at one level, the influence of those higher in the hierarchy can reduce the efficiency and reliability of LS functioning.

The effectiveness of such a complex and dynamic mechanism as LS depends on many conditions, a close connection with the external environment, a complex internal structure inevitably lead to the fact that LS is in a state of uncertainty, when it is impossible to predict in advance what the result will be. Reliability can be reduced by risks as a result of wrong management decisions, which can be of different nature.

It is important to clearly distinguish these concepts, taking into account their direct connection, to analyze the causes of their occurrence, to study their characteristics in order to build an optimal management model. For further analysis, risks directly related to LS were selected, namely: supply risks, production risks, sales risks, transport risks, storage risks.

Supply, as an input link of LS, involves the delivery of all necessary materials and raw materials, which later enter production, and therefore the late supply of the latter is due to the possible occurrence of the following risks: risks of not receiving all material resources; risks of unjustified increase in raw material prices; risks of violation of delivery schedules; risks of deterioration of the quality of raw materials; risks of non-fulfillment of contracts with suppliers.

Production is a complex and multi-stage process, the integration of all elements of the production cycle, where failure of one inevitably leads to failures in production as a whole. The company achieves the highest level of profit by improving the organization of production processes, which is affected by the following risks: technical and technological risks; risks of changes in demand; risks of shortage of raw materials and insufficient level of their quality, implementation risks (marketing); risks of increasing the share of defects, etc.

The formation of an effective sales system contributes to solving complex problems of harmonizing the interests of the enterprise and its LS with the external environment. It is necessary to manage the sales system taking into account the close connection between the assortment and price policy of the enterprise, as well as a number of risks, namely: risks of wrong choice of the target sales market; risks of low purchasing power of buyers; risks of increased competition in the market; risks of providing incomplete or inaccurate information about the market; risks of violation of delivery terms, etc.

The key role of transportation in LS is explained not only by the significant specific weight of transportation costs in the overall composition of logistics costs, but also by the fact that without transportation, the very existence of material flow is impossible [34, p. 112]. The following risks are associated with transportation: risks of

increased transportation time; risks of loss or damage to goods during transportation; the risks of an increase in the price of fuel, and therefore of transport services; risks of errors in choosing a mode of transport; risks of irrational organization of the transportation process, etc.

Modern warehouses not only perform the functions of storing and accumulating a large number of goods, thereby ensuring the dempignation (smoothing) of inconsistencies at various junctions between the pace and nature of the arrival of these goods, on the one hand, and consumption - on the other [34, p. 49]. The risks of warehousing include: risks of theft of property; risks of irrational preservation of goods and, as a result, their deterioration; risks of an increase in the cost of services related to the maintenance of warehouses (or an increase in the cost of rent); risks of overstocking of goods in the warehouse; risks of failures in the operation of loading and unloading equipment, etc.

As a result, risks are always present in the work of LS - from the supply of raw materials and materials, ending with the sale of finished products in each of its functional subsystems, affecting the efficiency, reliability and stability of its work. Therefore, there is a need to develop a risk management system, the purpose of which is the timely identification of risks.

### 1.3 The risk management system of the logistics system of the enterprise

The active application of LS risk management at modern enterprises is due to the benefits they will receive as a result of the use of risk management tools and due to the fact that enterprises and their LS operate in conditions of uncertainty and risk, which quite often leads to the adoption of destructive decisions. There is a need to change management vectors, using the latest approaches, shift emphasis and focus on LS risk management - a key link of the enterprise that coordinates the work of all flows in the

enterprise, is an innovative tool in ensuring the efficiency and reliability of the business entity's work.

Risk management is a component of the overall strategy of the enterprise and is aimed at early detection of factors that can potentially cause the development of negative trends. The risk management system at the enterprise must meet the main goals of the enterprise and its LS, be aimed at maximizing its profit based on the analysis of the internal and external environment of the enterprise, including an individual and integral assessment of all the risks present in order to develop and implement measures to reduce them in the form of maps risk, which at the same time will allow early prediction of possible negative consequences [35].

In order to design a LS risk management system at an enterprise, it is necessary, first of all, to synthesize risks for each functional LS component - purchasing (supplier), production, transport, sales, warehouse, and to substantiate options for management decisions at different levels of management: current, tactical and strategic, which in turn are subject to the main goal of risk management - reducing the negative impact of risks [36].

There are four main approaches to management: situational, functional, system and process, the target direction of each of which is disclosed in the table. 1.3.

The risk management system is a set of consecutive management actions aimed at identifying, identifying, analyzing and assessing risks with the aim of eliminating them or reducing their negative impact. It should ensure the adequacy of the management decisions made to the goals of the activity, taking into account the degree of riskiness of the activity being carried out, be aimed at a quick response to changes in the internal and external environment of the enterprise in order to minimize the negative impact of risks, foresee a change in the vectors of their action and ensure the development of measures aimed at preventing this influence in the future.

Table 1.3 – The essence of the main approaches to enterprise management

| The name of the approach | Characteristics |
|---|---|
| Situational | – active relationship between management theory and practice;<br>– the center of attention - the situation, as a specific set of circumstances affecting the enterprise at a specific moment in time;<br>– stimulating performers to "situational thinking";<br>– management decision-making in accordance with existing conditions;<br>– decentralization of management;<br>– adaptability and flexibility of the organizational structure to changes in the external environment. |
| Functional | – a continuous series of interconnected management functions that form the basis of the organizational management process;<br>– high labor productivity;<br>– reduction of resource consumption;<br>– improvement of work coordination;<br>– complexity of work, tasks. |
| Systemic | – defines the organization as a set of interconnected elements aimed at achieving a single goal;<br>– formation of goals and establishment of their hierarchy before the start of activities;<br>– obtaining the maximum effect, achieving set goals by comparing alternatives and methods of achieving goals. |
| Process | – direct orientation to the customer of goods or services;<br>– simplification of information accounting between divisions;<br>– consideration of the quality management system not in statics, but in dynamics, when activity in the system must be constantly improved on the basis of measurements and analysis. |

Such a risk management scheme is based on compliance with the principles of risk management standards developed by IRM (Institute of Risk Management of Great Britain) and AIRMIC (Association of Risk Management and Insurance), where the main priorities are [37]: analysis of internal business processes; assessment of external risk factors; development of the information base; working out the methodological basis of risk assessment.

Risk management is designed to solve problems arising from ineffective organization of logistics coordination, incorrectly chosen logistics strategy, unsatisfactory state of the planning and control system at the enterprise, low integration of logistics processes, insufficient information support, lack of logistics specialists and is a mandatory tool in ensuring efficiency of the enterprise and its LS, being part of the strategy and tactics of the social and economic policy of the enterprise [38-39].

The main functions of enterprise risk management are methodical, analytical, regulatory and control functions, which are directly related to the stages of risk management implementation. The availability of a methodical base of various methods of analysis and evaluation will allow timely identification, measurement of risks and the provision of appropriate methods of their reduction, i.e. the methodical function is present at all stages of the implementation of risk management.

The analytical function of risk management is more specific at the stages of risk identification (identification and comparison of risks) and their measurement (analysis and assessment of risks).

Manage risk management processes not only at the moment of occurrence, but also in advance by means of forecasting and prediction - this all refers to the function of regulation, at the stage of impact on risk. The control function is the final function at the risk impact stage and is responsible for analyzing the effectiveness of the risk management system, focusing on both the internal and external environment of the enterprise.

The principles of risk management are the basis of its organization at the enterprise, including the principle of scale - full coverage of all risks; adequacy - quickly and at minimal costs to respond to changes in the environment and minimize

the total costs that the company will have to bear in the event of a negative impact of the risks of the costs of implementing the appropriate management tools.

The implementation of the risk management system at the enterprise will make it possible to make reasonable management decisions based on the received objective information about the state of the business entity and to minimize the risks occurring in its activities [40].

Obstacles to the effective use of risk management techniques and their possible effects on LS efficiency are shown in fig. 1.4.

Errors in the identification, assessment and selection of appropriate risk management tools lead to the fact that the resources involved will be used in the wrong direction, thereby leading to a decrease in the efficiency of the enterprise.

In order to avoid such a situation, it is necessary to build an organizational chart of management - a risk management system, where the functional limits of each of the participants will be clearly defined, it will be possible to monitor at which level of management there are problems and, accordingly, to eliminate them in a timely manner.

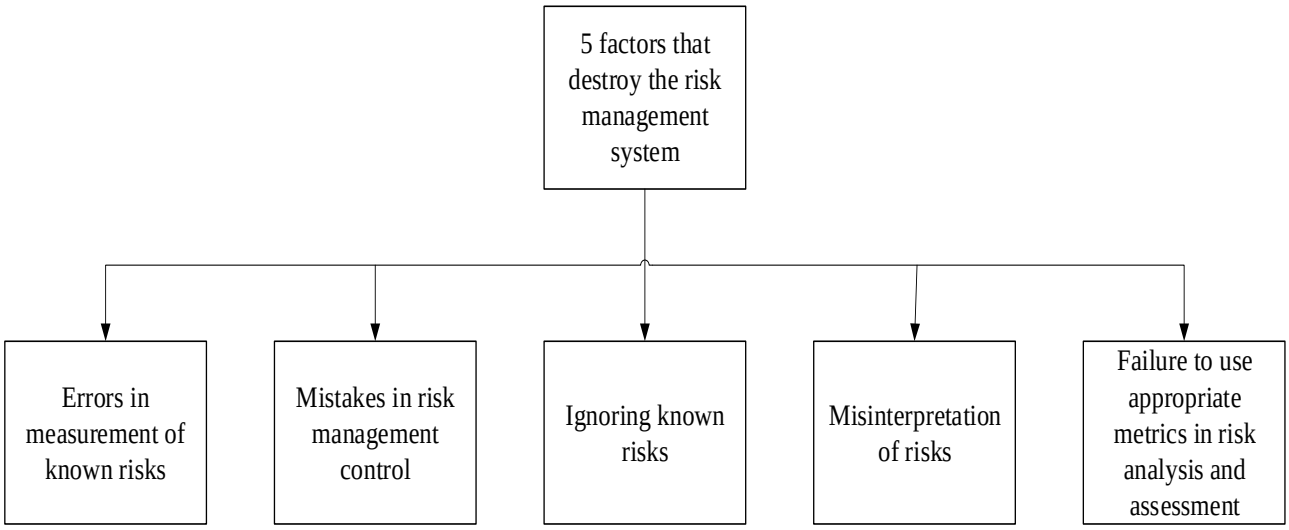


Figure 1.4 – Obstacles to the application of risk management at the enterprise

The organization of the risk management system at the enterprise is influenced by various factors, namely:

– the scale of the enterprise's activities;

– feasibility of risk management costs;

– types of risks and their impact on the company's activities.

Approaches to the organization of the risk management system at the enterprise with their advantages and disadvantages are presented in the table 1.4.

Table 1.4 – Approaches to the organization of the enterprise risk management system

| Approaches to organization | Advantages | Disadvantages |
|---|---|---|
| Development of sections on risk management by heads of individual units within the plans of the enterprise | Employees of divisions can better identify the risks specific to their field of activity (marketing department - marketing risks, financial department - financial risks) | The possibility of inconsistency of goals and optimization methods in the risk management plans of the company's divisions |
| Establishment of the position of risk manager | Separation of risk management into a separate management activity | A high level of subjectivity during decision-making by the risk manager. |
| Creation of a risk management department | Formation of a comprehensive risk management plan of the enterprise. Specialization of employees in separate functions of risk management | Additional expenses for the organization and functioning of the department, as well as for the training of specialists |
| Formation of temporary risk management groups | Collective discussion makes it possible to generate more ideas about the causes of risks, methods of their optimization | Influence of authoritative members of the group on the opinion of others |
| Involvement of external specialists | The possibility of taking into account the opinions of third-party experts when assessing the level of economic risks, forming scenarios of the development of events | Expenses for payment of expert services. The necessity of forming a procedure for the selection of experts |

Permissible risk limits are established by the highest management body - the general meeting of shareholders; strategic risk management is developed by the board apparatus (chairman of the board); operational risk-management is delegated to the main divisions of the management apparatus according to the functional areas: technical, financial, production, marketing, commercial departments, which, within the limits of their competences, carry out the process of risk management.

The effectiveness of the implementation of the risk management system at the enterprise is based on the effective functioning of its management system (shareholder meetings; board) and management decision-making system (subdivisions of the management apparatus: technical, financial, production, marketing, commercial) [41, p. 43].

The organized risk management system of LS should be based on a scientifically based and practically significant risk assessment and analysis methodology, which takes into account successful foreign experience, is able to quickly and with minimal costs adapt to the conditions of the external environment of the enterprise.

Building an effective LS management mechanism of the enterprise involves optimization and improvement of the already existing LS, both in the perspective of its functioning and in real time.

This is a necessity now, when in the modern market almost every enterprise must "survive" in the difficult competitive conditions of the transition economy. In addition, businesses today are faced with a multitude of potentially conflicting consumer needs.

The foreign and domestic practice of applying the risk management system at LS shows that the application of a comprehensive approach to risk management is successful: functional risk management (supply, production, transportation, sales, warehousing) and within the framework of the entire enterprise (strategic, complex, integrated risk management).

The use of economic and mathematical methods and models in LS efficiency management is due to the following possibilities:

– an accurate, concise statement of the provisions of management theory regarding LS of the enterprise;

– a description of the connections between the LS elements of the enterprise and the external environment;

– calculation of optimization tasks for LS planning and management, taking into account all its features;

– timely response to changes in the goals of all levels, limited resources and adequate adjustment of plans and management decisions, respectively;

– timely, reliable information about the object - LS, its functioning;

– forecasting the object's behavior in the future - LS efficiency level.

Risk management methods used at manufacturing enterprises are quite extensive and include the following types [42, p. 267-269]:

1. Risk avoidance (rejection of unreliable partners, rejection of innovative projects, business insurance, creation of regional or industry structures of mutual insurance and reinsurance systems).

2. Localization of risk (allocation of “economically dangerous” areas into structurally or financially independent divisions, formation of venture enterprises, successive disintegration of the enterprise).

3. Dispersion (integrated distribution of responsibility between production partners, diversification of individual activities, sales markets, expansion of the raw material procurement plan, risk distribution by work stages).

4. Compensation for such methods as: avoidance, containment, transfer, risk reduction (implementation of strategic planning, forecasting of the external economic situation in the country, region, monitoring of the socio-economic and regulatory environment, creation of a reserve system at the enterprise, active targeted marketing).

In order to specify the results of LS risk assessment, the following categories of logistic indicators are distinguished:

– quantitative indicators of LS risk analysis;

– key influencing factors in the form of social, environmental, production and technological indicators and indicators of competitiveness;

– the share of logistics costs in the structure of the total;

– partial performance indicators of the logistics system - warehouse performance, production efficiency, sales, etc.

The advantages of using a comprehensive method of risk assessment are that its application takes into account not only the opinion of experts, but also the results of a quantitative assessment, which makes the conclusions more thorough and objective, thus reducing the level of subjectivity.

When choosing certain methods for risk analysis and assessment, one should not forget to take into account the features of LS in order to adapt them to generally accepted management methods and techniques.

The use of correlation-regression analysis is due to the presence of integral, risk-creating factors that can simultaneously affect several LS risks. Therefore, there is a task of taking into account the level of interdependence of the identified and identified LS risks, and these relationships can be significant and influence the choice of appropriate management tactics.

The expert method is appropriate for identifying the most significant factors influencing the occurrence of risks. As a result of the processing of the received data and the distribution of risks according to their significance, a kind of basis for making a decision on the possibility of reducing the risks that the company has an influence on or, at least, predicting their negative effect, arises.

Expert methods are easy to use, do not require the collection of complete information, the assessment is formed based on the results of the assessment of experienced specialists, but at the same time, the subjectivity of experts is present, which can distort the assessment results [43, p. 22].

On the basis of a critical analysis of risk management methods in terms of LS from the point of view of their practical application and with the aim of ensuring efficiency, reliability, the following are singled out, as well as the tasks assigned to them:

– analysis and synthesis - identification and generalization of factors affecting the efficiency of LS of the enterprise;

– logical abstraction - for research and addition of the "risk" category and systematization of LS risks;

– graphic methods - to determine changes in analytical indicators, assessment of the risk management system;

– economic and logical methods - for comparison and grouping of enterprises depending on the value of evaluation indicators;

– matrix methods - for analyzing the state of certainty of the enterprise in relation to the external and internal environment.

The LS risk management system aims to reduce the risk of erroneous application of a decision already at the moment of its adoption and to reduce the possible negative consequences of decision-making at the subsequent stages of their implementation.

This approach to the design of the LS risk management system is based on a combination of management measures regarding the influence of the external and internal environment through a complex combination of different management approaches with the coordination of relevant decisions. This will allow to balance the complex of management decisions at each stage of management, delimiting functions.

The practical implementation of management options based on the principles of risk management requires the application of a set of appropriate management decisions, which are individual in nature, because the LS of each enterprise is different, based on objective and subjective reasons, but they all have a common goal - reducing the negative impact risks and corresponding costs caused by ensuring the stability, efficiency and reliability of the enterprise and all its links.

The algorithm for calculating the effectiveness of the LS risk management system is presented: with the help of the formation of the appropriate concept of LS effectiveness assessment using economic, ecological and social criteria; by analyzing the spheres of logistics provision: supply, storage, transportation, sales, production; the use of "recycling" - to assess the effectiveness of this competence, indicators are used that characterize the efficiency of the enterprise's waste management, which is becoming relevant in modern business conditions, as additional income or as a way to reduce the cost of products due to re-use of raw materials.

## Chapter 1 summary

According to the results of the study of theoretical and practical aspects of risk management of the logistics system at a modern enterprise, it was concluded that:

1. Risk management is considered as a certain set of methods of influencing the level of risk, on the other - as a process of reducing financial losses, that is, the search for alternatives between the benefits of risk reduction and the costs of risk reduction measures. At the same time, there is an opinion about a systematic approach to risk management, which simultaneously provides for the possibility of risk situations and the implementation of risk management stages: identification, assessment, reduction, etc.

2. The main purpose of risk analysis is to form an idea among decision-makers in risky situations about the nature and magnitude of the impact of risk on the enterprise. Therefore, it is important not only to formulate a list of risks, but also to determine the main aspects of the impact on the company's activities and the list of consequences. Risk analysis directly involves carrying out first a qualitative and then a quantitative analysis of the risks that the enterprise may face in the course of its activities. Qualitative analysis involves the identification of risks, the study of their characteristics, and the identification of the consequences of the implementation of risks.

3. The risk of the logistics system is the perceived possibility of danger by the subject of the logistics system, which is associated with the probability of failures in the work of one or more links of the logistics chain due to the disturbance of the effects of external and internal environmental factors, the consequences of which, from the point of view of the subject of management, are are undefined and appear in the form of changes in flow parameters from the given ones.

4. Manage risk management processes not only at the moment of occurrence, but also in advance by means of forecasting and prediction - this all refers to the function of regulation, at the stage of impact on risk. The control function is the final

function at the risk impact stage and is responsible for analyzing the effectiveness of the risk management system, focusing on both the internal and external environment of the enterprise

# CHAPTER 2
# ANALYSIS OF THE RISK MANAGEMENT SYSTEM IN THE ANTIAIDS UKRAINE CHARITABLE FOUNDATION

## 2.1 General characteristics of the CF "AntiAIDS Ukraine" and analysis of economic activity

The Los Angeles-based AIDS Health Foundation (AHF) is a global non-profit organization providing cutting-edge medicines and protection to more than 1,000,000 people in 43 countries. The foundation is currently the largest provider of medical care for HIV/AIDS in the United States [44].

AHF (AntiAIDS Ukraine) funds its mission to rid the world of AIDS through a network of pharmacies, convenience stores, healthcare contracts and other strategic partnerships. The creation of new, innovative methods of treatment, prevention and promotion is a sign of the success of the charitable foundation. The foundation is currently running a mass testing initiative to identify and treat 25 million people who do not know they are infected. By advocating big goals - like testing 1 billion people a year - AHF hopes to eliminate old, more labor-intensive methods. Since 1987, AHF has worked with thousands of people living with HIV and AIDS around the world. By creating and implementing new programs in communities in the United States and abroad, the foundation expands the field of healthcare and influences policy to save more lives.

AHF began its work in Los Angeles at the initiative of a group of people directly affected by HIV in the 1980s. They had only one, humanistic goal: to give people with AIDS the opportunity to live their last days and die with dignity, in a safe place, surrounded by care, respect and understanding. The AIDS Hospice Foundation was officially registered in 1987 and within the next year opened Chris Brownlie Hospice, the first officially licensed hospice in California to help people with AIDS.

Since the end of the 1990s, when HIV treatment became possible, the initiative group decided that the need for medical care was much more important than exclusively emergency care. The organization changed its name to the AIDS Healthcare Foundation and focused on providing the best modern care for patients with HIV, despite their ability to pay for services. AHF started its activities in Ukraine in 2009, supporting the decentralization of ART in close cooperation with public health institutions. In 2020, AHF Ukraine provides free medical services for more than 38,000 HIV+ people in 16 regions of Ukraine [45].

AHF Ukraine implements effective HIV prevention programs by raising public awareness, distributing free condoms, rapid testing and treatment of HIV and opportunistic infections. AHF Ukraine's main advocacy priority is to introduce a people-centred approach to testing, treatment, infection prevention and care for people living with HIV. AHF Ukraine conducts seminars for professionals providing assistance to PLHIV to improve the quality of diagnosis, treatment and prevention of HIV/STI/opportunistic infections. In November 2016, AHF Ukraine opened the first Checkpoint in Eastern Europe in Kyiv [50].

On World AIDS Day 2016, in collaboration with the Kyiv City Department of Health, an integrated website for HIV/TV/OST care was launched. Currently, as part of the health reform, the embedded site has received funding from the state. In December 2017, AHF Ukraine opened a Test & Treat clinic in Odessa in collaboration with the Regional State Administration, where 1,580 patients are currently receiving integrated, people-centred care. The estimated number of people living with HIV in Ukraine is 244,000. As of January 1, 2020, 169,787 people were officially registered as living with HIV, 136,105 of whom are on ART [51].

According to UNAIDS 2018, the estimated HIV prevalence in adults aged 15-49 is 1.0% [0.7% in women and 1.2% in men]. The epidemic is concentrated in key risk groups, with 22.5% among injecting drug users dominated by 5.2% among sex workers and 7.5% among men who have sex with men (IBBS). 2017). The share of sexual transmission of HIV continues to grow in the structure of HIV transmission routes

(65.6% in 2019 against 57% in 2014). Most newly reported cases of HIV infection occur in people aged 25–49–84.7% of cases [52].

The strategy uses a patient-centered approach focusing on prevention programs targeted at key risk groups while expanding access to treatment. It has strategic targets for HIV, tuberculosis and hepatitis. At the same time, the new system of public health financing has gaps in ensuring the sustainability of services and bringing care to people.

The management system of the AntiAIDS Ukraine Charitable Foundation consists of the managing and managed subsystems (Fig. 2.1) [53]. So, the composition of the management subsystem can include: the general meeting of shareholders, the audit commission, the general director of the enterprise and his deputies. In accordance with the composition of the managed subsystem, the staff of the AntiAIDS Ukraine Charitable Foundation belongs.

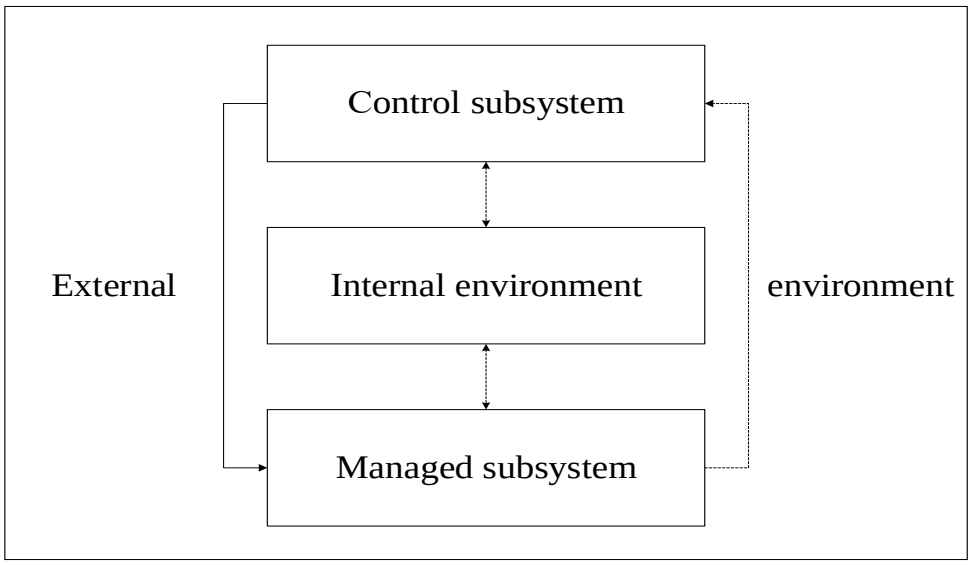


Figure 2.1 – Management system of the Charitable Foundation “AntiAIDS Ukraine”

The organizational structure of the management of the charitable foundation (CF) "AntiAIDS Ukraine" is a linear-functional leaders which are divided into leaders: the first, second, third levels of management. The supreme governing body of the CF "AntiAIDS Ukraine" is the general meeting of shareholders. The company is obliged to convene a general meeting annually. The main duties of the general meeting include

the formation of the main activities of the enterprise, the adoption of decisions on changes in the charter, type of company, etc.

The Supervisory Board of the CF "AntiAIDS Ukraine" supervises the observance of the rights of participants, and also controls the activities of the sole executive body.

The General Director is the sole executive body of the enterprise. The General Director carries out day-to-day management of the enterprise, represents the interests of the AntiAIDS Ukraine Charitable Foundation in various institutions, concludes contracts on behalf of the enterprise, etc.

The auditing commission of the CF "AntiAIDS Ukraine" checks the financial and economic activities of the enterprise, controls the activities of the general director, and analyzes the financial condition of the enterprise. Along with this, we consider it appropriate to characterize the main functions of the structural divisions of the enterprise. The chief accountant is responsible for the accounting of the enterprise. He is in charge of accounting.

The Director for Economics and Finance is responsible for developing the financial policy and strategy of the enterprise, maintaining financial statements, generating and distributing financial resources, and managing financial flows. The planning and economic department, the department of organization and the regulation of labor and wages are subordinate to him.

The commercial director is responsible for the marketing policy of the enterprise, market research and analysis, determining the needs of consumers, providing the enterprise with raw materials and supplies. The logistics department, the sales department, and the marketing department are subordinate to him.

The Chief Information Officer is responsible for introducing innovative technologies and systems into the enterprise, ensures the smooth operation of communication systems between departments, and manages the available business information and knowledge. The information technology department and the technical control department are subordinate to him.

The personnel department reports directly to the head of the enterprise. Responsible for the search (attraction), selection of qualified specialists, adaptation of

new employees, personnel assessment, staff development, as well as employee motivation, organization of accounting and reporting on personnel. The legal department reports directly to the general director of the enterprise. Responsible for organizing and ensuring compliance with the implementation of legislative acts, other regulations and documents.

The advantages and disadvantages of the linear-functional organizational structure of the company are shown in the table. 2.1.

Table 2.1 – Advantages and disadvantages of the linear-functional management structure of the CF "AntiAIDS Ukraine" [compiled based on 54, 55]

| Advantages | Disadvantages |
|---|---|
| 1. Having a clear hierarchy.<br>2. Releasing line managers from solving routine issues.<br>3. Rational connection of linear and functional connections.<br>4. Rapid management decision making.<br>5. An individual leader is personally responsible for the performance of his duties.<br>6. Qualified problem solving by employees of functional units. | 1. The presence of internal barriers between departments of the enterprise.<br>2. Difference of views on problem solving between line and functional managers.<br>3. Distortion of information when exchanging it between managers and performers, as well as between departments. |

After analyzing the microenvironment of the enterprise, it is necessary to analyze the impact of the macroenvironment on it (Table 2.2).

The next method for assessing the strategic state of the AntiAIDS Ukraine Charitable Foundation is to conduct a SWOT analysis – determining the strengths and weaknesses of the enterprise, as well as the opportunities and threats that exist in its external environment. Conducting a SWOT analysis not only significantly reduces the level of existing uncertainty of factors external to the enterprise that can worsen its financial and economic condition, but also allows timely adaptation to threats from a dynamic external environment.

Table 2.2 – Influence of macroenvironment factors on the CF "AntiAIDS Ukraine"

| Macro environmental factors | The manifestation of the influence of factors |
|---|---|
| 1 | 2 |
| Political factors | |
| Tax law;<br>Monetary policy;<br>Unstable political situation in the country. | Increasing the tax burden;<br>Adjustment of interest rates on loans. |
| Economic factors | |
| The state of the economy;<br>Inflation;<br>Weak financial and economic support for the industry. | Decline in the standard of living of the population;<br>Decrease in purchasing power;<br>Decreased investment in the industry;<br>Decline in the pace of innovative action. |
| Social factors | |
| Demographic situation;<br>Low solvency of the population. | Reducing the number of potential consumers;<br>Decreased demand for products. |
| Technological factors | |
| Lack of resources for introducing innovative technologies;<br>Technological breakthroughs in other countries. | The high cost of introducing innovative technologies and equipment. |

Strengths (S) and weaknesses (W) are factors of the internal environment of the analysis of the object (if there is something that the object itself is able to return); opportunities (O) and threats (T) are environmental factors (if it is something that can bind the object from the outside and is not controlled by the object). For example, an enterprise manages its own trade association - this is an internal environment factor, but the laws on trade of an uncontrolled enterprise - this is an external environment factor. [56] Based on this, we will compile a SWOT-analysis matrix of the AntiAIDS Ukraine Charitable Foundation (see Table 2.3).

Table 2.3 – Table of SWOT-analysis of the Charitable Foundation “AntiAIDS Ukraine”

| OT element | Opportunities | Threats |
|---|---|---|
| External environment | 1. Raising funds from investors and creditors.<br>2. Increase existing market share by entering new segments.<br>3. Expansion of the product range.<br>4. Attracting personnel with the required qualifications and specialization. | 1. High rates of inflation.<br>2. Imperfect taxation system.<br>3. Lack of state support.<br>4. The emergence of new competitors in the market.<br>5. Application of competitors' latest technologies, as well as other innovations.<br>6. Imperfect customs policy. |
| SW element | Strengths | Weaknesses |
| Internal environment | 1. Production diversification.<br>2. Product differentiation.<br>3. Constant analysis of market needs.<br>4. Market leader image.<br>5. Established connections in the external environment.<br>6. The embodiment of the latest developments on the basis of the company. | 1. Slow growth rates.<br>2. Attracting a large amount of loan funds.<br>3. Low advertising activity of the company.<br>4. Imperfect ways of promotion in retail and trade networks. |

The use of SWOT analysis in assessing the activities of an enterprise helps to reduce the level of the existing uncertainty of the external environment, as well as to identify the hidden opportunities for development of the enterprise. Taking this into account, a positive impact on the enterprise is the possibility of increasing the existing market share, expanding the range, diversifying production, and the possibility of implementing new developments on the basis of the enterprise. High inflation, slow growth, the presence of accounts payable, and the use of outdated equipment have a negative impact.

After compiling the SWOT analysis table, it is necessary to fill in the SWOT analysis matrix (see table 2.4).

Table 2.4 – Matrix of SWOT - analysis of the Charitable Foundation “AntiAIDS Ukraine”

| | | | |
|---|---|---|---|
| External environment | Internal environment | | |
| | | Opportunities | Threats |
| | Strengths | Field S&O<br>6 + 4 = 10 | Field S&T<br>6 + 6 = 12 |
| | Weaknesses | Field W&O<br>4 + 4 = 8 | Field W&T<br>4 + 6 = 10 |

The calculations of the SWOT-analysis matrix showed that the AntiAIDS Ukraine Charitable Foundation uses a limited growth strategy, during which threats from the external environment can be limited by the effective use of the strengths of the enterprise. The use of this method will help to maintain the company's position in the market, as well as resist negative changes in the future.

High-quality personnel management of the company contributes to the growth of the level of the company's competitiveness, necessitates its future development and the optimal use of labor resources. A perfect personnel policy not only helps to effectively organize the work of the enterprise, but also creates a favorable socio-psychological climate in the team.

## 2.2 Financial and economic analysis of the results of economic activities of the Charitable Foundation “AntiAIDS Ukraine”

The financial and economic assessment of the enterprise's activities (see Table 2.5) is used to monitor the effectiveness of its functioning, the state of financial

independence. After assessing the financial and economic performance of the enterprise, we can conclude on the effectiveness of the use of both own and borrowed funds, recognize the cost structure, find out the technical condition of the use of fixed assets, as well as the level of labor productivity.

Table 2.5 – "Consolidated statement of the financial position of the Charitable Foundation "AntiAIDS Ukraine"

| | 2021 | 2020 | Absolute deviation, +/- (2021-2020) |
|---|---|---|---|
| ASSETS | | | |
| Non-current assets | | | |
| Fixed assets and intangible assets | 1,957 | 1,917 | 40 |
| Contributions receivable | - | 3,652 | - |
| Total non-current assets | 1957 | 5569 | - |
| Current assets | | | |
| Cash and cash equivalents | 66,878 | 117,579 | -50701 |
| Contributions receivable | 128,101 | 446,833 | -318732 |
| Accounts receivable from sub-recipients | 4,205 | 88 | 4117 |
| Issued prepaid expense | 7,662 | 3,324 | 4338 |
| Stocks | 31,534 | 96,803 | -65269 |
| Total current assets | 238,380 | 664,627 | -640789 |
| Total assets | 240,337 | 670,196 | -429859 |
| NET ASSETS AND LIABILITIES | | | |
| Net assets | | | |
| Assets temporarily restricted in use | 200,829 | 560,072 | -359243 |
| Assets not restricted in use | 1,957 | 1,917 | -1915,043 |
| Total net assets | 202,786 | 561,989 | -359203 |
| Obligation | | | |
| Obligations to provide grants to Supplementary Recipients | 30,346 | 53,288 | -22942 |
| Accounts payable | 7,205 | 54,919 | -47714 |
| Total current liabilities | 37,551 | 108,207 | -70656 |
| Total assets and liabilities | 240,337 | 670,196 | -429859 |

Based on the results of the analysis and the adoption of appropriate corrective decisions, it becomes possible to use resources more efficiently, reduce excess costs and eliminate other shortcomings. The initial data for conducting a financial and economic analysis of the activity of the "AntiAIDS Ukraine" Charitable Foundation are taken from the financial statements of the enterprise.

All items of property, plant and equipment and intangible assets are stated at historical cost less accumulated depreciation and accumulated loss of utility. The initial cost of property, plant and equipment and intangible assets includes the purchase price, non-refundable indirect taxes associated with their acquisition, installation and maintenance costs, and other costs directly related to bringing the objects to the condition necessary for their expected use. Depreciation/amortization of all groups of property, plant and equipment and intangible assets is accrued on a straight-line basis over their useful lives. The asset structure of the AntiAIDS Ukraine Charitable Foundation as of 2021 is figure 2.2.

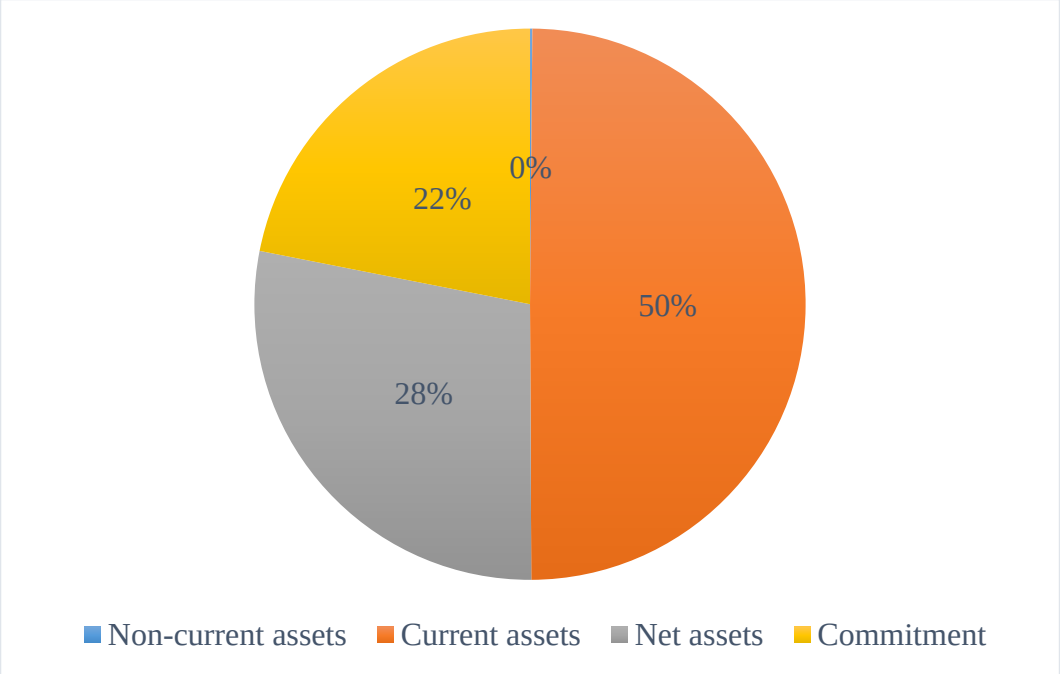


Figure 2.2 – The structure of assets of the CF "AntiAIDS Ukraine" for 2021

Advances issued are advances made to suppliers for the purchase of supplies, including medicines, services, etc., in the course of program activities and are reported as advances paid, net of an allowance for doubtful debts.

The difference between assets and liabilities represents the net assets of the fund (or the balance of funds received from donors). Net assets are allocated to net assets, the use of which is temporarily restricted and net assets are not restricted for use. Contributions from donor organizations made without any qualifications are shown as net assets with no restrictions on use. Contributions received from donor organizations with certain conditions restricting their use are recorded as temporarily restricted net assets. Unrestricted net assets are net assets for which there is no claim.

Estimates and associated assumptions are reviewed on an ongoing basis. Reviews of accounting estimates are recognized in the review period if the review affects both the current and future periods. Information about significant judgments in applying accounting policies and the main sources of estimation uncertainty is disclosed in the notes to those elements of the consolidated financial statements to which they relate. donor upon their return at the end of the grant period.

The income of the fund arises from non-exchange transactions and mainly includes contributions in cash and in-kind contributions made by donor organizations. These contributions are recognized as income at the time the transaction becomes binding and at the time control of the related asset is obtained, unless the agreement sets out terms on the transferred assets, which requires the recognition of a related liability. In such cases, revenue is recognized as the terms of the obligation are met.

Revenue is derecognised when the program is canceled or ends with the amount of the contribution not received from the donor organization or the amount of the refund of the contribution received but not spent for program purposes. Derecognition is reflected as a reduction in income and contributions from donor organizations. Contributions receivable represent contributions receivable from donor organizations and are measured at amortized cost using the effective interest method, less any impairment. The Fund carries out regular assessments of any damage from impairment of contributions prior to receipt. For amounts that the fund does not expect to receive,

it writes off outstanding balances directly to income or loss. The charitable foundation is a non-profit organization, therefore, in this case, it is impossible to operate with the concept of "income".

However, there are charitable contributions from philanthropists and organizations, which are strictly recorded by the AntiAIDS Ukraine Charitable Foundation to maintain a positive image of the organization (see Table 2.6 and Figure 2.3).

Table 2.6 – Contributions from donor organizations

| Donor organization | Program | 2021 p. | 2020 p. |
|---|---|---|---|
| United States Agency for International Development | RESPECT, HealthLink | 105891 | 27807 |
| World commissary program | PRRO | 46395 | - |
| Agency Expertise France | 5% Initiative | 31837 | - |
| Centers for Disease Control and Prevention | ACCESS | 18767 | 14883 |
| Global Fund | Програма ГФ | 98796 | 51043 |
| Other | | 24098 | 22487 |
| Total cash contributions | | 325784 | 116220 |
| The President's Immediate Action Plan to End AIDS | PEPFAR | 189483 | - |
| Supply Chain Management Partnership | | - | 136295 |
| Total non-monetary contributions | | 206859 | 136604 |
| Total | | 532643 | 252824 |

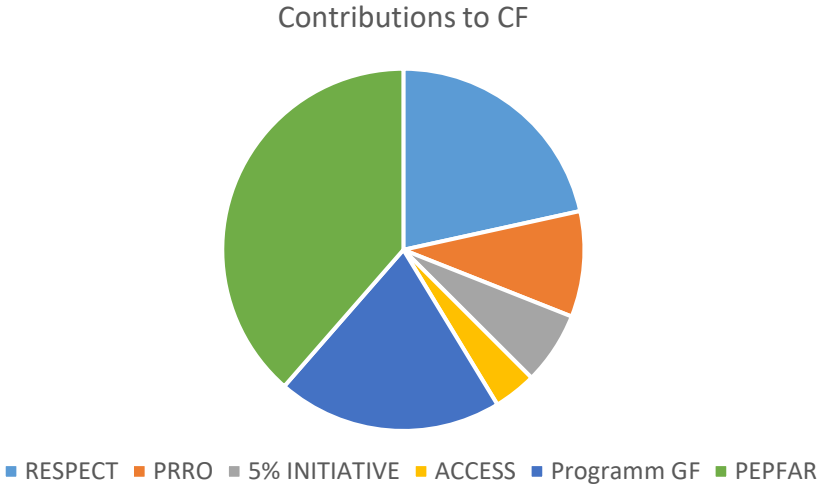


Figure 2.3 – Contributions from donor organizations

During 2018, pursuant to an agreement with the Global Fund entered into on February 23, 2018, with an implementation period through December 31, 2021 and a budget of $60,406 million, the Group recognized a US$ denominated long-term contribution in the amount of 171,240 pending receipt. Prevailing market interest rates for alternative US dollar instruments of 8.8%, the estimated fair value of the contribution to collection was $1,474,502 thousand. as of the date of recognition (23 February 2020). The difference of $237,900 thousand between the nominal amount and the fair value of the contribution received was recognized in the consolidated income statement.

During 2020, in accordance with an additional agreement with the Global Fund, the budget for the Program with the Global Fund was revised and changed from USD 60.406 million to USD 63.28 million. Based on this and in accordance with the Group's accounting policies, a new grant in the amount of the expanded program ($2,874 thousand) was recognized in the amount of $75,327 thousand. Using prevailing market interest rates for alternative US dollar instruments of 3.1%, the fair value of the contribution prior to collection is estimated to be $73,436 million at the date of recognition (4 March 2020). The difference of $1,892 thousand between the nominal value and the fair value of the contribution prior to receipt was recognized in the consolidated income statement. The amortization of the discount for 2020 in the amount of $36,528 thousand and UAH 7 thousand (2019: $89,013 thousand and $ 1,836 thousand, respectively), relating to the outstanding part of the old grant and the extended part of the grant, respectively, was recognized as interest income in the consolidated financial results.

On December 15, 2021, the Global Fund made direct payments to the IDA Fund for the purchase of medicines under the program budget in the amount of USD 2905 thousand. In 2019, the donor redistributed the grant budget, so medicines worth 14213 thousand US dollars were transferred to another recipient and canceled. The unused part in the amount of 14845 thousand US dollars was canceled due to the lack of need for appropriate medicines. Thus, the corresponding amount of contributions to the receipt was derecognised. In addition, at the end date of the grant agreement with the

Global Fund, the recognition of the remaining part of the contributions before receipt in the amount of 615 thousand US dollars (17.261 million UAH) was derecognised.

Requirements provided by donor organizations for the use of transferred assets are classified as either conditions or restrictions. Transferable asset restrictions are requirements that restrict or direct the purposes for which a transferred asset may be used, but cannot determine that an asset must be returned to a donor organization unless it is used for a specific purpose (i.e. there is no obligation to return if requirements violations). Asset transfer conditions are requirements that specify that the asset is required to be used by the foundation for certain purposes, or that the asset must be returned to the donor organization and/or the donor organization's participation will be reconsidered (i.e. there is an obligation to return or otherwise reconsider the use of assets in the event of a violation of the requirement). In many cases, the use of judgment is required in determining whether certain requirements are restrictions or conditions. During this determination, the fund considers whether a claim for the return of an asset or other future economic benefits can be realized and whether it will be realized by the donor organization. After reviewing the terms of existing agreements with donor organizations and the history of cooperation with them, management concluded that, although certain requirements may exist in the form of conditions, there were no substantive conditions. Accordingly, all requirements were defined by constraints.

Long-term contributions from donors are initially recognized at fair value and subsequently measured at amortized cost using the effective interest method. The main estimates and assumptions used in estimating fair value (using the discounted cash flow method) are:

–The discount rate is determined using prevailing market interest rates for long-term bank deposits in the same currency. The average market rate for the month preceding the month in which contributions are recognized prior to receipt is used.

–Unless the contract specifies otherwise, incoming cash flows are discounted based on the assumption that the first cash flow is due on the last day of the month in which the contract is signed. All subsequent cash flows pass on the first day of each year within the interim annual budget for that particular year.

The parent organization of the fund is a non-profit organization and is subject to special taxation requirements. Inconsistency in the application, interpretation and implementation of tax laws can lead to litigation, which can ultimately result in additional taxes, fines and penalties, and these amounts can be significant. Legislation and regulations affecting the conduct of business activities in Ukraine continue to undergo rapid changes. Management's interpretation of such legislation as applied to the activities of a fund may be challenged by the relevant tax authorities. Management believes that the fund has appropriately calculated tax liabilities using a conservative approach and based on its interpretation of tax laws. However, the relevant tax authorities may have different interpretations, and the impact of possible tax consequences on the activities of the fund is difficult to predict.

The Fund manages its expenditures and net assets in order to ensure its ability to carry out its activities on an ongoing basis and at the same time achieve its goals by optimizing the costs incurred in the implementation of programs.

## 2.3 Analysis of possible risks that may arise in the work of the charitable foundation "AntiAIDS Ukraine"

No enterprise can function without taking into account possible risks. Even if the essence of the enterprise is the simpliest economic activity, the list of risks that can harm effective work is huge. An entrepreneur does not have the opportunity to relax and forget about risk management. Ideally, an analysis of possible threats to the macroeconomic and microeconomic environment should be carried out at least once a quarter. Some entrepreneurs include consultants in their staff, whose duties include monitoring the situation in the market, in the country, in the world, with currency, the labor market, and so on. Some enterprises outsource this issue, attracting consulting companies to help, whose work is all sharpened to study and analyze all kinds of risks. It should also be understood and taken into account that in addition to the universal

risks that every businessman may face (global crisis, war, catastrophic climate change), each area of economic activity has its own nuances and its own specific risks that should be given special attention. The list of possible risks and threats will not be the same for an enterprise that manufactures confectionery products and a company that provides accounting support to enterprises. Risk management is a delicate, individual process that requires special concentration on the object of analysis.

Below are various lists of risks that an enterprise participating in the process of economic activity may face.

Table 2.7 – Glossary of risks [compiled based on 55, 56, 57, 58, 59]

| Risks groups | Risks kinds |
|---|---|
| *Country risks*<br>– political | – risk of nationalization and expropriation;<br>– transfer risk;<br>– risk of contract termination due to the actions of the authorities of the partner country;<br>– risk of hostilities and civil unrest;<br>– criminal risks. |
| – macroeconomics | – risk of export-import restrictions;<br>– risk of possible transfer of capital and profits;<br>– risk of the possibility of non-receipt of profits. |
| *Risks of partner selection and reliability* | – risk of deception and non-existent partner firm;<br>– the risk of non-fulfillment of contractual requirements by the partner;<br>– risk of loss of reputation due to work with an unreliable partner<br>– risk of reduction of partner's financial stability;<br>– risk of delay in delivery due to a partner's fault. |
| *Marketing risks* | – risk of lack or uncertainty of information on the market situation;<br>– risk of lack of necessary information about legislative and regulatory environment;<br>– risk of low competitiveness of the goods;<br>– the risk of a ban on advertising for a given type of product;<br>– the risk of an increase in the cost of market development;<br>– industry risk;<br>– innovation risk. |
| *Transport risks* | – risk of incorrect determination of the moment of transfer of responsibility for the cargo in the process of transportation;<br>– risk of choice of means of transport;<br>– risk of damage to the cargo during transportation. |

Continuation of Table 2.7

| | |
|---|---|
| *Risks of determining the subject of the contract* | – risk of incorrect legal definition of the transaction;<br>– the risk of misnaming the object of the contractual relationship;<br>– the risk of non-compliance with the form of the contract as defined by the law. |
| *Risks of the conditions of the quantity* | – risk of erroneous choice of unit of measurement;<br>– the risk of incorrect application of conversion factors for units of measurement of the goods;<br>– the risk of unclear quantity measurement for each type of goods;<br>– the risk of changes in the quantity of goods depending on the conditions of their storage and transportation. |
| *Risks of quality conditions* | – the risk of defectiveness of goods;<br>– risk of unclear definition of the quality of goods in the contract;<br>– the risk of deviating the quality of the product delivery from the sample;<br>– risk of substances used in the goods that do not meet environmental and physical standards;<br>– risk of changes in the quality of goods during transportation;<br>– the risk of expiry of the product's shelf life or warranty period; |
| *Risks of packaging and labeling* | – the risk of diminished profits from poor packaging;<br>– risk of non-compliance with norms and laws regulating conditions, requirements, packaging and labeling procedures;<br>– the risk of reduction of consumer appeal through packaging;<br>– risk of reduced competitiveness of the product due to incomplete labeling;<br>– risk of inconsistency of labeling with the customer's requirements;<br>– risk of product sensitivity depending on the packaging;<br>– risk of penalties due to inconsistencies in packaging and labeling. |
| *Risks of price conditions* | – risk of ignorance of the price situation on the market;<br>– risk of incorrect calculation of export and import prices;<br>– the risk of changes in the price of goods from the time of signing the contract to the time of shipment of goods;<br>– the risk of reduction of the trade lot discount;<br>– risk of antidumping prosecution. |
| *Risics of the supply* | – risk of inability to carry out the selected type of delivery;<br>– risk of increase in the cost of goods through the selected form of delivery. |

Continuation of Table 2.7

| | |
|---|---|
| *Risks of currency and financial conditions of the contract* | – risk of choice of payment currency;<br>– risk of possible losses due to fluctuations in exchange rates;<br>– risk of choice of payment terms;<br>– risk of choice of form of settlement;<br>– risk of choice of means of payment;<br>– risk of determination of the full list of documents for settlements;<br>– risk of additional losses when transferring money and choosing the form of delivery;<br>– risk of loss in case of late payments. |
| *Risks of force majeure* | – risk of force majeure;<br>– risk of inability to obtain documentary confirmation of the occurrence of force majeure. |
| *Risks of determining the terms of arbitration* | – risk of choice of arbitral tribunal;<br>– risk of choice of law applicable to the arbitration;<br>– risk of litigation costs;<br>– risk of non-implementation by a partner of arbitral awards, due to non-adoption by his country of international conventions and laws governing the implementation of these awards. |
| *Commercial Risks* | – the risk of unfavorable market conditions;<br>– the risk of lost profits;<br>– the risk of changes in the price of goods in the process of sale;<br>– the risk of reduction in the purchasing power of money;<br>– risk of trade restrictions. |
| *Risks associated with the process of customs clearance* | – risk of untimely certification of the goods;<br>– risk of incorrect calculation of duties;<br>– risk of non-compliance with the requirements to fill in the documents of the foreign economic operation, unsatisfactory information support of the customs procedures;<br>– risk of temporary delays in phyto- and veterinary control;<br>– risk of failure to obtain the necessary documentary evidence for the foreign economic operation. |

The activities of the charitable foundation “AntiAIDS Ukraine” are primarily aimed at medical support for patients infected with AIDS, as well as educational activities to abolish the stigma that has become entrenched in society in relation to HIV-infected people. Let's focus on the risks that may arise in the activities of the AntiAIDS Ukraine charity fund and their thorough analysis.

Challenges to addressing the HIV epidemic in Ukraine include: the need to improve the regulatory framework, improve HIV surveillance, and increase key

populations' access to high-quality community-based HIV testing services. Health care reform has opened up new challenges: to guarantee universal access to HIV prevention, testing and treatment, regardless of the ability to pay for these services. [60]

To combat the epidemic, Ukraine applied a public health approach, and in 2019 the Cabinet of Ministers of Ukraine adopted a new unified strategy in the field of combating HIV/AIDS, tuberculosis and viral hepatitis until 2030. [61]

Clients under the care of "AntiAIDS Ukraine" – 47 637

Clients in the care of "AntiAIDS Ukraine" receiving ART – 41 528

People living with HIV in Ukraine (officially registered) – 169 787

People living with HIV in Ukraine (estimated) – 240 000

Prevalence rate in adults 15-49: 1% (0.7% in women and 1.2% in men)*

Adults aged 15+ living with HIV: 240 000*

Women aged 15+ living with HIV: 86 000*

Orphans (0-17) through AIDS: 61,000*

*Averages, UNAIDS 2018 estimate. [62]

In order to have a complete picture of the activities of the AntiAIDS Ukraine Fund, you first need to focus on the fund's reserves, because they are the key component of the logistics supply chain system. Stocks are mainly represented by medicines, other medicines and handouts received in the form of in-kind grants. These goods are recognized at fair value, which is measured at the acquisition date. As defined, a unit of inventory is a homogeneous group, lot or species. The cost of inventory disposal is determined for individual groups using the first in first out (FIFO) method. As of the balance sheet date, the Group reviews the expiration dates for inventories (including medicines) and, if they are short-term or past due, writes off the related inventories. Inventories are shown net of an allowance for damage from, slow, damaged or obsolete assets (see Table 2.7, Figure 2.4).

Inventory management is aimed at ensuring the continuity of the production process and sales of products, as well as minimizing the cost of their maintenance at the enterprise. Efficient inventory management allows you to reduce the duration of

the production and the entire operating cycle, reduce the level of current costs for their storage, and avoid unnecessary costs.

Table 2.7 – Stocks of BF «AntiAIDS Ukraine»

| Indicator | 2021 | 2020 |
|---|---|---|
| Medicines | 15641 | 95198 |
| Other materials | 16073 | 1605 |
| Total | 31534 | 96803 |

Along with state bodies, the foundation takes part in several projects to improve the health care system in Ukraine. The organization has received funding from donors to develop information systems HIV infection in Ukraine and eHealth. In accordance with the terms of the grant agreements, information systems must be transferred to state bodies after they are fully established.

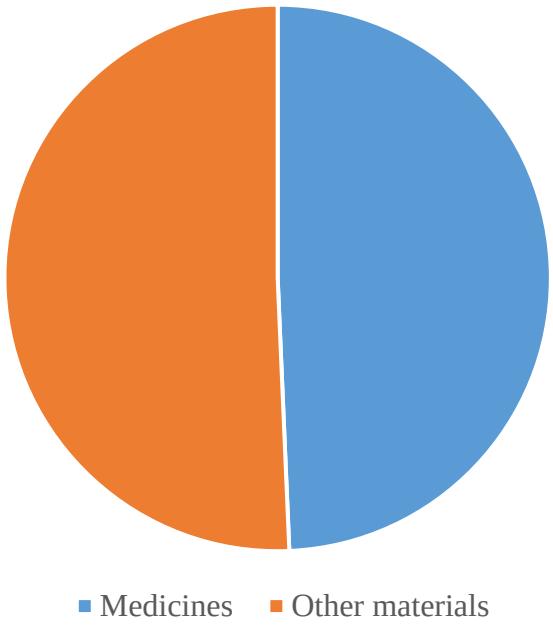


Figure 2.4 – Stocks of the CF “AntiAIDS Ukraine” as of 2021

For a broad and comprehensive analysis of possible risks that the AntiAIDS Ukraine Charitable Foundation may face, one of the simplest, but most effective

methods for assessing third-party factors influencing the workflow, the expert commission, was chosen.

Expert commission is a commission created for the production of expertise and consisting of several experts of the same specialty. [62]

The need for an expert commission arises when there is a large and complex study that requires the collegial participation of several experienced experts. Members of the expert commission outline who and what kind of research will be carried out. After the completion of the work, the expert commission, as a rule, presents a general conclusion, which is signed by all members of the commission. In case of disagreement between the experts, each of them draws up his opinion and signs it.

An expert commission should be distinguished from a comprehensive examination conducted by several specialists from related or various branches of knowledge (for example, medical forensic, chemical and physical, zootechnical and veterinary examinations, etc.). [63]

In addition to the author of this study, the commission included employees of the charitable foundation and employees of public medical institutions with which the foundation cooperates.

Six risks were identified from the list of risks presented in Table 2.7, which, according to experts, will have the greatest impact on the efficiency of the fund. The list of risks includes:

1. the risk of lack of necessary information about the legislative and regulatory environment and changes in them;

2. risk of damage to the cargo during transportation;

3. the risk of changes in the quality of goods depending on the conditions of their storage and transportation;

4. risk of product sensitivity depending on the packaging;

5. risk of force majeure;

6. risk of inability to obtain documentary confirmation of the occurrence of force majeure.

After the list of risks is made, each expert independently defines importance of a certain kind of risk, distributing between the specified risks of 100% in proportion to importance of consequences of realization of risk.

The received results are entered in the Table 2.8.

Table 2.8 – Risk assessment by experts

| Kind of risk | Expert evaluation (level of risk) | | | | | | Average level | Coefficient of variation |
|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | | |
| 1. Risk of lack of necessary information about the legislative and regulatory environment and changes in them | 18 | 10 | 20 | 15 | 5 | 4 | 12 | 2,04 |
| 2. Risk of damage to the cargo during transportation | 21 | 30 | 20 | 20 | 23 | 21 | 22,5 | 1,05 |
| 3. Risk of changes in the quality of goods depending on the conditions of their storage and transportation | 19 | 25 | 27 | 33 | 40 | 26 | 28,33 | 4,8 |
| 4. Risk of product sensitivity depending on the packaging | 16 | 18 | 20 | 25 | 22 | 29 | 21,67 | 3,68 |
| 5. Risk of force majeure | 11 | 7 | 5 | 2 | 5 | 9 | 6,5 | 2,4 |
| 6. Risk of inability to obtain documentary confirmation of the occurrence of force majeure | 15 | 10 | 8 | 5 | 5 | 11 | 9 | 1,5 |
| Total amount | 100 | 100 | 100 | 100 | 100 | 100 | | |

When processing the results, the average level of risk is determined as the arithmetic mean (for each type of risk is calculated separately).

$$\overline{P_k} = \frac{\sum_{i=1}^{n} p_{ik}}{n} \qquad (2.1)$$

$\overline{P_k}$ – is the average level of risk of the k-th kind;

$p_{ik}$ – level of risk indicated by the i-th expert;

k – kind of risk;

n – number of experts.

The degree of consistency of expert opinions is determined with the help of the coefficient of variation:

$$Vk = \frac{\sqrt{\frac{(pi-pk)^2}{n}}}{pk} * 100\% \quad (2.2)$$

So, if the coefficient of variation after the expert assessment exceeds 3, then the company should pay attention to this risk factor, take note and apply the necessary measures to reduce the pressure of this risk on economic activity. After the analysis, factor 3 and 4 turned out to be the ones that need to be improved. It is necessary to improve the transport system of the enterprise in order to secure medicines during transportation and storage to ensure that the products do not lose their quality during packaging and transportation.

In order to eliminate the above factors, it is worth creating the necessary storage mode.

It should be noted that optimally calculated stocks in production play a very important role. For the successful operation of the enterprise, it is necessary to pay attention to inventory management and approach it competently. In this way, many problems that arise during the operation of the enterprise can be prevented, thereby ensuring its efficient functioning.

Storage mode is a set of climatic and sanitary requirements that ensure the safety of the goods.

Climatic storage requirements include the following parameters:

–temperature,

–relative air humidity,

–air exchange,

–gas composition of air,

–illumination.

## Chapter 2 summary

A general description of the CF “AntiAIDS Ukraine” company was presented, as well as an analysis of production and economic activities. The main activity of the company is the provision of charitable assistance to HIV-infected people.

It is noted that the “AntiAIDS Ukraine” Charitable Foundation has a functional organizational structure in leadership with the General Director. The advantages of this structure are the centralization of strategic and decentralization of operational decisions. And the disadvantages are difficulties in the distribution of power, an increase in the duration of decision-making.

The financial results of the “AntiAIDS Ukraine” Charitable Foundation for the period 2020-2021 are analyzed. The analysis showed that economic indicators tend to grow, increase the cost, the composition and structure of the operating costs of the enterprise under study are considered.

The Fund manages its expenditures and net assets in order to ensure its ability to carry out its activities on an ongoing basis and at the same time achieve its goals by optimizing the costs incurred in the implementation of programs.

An expert assessment was made of the impact of risks that may lead to a loss in the quality of critical medical products. The expert commission decided that the most dangerous and tangible for the preservation of the main stocks of CF “AntiAIDS Ukraine” are the risk of changes in the quality of goods depending on the conditions of their storage and transportation and risk of product sensitivity depending on the packaging.

# CHAPTER 3
# IMPROVING THE IMPACT OF RISKS ON THE ACTIVITIES OF THE CF “AntiAIDS Ukraine”

## 3.1 Prerequisites for improving the impact of risks

The absolutization of risk in management led to the fact that people realized the need to create risky enterprises, the formation of risk capital and the emergence of risk managers, which led to breakthroughs in certain areas.

Risk management is a system of strategies, methods and techniques to reduce the likelihood that bad decisions for various reasons will have a negative impact on an organization's operations. Relations with the market introduce a significant element of uncertainty into the activities of managers and owners. Risk management includes six strategies:

1. Avoidance of activities associated with a certain risk;

2. Taking responsibility for the risk with a guarantee of full compensation from the organization's own funds;

3. Sharing of risks between the direct participants of the project;

4. Create a network of independent venture capital companies with limited liability as a sub-organization of the organization;

5. Sale and transfer of responsibility for the risk to other persons (for example, insurance companies);

6. Mitigation of the possible negative consequences of risks through precautionary measures.

All six strategies can be used by all organizations.

Of these, the most common is organizational risk insurance.

To reduce the negative elements of risk and consolidate the positive elements, various methods can be used, including economic, organizational, socio-psychological

and ideological. Economic methods are based on the use of a set of economic incentives that determine the significant responsibility of employees for the consequences of the development, adoption and implementation of decisions.

Organizational and operational methods are based on development and compliance:

– provisions on the structure and activities of the organization are established;

– regulations in cooperation with partners and in external conditions;

– disciplinary incentives and accountability.

Socio-psychological methods include:

– creation of favorable conditions for communication;

– uplifting the spirit of the organization and its members;

– Improving the efficiency of team and individual work.

Ideological methods are based on:

– formation and upholding of modern universal moral codes and values;

– maintains the traditions and loyalty of employees to the organization.

After the analysis of the risks that may have the greatest negative effect on the economic activity of the enterprise, it was revealed that they turned out to be:

– risk of changes in the quality of goods depending on the conditions of their storage and transportation;

– risk of product sensitivity depending on the packaging.

It is necessary to understand the specifics of the activities of a charitable foundation “AntiAIDS Ukraine”. and the fact that the foundation's stocks are medicines, donated blood, syringes, condoms and other medical utensils. This equipment requires special, very careful and careful handling.

Storage temperature is one of the most important indicators of storage conditions. Chemical, physicochemical, biochemical and microbiological processes increase with increasing temperature.

The temperature is expressed in degrees Celsius.

There are several storage modes (in °C):

Table 3.1 – Storage modes of medicines and medical equipment

| Storage mode | degrees Celsius (°C) |
|---|---|
| In frozen conditions | below -20 |
| Low temperature storage | from 0 to 4 |
| At low temperatures | from 12 to 15 |
| At room temperature | from 18 to 20 |
| High (elevated) temperature | above 20 |
| Low temperature | below 0 |
| The cold chain temperature | from 0 to 8 |

Relative humidity (RH) is a measure of the degree to which air is saturated with water vapor. Indicates the degree of saturation of the air with water vapor, measured as a percentage. Evaporation of water from goods leads to quantitative and qualitative losses, especially natural losses due to shrinkage and drying. The higher the moisture content of the product and the lower the RH, the greater the loss.

High air humidity causes spoilage of microorganisms and corrosion of metal surfaces. The optimal relative humidity is determined mainly by the chemical composition of the goods, their hygroscopicity, storage temperature and whether they are covered with protective covers. Relative humidity in dry rooms should be below 60% and above 65% in rooms with high humidity. The "dry and cool place" setting corresponds to the following temperatures: 12°C – 15°C and relative humidity of 50% or less.

Air exchange is an indicator of a regime that characterizes the intensity and frequency of air exchange in the environment surrounding goods. The process of air exchange creates a regime of uniform temperature and humidity and removes gaseous substances emitted from stored goods, containers and equipment. Air flow can be natural (drafts) or artificial (ventilation).

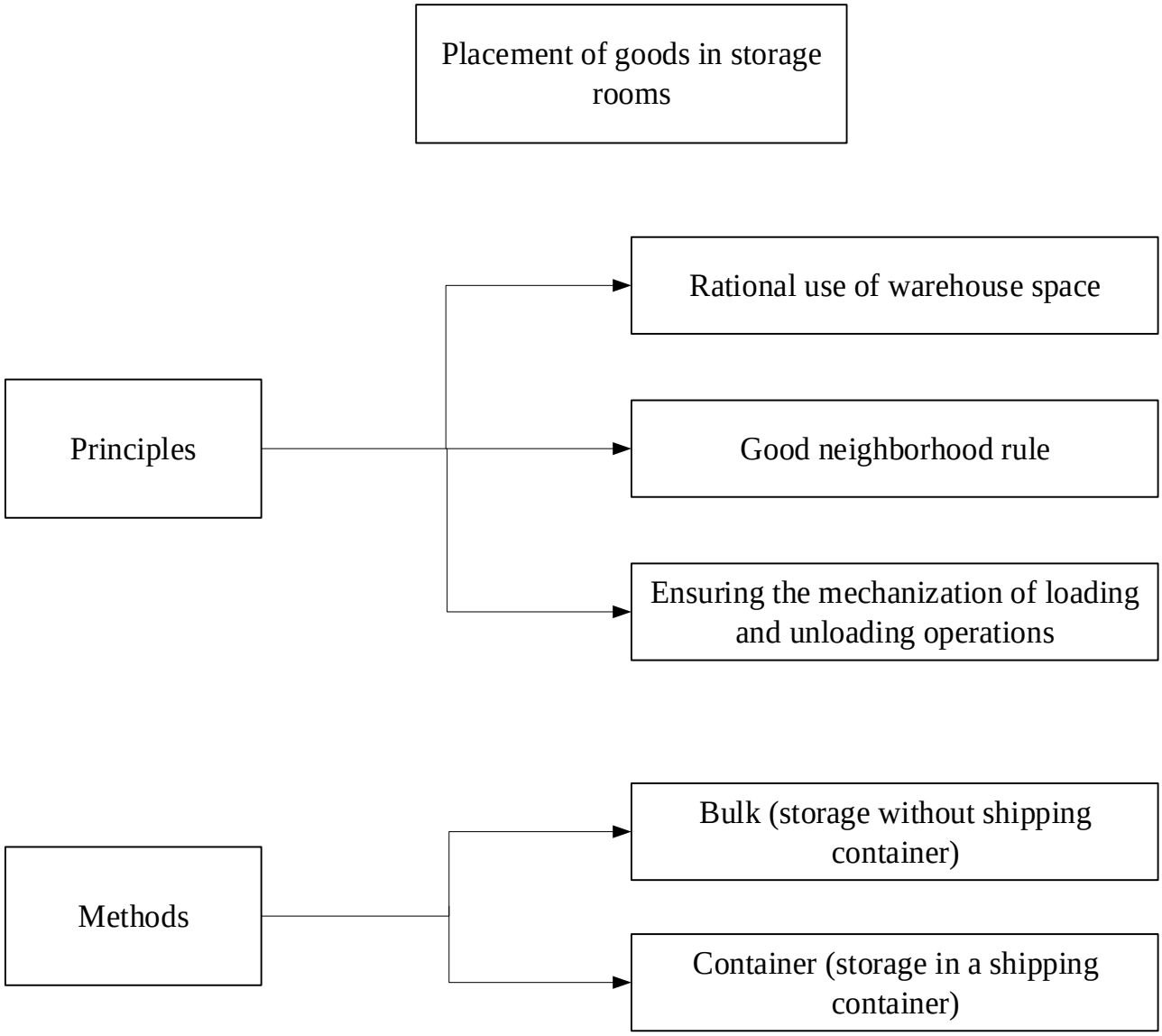


Figure 3.1 – Basic principles and methods of organizing the storage of goods

The gas composition of air is an indicator of the regime characterizing composition of gases in the environment. It is due to three groups of components:

– basic gases (oxygen, nitrogen, carbon dioxide);

– inert gases (hydrogen, helium, argon, etc.);

– hazardous gas impurities (nitrogen oxides, sulfur oxides, ozone, ammonia, freon, etc.).

Oxygen has the greatest impact on the preservation of goods. Oxygen intensifies the oxidation process, causing corrosion of metals and destruction of colored substances.

Illuminance is an indicator of storage conditions and is characterized by the intensity of light in the storage room. Light, especially sunlight, can adversely affect the safety of most commodities because it activates oxidation processes. For this reason, it is recommended that most medicines be stored in a dark place or, if this is not possible, kept out of sunlight. For this reason, stores are built in rooms without windows. Storage is divided into dark, gloomy, light-protected, and sunlight-protected areas, depending on the amount of light.

Sanitary and hygienic requirements for storage modes are characterized by a set of purity indicators.

Cleanliness is the state of a storage facility or environment characterized by contamination that does not exceed established standards. Purity is determined by indicators of mineral organic, biological and microbiological contamination.

When placing finished medicinal products on storage sites (racks, shelves, cabinets), the following requirements are imposed:

–the drugs are stacked and installed in the original packaging with the label (marking) facing out;

–a rack card is attached next to the drug, which indicates the name of the drug, series, expiration date, quantity. It is started for each newly received series to control its timely implementation.

The rational use of storage facilities involves the establishment of certain requirements for the equipment and equipment of storage facilities in accordance with regulatory documents and their optimal loading.

The commodity neighborhood rule establishes requirements for the joint storage of goods with the same storage regime, with sorption properties acceptable to each other. In warehouses of a large area, it is necessary to use mechanization of loading and unloading operations.

There are tare and bulk methods of placing goods in the warehouse.

Bulk methods:

–bulk – placement of goods on the floor without equipment and fixtures;

–floor – placement of goods without containers on the floor or undercarriers in a strictly defined horizontal or vertical position;

–hanging – placement of goods by hanging on hooks, rods, hangers and other devices;

–shelving – stacking goods on vertical racks.

## 3.2 Development of an investment project to reduce the risks of spoilage of medicines in the "cold chain" of the supply of CF "AntiAIDS Ukraine"

The number of charity foundations tends to increase slowly, but since 2014 in connection with the beginning of the russian invasion of Donbass and the annexation of Crimea, the situation has improved and the level of social awareness among Ukrainian citizens has increased. As of 2021, more than 18,000 charities are registered in the country, but according to the expert opinion of members of the Ukrainian Philanthropic Forum, the majority of organizations exist only as legal entities and are not fully functional. Its should be assumed that there are 1,000-1,200 charities providing real help and assistance.

Charitable organizations play an important role in supporting vulnerable segments of the population, such as:

–ethnic minorities;

–people with special needs;

–seniors;

–immigrants;

–ATO participants and their families;

–people in difficult life circumstances;

–children and youth;

–animals;

–people in conflict with the law;

–patients.

Paying attention to the activities of social organizations, namely the activities of charitable institutions, we can say that charitable organizations, like the entire non-profit sector in general, need support both in their functioning and development, and in creating a general climate in society that would give them be able to act successfully. Charitable organizations in Ukraine constantly face people's mistrust. According to sociologists, today Ukrainians do not feel trust in non-commercial organizations, probably subconsciously identifying them with the state, in whose institutions they also have little trust.

In order to change the risks to the fund “AntiAIDS Ukraine” and to change the risks, the risks assigned by the expert group as the most important – risk of changes in the quality of goods depending on the conditions of their storage and transportation and risk of product sensitivity depending on the packaging – first need to focus on the stocks of the fund, and even the stink itself - the key warehouse system of launch logistics. Stocks are mainly represented by medicines, other medical supplies and distribution materials, taken from apparently penny grants. Qi commodities are recognized for their fair price, as estimated on the date of arrival. As it was designated, the accounting unity of the reserve is a homogeneous group, party or species. The number of available stocks is calculated for four groups from among the different groups according to the “First In-First Out” (FIFO) method. Turning to the call of the date The Group is reviewing the dates of the completion of the lines of di stocks (including medicines) that, as if the stench is short-lined or extended, writing off the depleted stocks.

Let us consider in detail the state of the “cold chain” at the current moment, as well as structurally describe the proposed project to improve the chain. One of the equipment used by the “AntiAIDS Ukraine” foundation is a freezing indicator. It is necessary to store blood or medical products in a liquid state.

The freeze indicator (see Figure 3.2) is an electronic device used in the transport and storage of vaccines. [73] It should be placed near freeze-sensitive vaccines. The service life of the device depends on the service life of the built-in battery. The

indicator has a screen that displays a signal that informs whether the vaccine has been exposed to low temperature. If the temperature was below the recommended temperature and the indicator “activated” (X signal appeared on the screen), then the device is no longer suitable for use and should be removed from the refrigerator and disposed of. If the freeze indicator has “activated”, it means that freeze-sensitive vaccines may have been spoiled. To make a final decision on the use of vaccines, all freeze-sensitive vaccines that have been in the refrigerator should be tested using the “shake test”. There are 13 units of them on the basis of the fund.


Figure 3.2 – An example of a freeze indicator

One of the main equipment of the “cold chain” used by CF “AntiAIDS Ukraine” is horizontal refrigerators (see figure 3.3). The temperature in the freezer must be below 0°C. The more cold elements are in it, the longer they will freeze. The temperature in the refrigerating chamber is regulated using a thermostat. The thermostat must be set so that at the coldest time of the day the temperature in the refrigerating chamber is at the level of +2°C - +5°C. After all, the risk of vaccine freezing is higher if the temperature in the room where the refrigerator is located is low. There are 5 units of them on the basis of the fund.

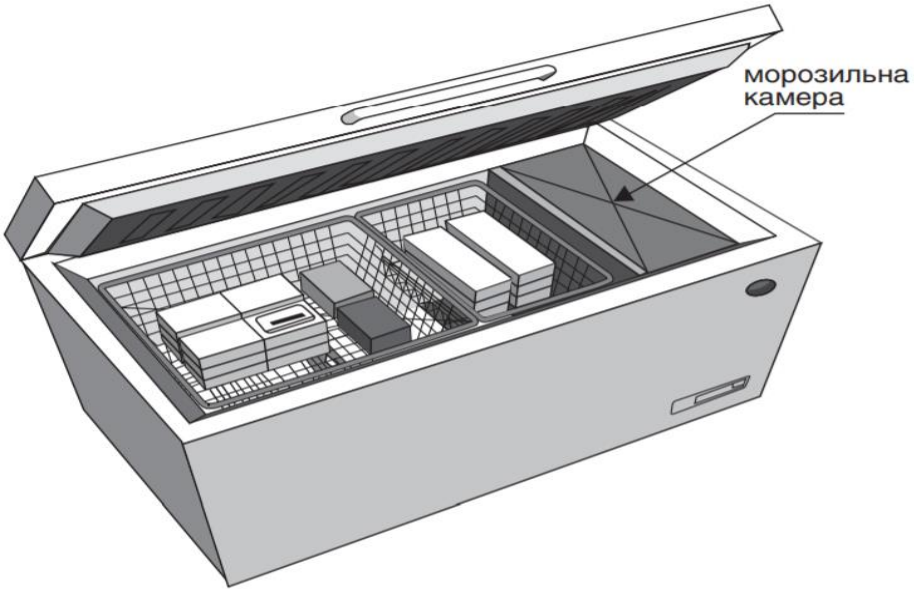


Figure 3.3 – An example of a horizontal refrigerator

Requirements for refrigerators of chambers used to store blood and medicines of "AntiAIDS Ukraine" CF:

–relative temperature stability of freezers;

–sufficient volume;

–the device must have temperature sensors and an alarm in case of temperature deviation from the specified values;

–must be safe for uploaded materials.

And the last element of the "cold chain" of CF "AntiAIDS Ukraine" is thermal bags (see Figure 3.4). In addition to refrigerators and freezers, special portable refrigerator bags are used to store blood, which are designed for transporting blood. The shelf life of canned blood in solutions of the TSOLIPC No. 76 type [74] at a temperature of +4°C to +6°C is 30 days. Of course, at such a temperature, blood and its components are not stored for a long time, but the task of transportation is solved. The bag is equipped with a temperature indicator, providing a mode from +2°C to +8°C for several hours. There are 21 units of them on the basis of the fund.

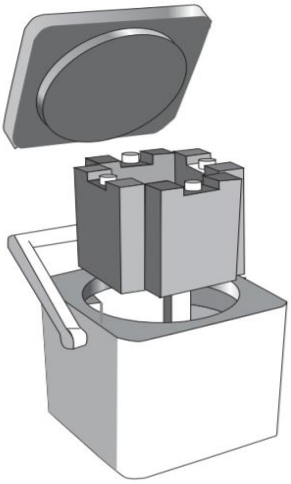

Figure 3.4 – An example of a thermal bag

So, the proposed project will be aimed at reducing the negative impact of the risks identified by the expert commission as the most dangerous. In order to protect medicines and medical equipment from damage, the “AntiAIDS” Charitable Foundation needs to improve the state of the cold chain of the enterprise. Let us consider in detail the state of the “cold chain” at the current moment, as well as structurally describe the proposed project to improve the chain.

Target of the project: ensure compliance with the general and specific storage conditions of medicinal products determined by the manufacturer at all stages of wholesale trade (including during transportation).

Feasibility of the project: From the point of view of world experience and modern trends in the development of “cold” logistics, Ukraine is at the stage of market formation and consolidation, inferior to Western countries both in terms of quality and complexity of services provided by national transport and logistics companies. Further formation and development of a market economy in Ukraine should be accompanied by intensive development of the “cold” logistics market, when special attention must be paid to building connections between operators of the cold supply chain, manufacturers of perishable goods and trade networks. The issue of certification, standardization, product sorting, operational efficiency of transport and warehouse logistics, and most importantly, establishment of information exchange, will play a special role in the scheme of building connections. At the same time, special attention

should be paid to the organization of the chain of construction of the value of goods in the full cycle of cold logistics

The intensive development of the cold logistics market in Ukraine is possible only on the basis of the use of world experience, the introduction of advanced technologies and the unification of all supply participants. After all, non-compliance with temperature indicators during storage, transportation and sale of goods in the cold supply chain leads not only to inconsistency in their organoleptic indicators, but can also pose a threat to the health of the end consumer. Given the lack of developed infrastructure and a strong national operator in the cold logistics sector, manufacturers and distributors are forced to ensure the continuity of the temperature regime using their own resources. In the dairy industry, the leading company “Danone Ukraine” during 2011-2012 invested about 120,000 dollars in the cold logistics of its product, providing a wireless temperature monitoring system for 8 warehouses and 80 cars of its own refrigerator fleet, and also monitors the temperature of about 1,000 inter-warehouses every month premises The leader in quality control and product safety, METRO Cash-and-Carry Ukraine strives to develop the most advanced logistics solutions in the cold logistics market, which involves the operation of the cold supply chain at a high technological and organizational level, constantly invests in the development of technologies and standards of the domestic market cold logistics.

The introduction of new technologies in the cold logistics market ensures reliable quality and safety control at all stages of the cold chain - from the manufacturer's warehouse to the shelf in METRO shopping centers. Compliance with the specified temperature regime at all stages of the product movement in the cold supply chain (from the manufacturer to the retail shelf) can only be the result of the coordinated interaction of all participants in the cold supply chain: manufacturer - transport, warehouse - transport - retail network. Cooperation between cold logistics market players and the introduction of modern technologies will make it possible to improve internal processes and increase customer satisfaction.

The cold chain distribution process is an extension of the Good Manufacturing Practice (GMP) environment that all drugs and biologics must adhere to and is enforced

by various healthcare regulatory bodies. Thus, the distribution process must be approved to ensure that there is no adverse effect on the safety, efficacy, or quality of the drug substance. A GMP environment requires inspection of all processes that may affect the safety, efficacy, or quality of the drug substance, including storage and distribution of the drug substance. The cold chain can be managed with a quality management system. Temperature data loggers and RFID tags help track the temperature history of the truck, warehouse, etc., as well as the temperature history of the product being shipped. They can also help determine the remaining expiration date. In addition, temperature sensors may require National Institute of Standards and Technology tracking depending on which agency oversees the cold chain.

Project duration: four months.

Inputs of the project (resources):

– financial resources – capital investments, credit resources;

– material and technical resources – raw materials: materials, components, energetic resources;

– technological resources – machines, mechanisms, equipment;

– human resources – people, their potential, their physical and mental abilities, which can be used in order to increase productivity, labor efficiency.

Outcomes of the project (results):

– increase of profit – gaining new profitable donors, cross-selling services, improving brand positions, increasing customer loyality;

– decrease in expenses – increased productivity, improved investment efficiency.

It is useful to develop WBS. The WBS work breakdown structure, or decomposition structure, is a diagram where project tasks reflect their relationship to each other and to the project as a whole. WBS is based on a graphical nature that helps project managers predict outcomes based on different scenarios.

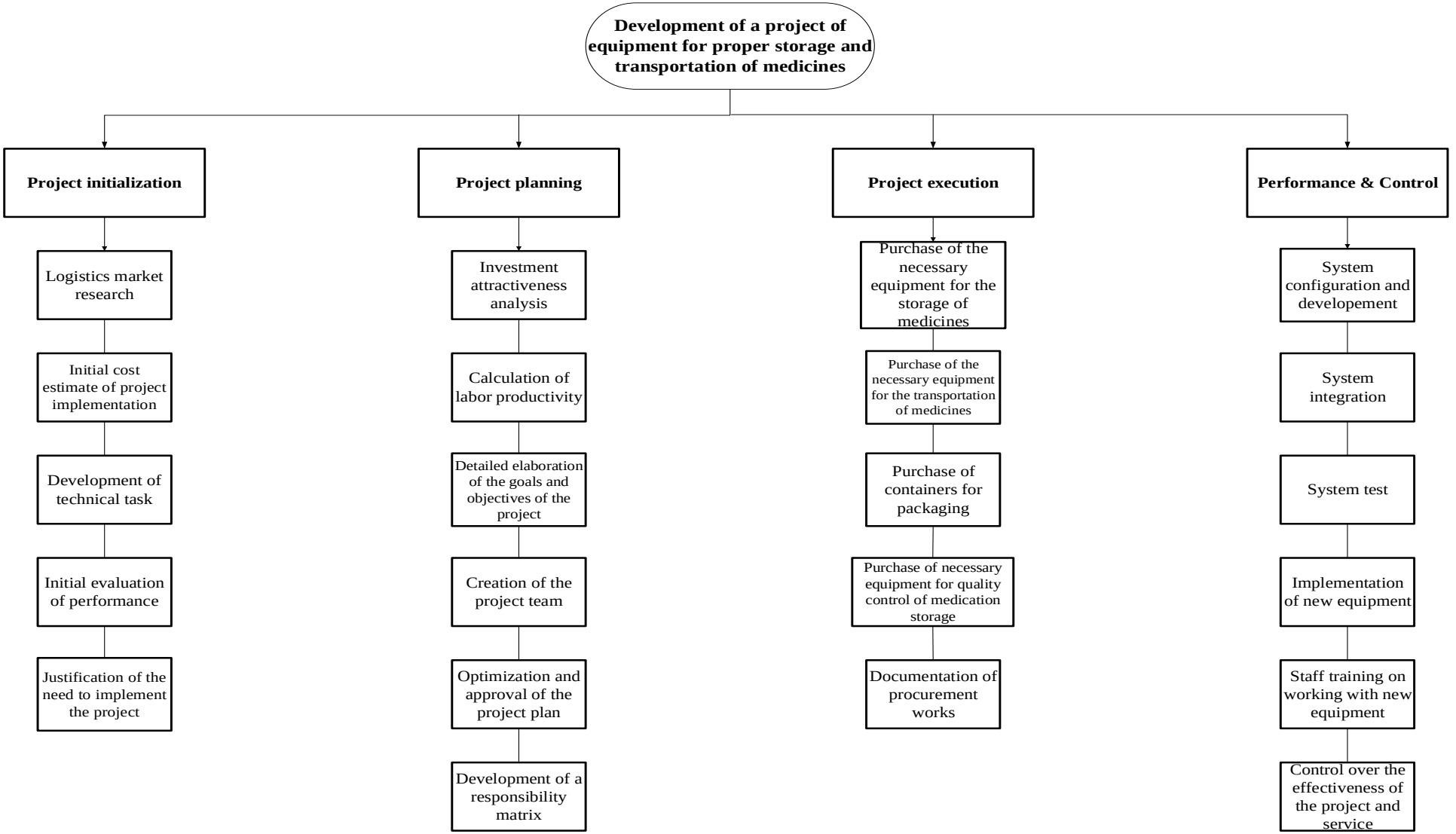


Figure 3.5 – WBS system of the project

Terms used in this text have the following meanings:

Work – continuous physical or mental effort aimed at overcoming obstacles and achieving goals or results; specific tasks, responsibilities, functions or tasks. Often part of a phase or other larger work. Something produced or performed as a result of effort or the application of skills (qualifications).

Breakdown (Decomposition) – division into parts or categories, highlighting simple components.

Structure – a fixed ordered set of objects and relationships between them, a classification of something by certain criteria.

Table 3.2 – Stages of project implementation and its cost

| Stages of project implementation | $ |
|---|---|
| 1. Initial assessment of the idea | 2000 |
| 2. Marketing research and logistics market research | 5000 |
| 3. Analysis of investment attractiveness | 2500 |
| 4. Development of the technical task | 27500 |
| 5. Issuance of an order to launch the project | 1000 |
| 6. WBS development | 10000 |
| 7. Resource and financial planning | 21000 |
| 8. Detailed study of the goals and objectives of the project | 1300 |
| 9. Development of a responsibility matrix | 500 |
| 10. Optimization and approval of the project plan | 2000 |
| 11. Purchase of the necessary equipment for the storage of medicines | 50000 |
| 12. Purchase of the necessary equipment for the transportation of medicines | 41000 |
| 13. Purchase of containers for packaging | 45000 |
| 14. Purchase of necessary equipment for quality control of medication storage | 14000 |
| 15. Documentation of procurement works | 2000 |
| 16. Introduction of new equipment | 10000 |
| 17. Implementation of new logistics routes of supply and delivery | 7000 |
| 18. Calculation of the number of personnel who will work in the project | 800 |
| 19. Development of all necessary documentation | 12000 |
| 20. Determination of the scope of the order | 3300 |
| 21. Control over the effectiveness of the introduction of new equipment | 10225 |
| 22. Staff training on working with new equipment | 12000 |
| 23. Introduction of new services and tariffs | 20450 |
| 24. Control over the effectiveness of the project and service | 8000 |
| 25. Completion of the project | 2225 |
| Total | 300800 |

According to the prepared estimate, investments in the project will amount to $300 800. The discount rate was chosen according accordingly to the NBU (National Bank of Ukraine) exchange rate, which is 8,5% from September 9, 2021.

The calculation of expected revenues from the project is given in table 3.3.

Table 3.3 – Expected revenues from the project

| Year | Amount of receipts ($CF_i$) |
|---|---|
| First | 90000 |
| Second | 100000 |
| Third | 110000 |
| Fourth | 120000 |
| Fifth | 130000 |

First, it is advisable to calculate net cash flows according to the formula:

$$PV = \frac{CFi}{(1+r)^t} \tag{3.1}$$

where $CF_i$ - cash flows (income) by year;

r – discount rate;

t – year number of the account.

$$PV_{1\ year} = \frac{90000}{(1+0{,}085)^1} = 82949{,}31\ \$$$

$$PV_{2\ year} = \frac{100000}{(1+0{,}085)^2} = 84945{,}53\ \$$$

$$PV_{3\ year} = \frac{110000}{(1+0{,}085)^3} = 86119{,}89\ \$$$

$$PV_{4\ year} = \frac{120000}{(1+0{,}085)^4} = 86588{,}91\ \$$$

$$PV_{5\ year} = \frac{130000}{(1+0{,}085)^5} = 86455{,}91\ \$$$

$$\sum PV=PV_1+PV_2+PV_3+PV_4+PV_5 =$$

$$= 82949,31 + 84945,53 + 86119,89 + 86588,91 + 86455,91 = 427059,05\ \$$$

Let's calculate the NPV of the project using the formula:

$$NPV = \sum_{k=1}^{T} \frac{P_k}{(1+r)^T} - \sum_{i=1}^{m} \frac{IC}{(1+r)^m}, \quad (3.2)$$

where $P_k$ – annual cash receipts for T years;

IC – investments for *m* years;

r – the discount rate.

$$NPV = \frac{82949,31}{(1+0,085)^1} + \frac{84945,53}{(1+0,085)^2} + \frac{86119,89}{(1+0,085)^3} + \frac{86588,91}{(1+0,085)^4} + \frac{86455,91}{(1+0,085)^5} - \frac{300800}{(1+0,085)^1} = 126259,55\ \$$$

The obtained results can be summarized in the form of table 3.4.

Table 3.4 – Calculation of the NPV of the project at a discount rate of 8,5%

| t | $I_0$ | $CF_t$ | $(1+r)^t$ | $PV_t$ | NPV |
|---|---|---|---|---|---|
| 0 | -300800 | | 0 | | -300800 |
| 1 | | 90000 | 1,09 | 82949,31 | -217850,69 |
| 2 | | 100000 | 1,18 | 84945,53 | -132905,16 |
| 3 | | 110000 | 1,28 | 86119,89 | -46785,27 |
| 4 | | 120000 | 1,39 | 86588,91 | 39803,64 |
| 5 | | 130000 | 1,50 | 86455,91 | 126259,55 |

If NPV > 0, the project should be accepted; if NPV < 0 - reject; if NPV = 0 - the project is neither profitable nor unprofitable.

So, after calculating the NPV, we see that during two years, namely the fourth and fifth, the company receives profits that cover the costs, and therefore the project should be accepted.

The profitability index different from NPV is a relative value and is calculated according to the formula:

$$PI = \sum_{t}^{k} \frac{P_k}{(1+r)^t} \div IC, \tag{3.3}$$

where $P_k$ – annual income;

IC – initial investment;

r – the discount rate.

$$PI = \frac{427059,05}{300800} = 1,42\ (42\%)$$

In this case 427059,05 $ is income, 300800 $ is expenses. Thus, this project should be accepted because it is profitable.

We have already calculated the NPV for a discount rate equal to 8,5%. In this case, NPV = 126259,55 $

Now let's assume a discount rate of 23% and calculate the NPV using formula 3.2 in order to then calculate the internal rate of return (IRR).

Net cash flows at the new discount rate will be equal to:

$$\mathrm{PV}_{1\ \mathrm{year}} = \frac{90000}{(1+0,23)^1} = 73170,73\ \$$$$\mathrm{PV}_{2\ \mathrm{year}} = \frac{100000}{(1+0,23)^2} = 66098,22\ \$$

$$PV_{3\ year} = \frac{110000}{(1+0,23)^3} = 59112,23\ \$$$$PV_{4\ year} = \frac{120000}{(1+0,23)^4} = 52447,70\ \$$$$PV_{5\ year} = \frac{130000}{(1+0,23)^5} = 46176,16\ \$$$$\sum PV = 73170,73 + 66098,22 + 59112,23 + 52447,70 + 46176,16 = 296985,04\ \$$

Let's calculate the NPV of the project at a discount rate of 23% according to formula 3.2.

$$NPV = \frac{73170,73}{(1+0,23)^1} + \frac{66098,22}{(1+0,23)^2} + \frac{59112,23}{(1+0,23)^3} + \frac{52447,70}{(1+0,23)^4} + \frac{46176,16}{(1+0,23)^5} - \frac{300800}{(1+0,23)^1} = -3814,96\ \$$$

The obtained results are summarized in table 3.5.

Table 3.5 – Calculation of NPV of the project at a discount rate of 23%

| t | $I_0$ | $CF_t$ | $(1+r)^t$ | PV | NPV |
|---|---|---|---|---|---|
| 0 | -300800 | | | | -300800 |
| 1 | | 90000 | 1,23 | 73170,73 | -227629,27 |
| 2 | | 100000 | 1,51 | 66098,22 | -161531,05 |
| 3 | | 110000 | 1,86 | 59112,23 | -102418,82 |
| 4 | | 120000 | 2,29 | 52427,70 | -49991,12 |
| 5 | | 130000 | 2,82 | 46176,16 | -3814,96 |

A negative value of the project's NPV signals that the project will be unprofitable, so we can calculate the internal rate of return on investment.

So, at a rate of 8,5%, the NPV is positive, and at a rate of 23%, it is negative. So the internal rate of return IRR will be in the range of 8,5–23%.

The internal efficiency ratio or internal rate of return on investments (IRR) is calculated according to the formula:

$$IRR = A + \frac{a(B - A)}{(a - b)} \quad (3.4)$$

where A – the value of the discount rate at which the NPV is positive;

B – the value of the discount rate at which the NPV is negative;

a – the value of positive NPV, at the value of the discount rate A;

b – the value of the negative NPV, at the value of the discount rate B.

$$IRR = 8,5 + \frac{126259,55*(23-8,5)}{126259,55 -(-3814,96 )} = 22,6\%$$

We will calculate the payback terms of the simple and discounted project at a discount rate of 8.5%.

The payback period is simple: the investment amounted to $300 800.

In the first year, the income will be $90000, that is, the investment will not pay off.

In the second year, the income will be $100 000, that is, in two years, the income will be: 90000 + 100 000 = $190 000, which is less than the investment amount.

In the third year, the income will be $110 000, that is, in three years, the income will be 190 000 + 110 000 = $300 000, which is less than the investment amount.

In the fourth year, the income will be $120 000, that is, in fourth year, the income will be 300 000 + 120 000 = 420 000, which is more than the amount of investments.

That is, the simple payback period will be 3 or so years. Let's find the exact value using the formula: simple payback period = 3 + (remaining debt to the investor at the end of the third year) / cash flow for the fourth year = 3 + 800/120 000 = 3,007 years.

The payback terms are discounted: the investment amounts to $300 800.

In the first year, the net cash flow is $82949,31, meaning the investment will not pay off.

In the second year, the net cash flow is $84945,53, that is, for two years, the discounted income was 82 949,31 + 84945,53 = $167 894,84, which is less than the investment amount.

In the third year, the net cash flow is $86119,89, that is, over three years, the discounted income is $167 894,84 + $86119,89 = $254 014,73, which is again less than the investment amount.

In the fourth year, the net cash flow is $86588,91, that is, for four years, the discounted income is $254 014,73 + $86588,91 = $340 603,64, which is more than the amount of the investment. That is, the discounted payback period will be more than 3, but less than 4 years. Let's find the exact value using the formula: Discounted payback period = 3 + (remaining debt to the investor at the end of the third year) / net cash flow for the fourth year.

So, the discounted payback period will be: 3 + 46785,27/86588,91 = 3,54 years.

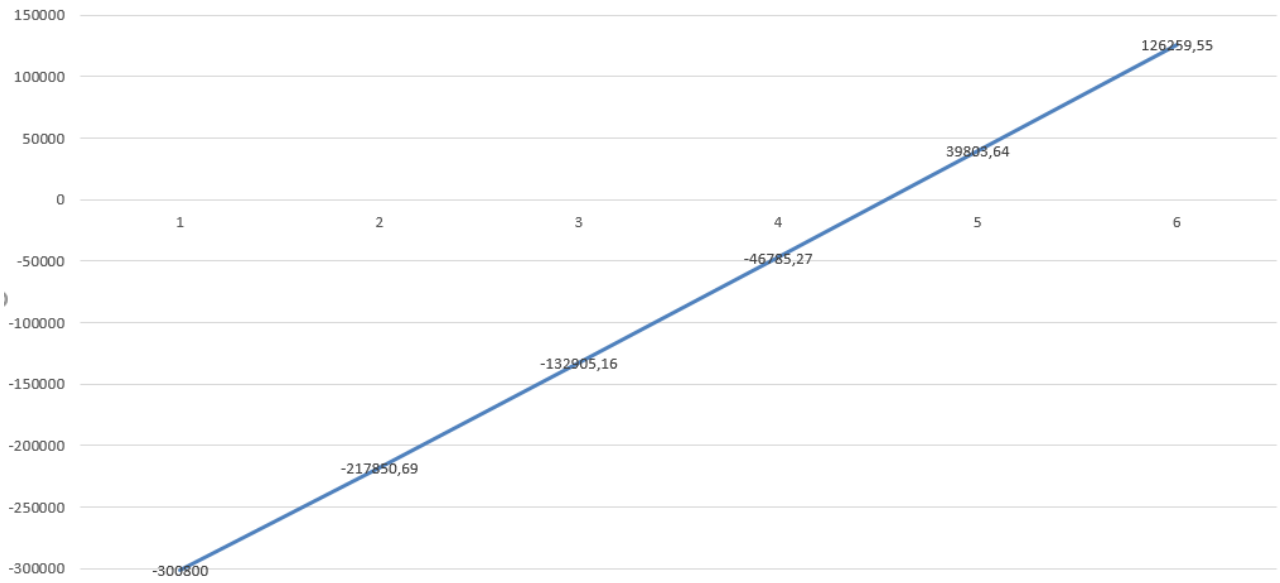


Figure 3.6 – Cash receipts for 5 years of the project

The above calculations show that the project is profitable. The project will begin to bring profits already in the fourth year. The profitability index of the project will be 1,42 (it is greater than one, which once again proves that the project will pay off). The simple payback period will be 3.007 years, and the discounted payback period will be 3,17 years. Using the selection method, it was established that the internal rate of return at which the NPV will be positive lies in the interval between 8,5 and 23%, and with accurate calculations, the internal rate of return IRR will be 22,6%.

### 3.3 Effectiveness of the proposed project

In terms of the complexity of transporting pharmaceutical products, they are significantly ahead of oversized and even perishable goods. Here it is important to observe the special conditions of transportation, as well as strictly adhere to legal regulations. In Ukraine, the delivery of medicines is part of the pharmaceutical activity, and therefore a special license is required. This indicates the impossibility of concluding an agreement with any transport company that the owner of the pharmacy chooses. In order to transport medicines through the territory of Ukraine, the transport company must obtain a special license authorizing such activities.

To reduce the risk of damage to medicines during transportation and storage, companies should follow some rules:

1. Protection. Carriers are obliged to ensure an adequate level of protection of the transported medicinal products from mechanical influences, atmospheric influences, pollution, etc. Moisture sticking not only worsens the presentation, but also changes the pharmacological properties. And not for the better. For this reason, the vans and vehicles used must be sealed and thoroughly disinfected before loading each successive batch of drugs.

2. Escort. When transporting medicinal products of the group of potent immunobiological drugs, in addition to the driver himself, the cargo must be accompanied by an authorized person. In some cases, representatives of security services and security companies are involved in freight transportation. Before transportation, such categories of shipments are subject to mandatory sealing of the van.

3. Different properties. If the drugs have different physical and chemical properties and different states of aggregation, it is strictly forbidden to transport them together in the same vehicle. Formulations in the form of tablets, suspensions and ampoules are transported by various machines.

4. Product packaging. All containers with drugs should be placed very tightly so that there are no cracks or gaps between them. The marking of each container is carefully considered as they may have varying degrees of fragility. The most fragile items are placed on top of other boxes, but in a location that provides maximum protection from possible falls.

5. Medicine with a strong odor. Some medical products have a strong odor and cannot be shipped out of individual sealed packages.

Also remember that medicines are manufactured in many different forms. Special rules for road transport apply accordingly. There are three main categories here:

1. Raw materials of plant origin. Its transportation is carried out in canned or dried form. Special plywood or wooden boxes, cloth bags or wooden barrels are used to pack medicinal dried plants. If these are canned ingredients, metal containers and closed barrels should be used;

2. Liquids characterized by the ability to easily ignite. These include various types of alcohols, esters and drugs created on their basis. They are packed so that the walls of the boxes are at least 5 centimeters higher than the closed containers for flammable medicines;

3. Liquid agents. They are shipped in glass containers in boxes and securely secured to each individual container. If necessary, fill the empty space between containers with flexible packaging material.

In addition to the standard risks of damage to medicines during transportation and storage, thermolabile drugs are subject to a whole list of specific risks. “Cold chain” equipment such as thermal containers, cold cells, thermal indicators, temperature recorders, special refrigerators, cold rooms, is used to control and maintain the required temperature regime during the transportation of vaccines, insulins and other thermolabile drugs and medicines.

When operating such equipment, many restrictions on use must be observed. For example, when packing drugs in thermoboxes, it must be remembered that drugs are transported to different regions of the country, with different climates. Vaccines transported to Odessa and Rivne at the same time can be overheated in the first case and frozen in the second.

It is extremely important that the contractor carrying out the transportation of medicines implement transit time control algorithms, since most thermal containers are able to maintain a given temperature for no more than 48-72 hours, while the cost of thermal containers capable of withstanding more than 72 hours increases dramatically. The maximum quality of transportation of medicines in the conditions of the “cold chain” can be achieved if the instructions for the preparation of insulated containers take into account the transit time, the climatic features of the receiving region, the current ambient temperature in the receiving region, as well as the weather forecast for several days.

When transporting and storing vaccines and medicines on an ongoing basis, temperature logs should be kept. When packing thermal containers using water-based ice packs, it must be remembered that ice melts at a temperature of about 0 degrees and if, during the transportation of medicines, the thermal container is exposed to negative temperatures or even temperatures close to 0 degrees, the risk of freezing medicines increases. To minimize the risks of spoilage of heat-labile products, it is essential that

validation tests are also carried out in relation to special refrigerators, cold rooms and other equipment of the “cold chain”. Temperature indicators, temperature recorders, thermographs and other equipment for monitoring compliance with the temperature regime during the transportation of medicines must be subjected to periodic verification and calibration.

The human factor in the transportation of goods with temperature conditions. The circle of people who can be called “cold chain” professionals in our country is very limited. If you entrust the transportation of thermolabile drugs to a driver who does not know what a “cold chain “is, a temperature recorder, a temperature log, be prepared for the that a person will not fully understand how important it is to strictly observe the entire list of rules for operating equipment.

Personnel involved in Cold Chain activities must be carefully selected, instructed, tested and must act under the motto “minimum initiative, maximum responsibility”.

Any measures to minimize the risks of temperature violations during transportation reduce the risks, but do not remove them completely. For maximum reliability of transportation of medical products, it is necessary to use the services of an insurance company that is familiar with the specifics of the Cold Chain, aware of and able to work with specific temperature risks.

The project, which was aimed at improving the condition of the company's “cold chain”, will help to preserve medicines during transportation and storage, as well as reduce all risks that were determined by the expert commission as the most dangerous for the effective operation of the fund. Also, the new “cold chain” equipment will help the enterprise to comply with all the important and strict list of rules for the storage and transportation of medical products, which were mentioned above.

A lower percentage of spoiled medicines will help the “AntiAIDS Ukraine” charitable organization not only to reduce the risks that the expert commission identified as the most significant, but also to improve the organization's image in the eyes of its regular donors.

A list of actions that can help charity foundation and improve its visibility:

1. Analysis of situations and statements about the legitimacy of an issue or project (study of public opinion on this issue (office and field surveys), definition and description of social issues, definition of difficulties, analysis of customer and perfomers potentials.

2. Strategic planning (definition of the project goal). Building a pyramid of tasks; targets, keys, engaged audience; resources analysis, creativity concept, strategy model; testing of the main theses and ideas of the project.

3. Main directions of the project (tactics), planning the main event for the target audience (goals, tasks, target audience, justification for the need to hold the event), partisan methods or techniques of viral marketing, creating a work plan.

4. Planning a calendar (creating a work schedule of events for the development of the target audience, mass media, corporate culture, distribution of responsibilities within the team, clarification of responsibilities, training of team members).

5. Mass media work (reasoning mass media channels), media planning, writing articles and press releases, organizing media publications, creating a reaction on the internet.

6. Project budget planning (determining the resources needed and where to get them, determining budget items and making estimates for building cooperation).

7. Fundraising of the project (if it necessary), selection of organizational groups as potential sponsors, distribution of key expenditure items among key partners, formation of sponsorship packages in phases, signing of contracts. Project budget planning (identification of required resources and their sources, determination of budget items, preparation of construction quotation cooperation).

8. Developing rating systems and describing expected results (performance criteria, performance measurement tools).

9. Project implementation includes the following steps: developing a project proposal, searching for business partners, conducting formal negotiations, obtaining necessary resources, implementing planning activities, evaluating and managing the

implementation of the plan. , coordinating the implementation plan of the project, and informing the public about the progress and results of the project.

10. Evaluation of effectiveness by selected criteria (research, surveillance, editing of press clips, etc.).

The money included in the estimate for the purchase of the necessary equipment – purchase of the necessary equipment for the storage of medicines, purchase of the necessary equipment for the transportation of medicines, purchase of containers for packaging, purchase of necessary equipment for quality control of medication storage – amounts to 150 000 dollars. These funds can be used to improve the condition of the fund's "cold chain" as follows (see figure 3.6):

–10 refrigerators for storage and transportation of blood and medicines at the price of $10000;

–18 thermal bags for storage and transportation of blood and medicines at the price of $2000;

–28 freezing indicators for checking blood temperature and medicines at the price of $500.

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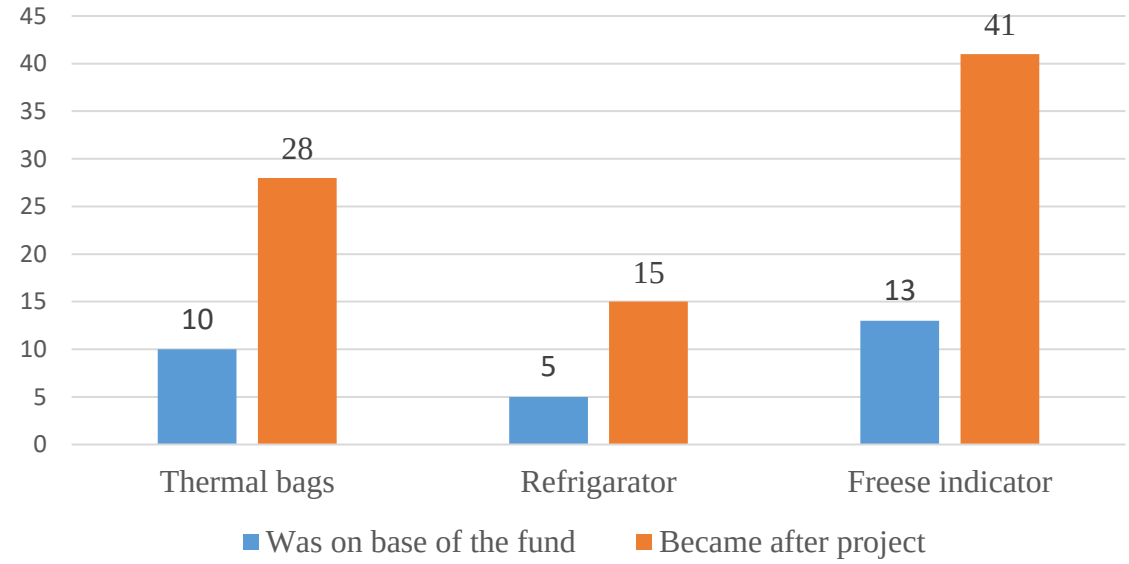
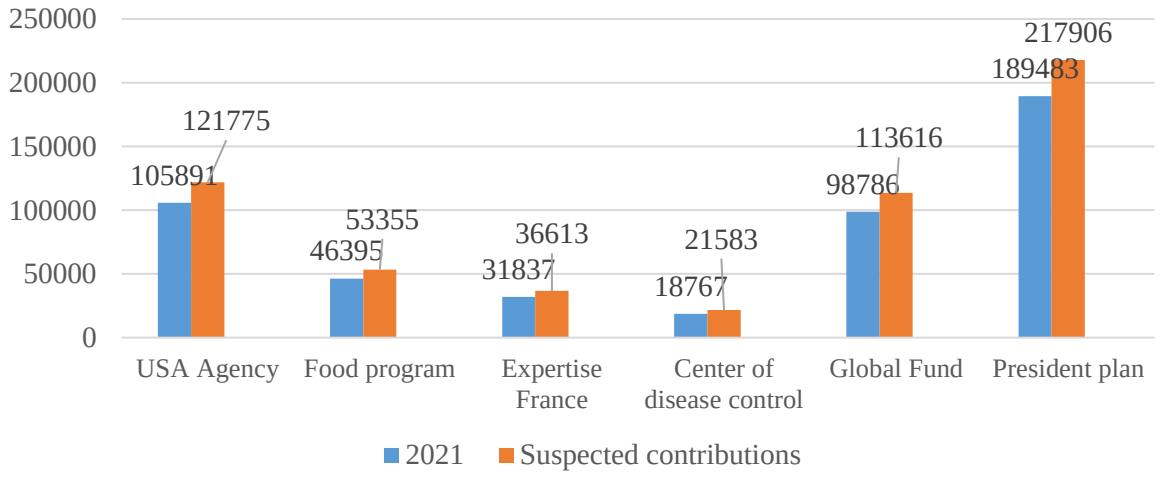



Figure 3.6 – Comparison of the “cold chain” equipment of CF “AntiAIDS Ukraine” before and after the project

Analyzing close cooperation with donor organizations and taking into account the above actions, contributions are expected to increase by 15% in case of successful implementation of the project (see table 3.6).

Table 3.6 – Expected contributions from donor organizations

| Donor organization | Program | 2021 year | Suspected contributions |
|---|---|---|---|
| USA Agency | RESPECT | 105891 | 121775 |
| Food program | PRRO | 46395 | 53355 |
| Expertise France | 5% Initiative | 31837 | 36613 |
| Center of disease control | ACCESS | 18767 | 21583 |
| Global Fund | GF PROGRAM | 98786 | 113616 |
| Presidential plan of emergency measures aimed at overcoming AIDS | PEPFAR | 189483 | 217906 |




Picture 3.7 – Comparison of contributions of donor organizations

After signing the grant agreement, the subject-executive of the program is provided with funding for the deployment of activities. The following payments depend on the ability of this entity to demonstrate adequate performance of work to achieve pre-agreed benchmarks, therefore, CF “AntiAIDS Ukraine” should be

responsible for the implementation of the project and transparently use the funds raised to improve the state of the “cold chain” in the organization.

## Chapter 3 summary

After convening an expert commission and determining control over the preservation of the quality of medicines at various stages of the logistics chain - transportation and storage, the “cold chain” of the “AntiAIDS Ukraine” charitable organization was chosen as the subject of a deeper study. It is with the list of requirements of the "cold chain" that it is possible to improve the preservation of medicines, which are the main stock of the fund, and thereby reduce the risks that have been identified.

The organization of the “cold chain” of CF “AntiAIDS Ukraine” was considered. The potential of the pharmaceutical market determines the special interest of the pharmaceutical industry in the problems of “cold chains” in recent years. It is the driving force behind the development of both the “cold chains” themselves and the entire logistics market, because significant efforts are needed to ensure temperature conditions throughout the entire logistics chain: from the raw material producer to the hospital and the patient as the final consumer. A cold chain is only as reliable as its weakest link. If in the process of transportation or storage, temperature or other conditions are not observed by at least one of the partners, we find ourselves in a situation where the efficiency of the entire “cold chain” is zero.

In modern Ukrainian society, social organizations do not pay due attention to relations with the public. Society has already formed a positive attitude towards charity and volunteering in general, but the attitude towards specific charitable foundations remains wary. The interests of non-profit organizations, namely social philanthropic centers, lie in many different interrelated areas, and the mechanisms of public relations

and their promotion in these areas vary greatly. This includes work with mass media, fundraising, interaction with the state, lobbying, and work with personnel or internal communications. Due to a well-constructed scheme of public relations, an NGO can discover additional sources of various benefits – from loyalty on the part of the state to the trust of its target audience.

The proposed project to improve the condition of the fund's “cold chain” in order to reduce risks is beneficial. The above calculations show that the project is profitable. The project will begin to bring profits already in the fourth year. The profitability index of the project will be 1,42 (it is greater than one, which once again proves that the project will pay off). The simple payback period will be 3.007 years, and the discounted payback period will be 3,17 years. Using the selection method, it was established that the internal rate of return at which the NPV will be positive lies in the interval between 8,5 and 23%, and with accurate calculations, the internal rate of return IRR will be 22,6%.

# CONCLUSIONS AND RECOMMENDATIONS

Risk is one of the key factors affecting the resulting indicators of the enterprise's production and economic activity. The unstable political and economic situation in the country, the lack of a clear legislative and regulatory framework, the intensification of the use of modernized management technologies requires modern enterprises to change the management vectors, which are oriented towards the use of the latest management methods, which are able to adapt to the situation of uncertainty and risk, which is objective today's reality.

The effectiveness of risk management depends on the effectiveness of its implementation in all subsystems of the object – the enterprise, at all links and processes. Logistic system, as a key link of the enterprise on the way to ensure the efficiency of economic processes, cost reduction is an integral basis of its successful functioning, and therefore is also exposed to risks. Being a complex system by its nature, with many elements in its structure and stable relationships between them, it requires the development of a specific risk management technique that will take into account all its features.

The risk of the logistics system is the perceived possibility of danger by the subject of the logistics system, which is associated with the probability of failures in the work of one or more links of the logistics chain due to the disturbance of the effects of external and internal environmental factors, the consequences of which, from the point of view of the subject of management, are are undefined and appear in the form of changes in flow parameters from the given ones.

The characteristics of the risk management process are given and its impact on ensuring the competitiveness of the enterprise is investigated. The main directions of risk management and the scope of their application at various stages of the enterprise's activity are considered. The expediency of applying a process approach to the

implementation of risk management and the importance of using risk-oriented thinking by the management of enterprises are substantiated.

The specifics of using modern methods of risk management are considered. The need for timely identification of "bottlenecks" in the company's activity using expert assessment of the impact of risks on activity has been proven. The expediency of using modern methods of transportation of critical medical goods in the "cold chain" in logistics activities, aimed at timely prevention of spoilage of goods during transportation and storage, is substantiated.

Very often, in practice, risk management is considered only as an additional process, not tied to business planning, budgeting, strategic planning, etc. However, company management is a single process in which each procedure must be integrated into the overall strategy and tactics of enterprise management. When we develop a company's strategic development program, it must include a risk assessment section that is directly related to it. The same with budgeting: resources are needed to control risks, and funds for them can only be taken from the budget. A link that cements all processes in the company: goal (of the enterprise as a whole or of a separate division) – risk (probability of failure of this goal) – control (measures that reduce this risk to an acceptable level).

If we analyze why such a formal approach to identifying and assessing risks, as well as to their subsequent management, is quite often used, we will come to the conclusion that there is a lack of development of the control environment of the organization and the cultivation of an understanding of the principles and objectives of risk management. Business process owners (structural unit managers) should be responsible for achieving the set goals through a risk-based approach and establishing proper control over the risks associated with these goals. If there is a risk management function, there is an obligation to make a risk register and an additional process of formal risk management appears, which can be considered by managers as a burden that anyone needs, but not them. But the plans aren't followed through, excuses are given for the failure, and the company enters the new year with a similar approach.

In effective risk management, setting goals, identifying risks, and establishing adequate and effective controls is one integrated process. The functions of risk management of the corresponding business process and internal control are not additional, but direct duties of any effective manager. He is interested more than others in that the goals set for him are fulfilled. It is he who needs to receive the necessary resources in the budget to achieve them. In turn, the financial director should ask budget owners questions about the appropriateness and sufficiency of the budget for financing control. But how can you objectively explain, without identifying and assessing risks, that you need so many people, so many fixed assets, and so much money for operating expenses (for example, advertising or shop equipment)? The budget is not necessarily excessive, on the contrary, you may be budgeting too little, and the existing risks will not allow you to achieve your goal. Even if you are short of funds and unable to finance the full control, you at least know already at the budgeting stage that your annual plan is at risk of being missed.

It is necessary to follow formal procedures, but it is even more important to promote risk management within the company. And here the main thing is not to miss the essential points when creating this unit. Risk management cannot be delegated to an administrative function. Only the process owner is responsible for the risks in his department. In addition, risk management is an essential part of any business, since profit (and during the financial crisis, the existence of the company) depends on how well risk management is carried out. And since the ability to manage operational, financial and strategic risks affects the financial result and life support of the company, risk management is part of the direct responsibilities of management related to the goals and plans of the enterprise. Duties that should be performed daily, not once or twice a year. Only then will this function and the company as a whole be effective.

The risks that have appeared in other companies should be projected onto your company and analyzed to what extent this or that risk may affect you, how to minimize or eliminate it. Forewarned is forearmed. And let this or that risk pass you by, you were ready for it - and this is the main thing. This is all the more important in companies

where brands have been created for years, and sometimes even centuries. After all, it is trademarks that protect the most. With the wrong approach to risk assessment or lack of it, brands can be lost due to a few ill-conceived actions.

In addition, risk management is successful and effective when an organization has a single integrated approach to risk management. For example, the corporate procedure “Integrated risk management” can be a fundamental document for creating an effective risk management function. It contains a holistic description of the company's annual risk management cycle, applicable to all its employees – from the CEO to the ordinary employee. It is important to emphasize that links are inserted in this document with procedures for managing and evaluating the performance of employees, strategic and budgetary planning, emergency management, as well as regular reviews by internal audit. Provided that all employees involved in risk management have been trained in this procedure, receive the necessary methodological support from the risk manager, and fully proactively carry out the planned activities, it can be guaranteed that the quality and completeness of the risk management process will be sufficient to ascertain satisfactory functioning. risk management systems (at least 40% of risk management work). The rest is the quality and culture of risk management, which are not created in one year.

The practical part of the work was aimed at forming the necessary professional skills. While carrying out this work, the organizational and management structure of the charity foundation “AntiAIDS Ukraine” was studied, the target audiences were analyzed, the organization's place in the social and public environment was determined, and the organization's activities were evaluated. Effective fundraising steps of the organization were studied and noted. The work identified risks that can have the most negative impact on the economic activity of the “AntiAIDS Ukraine” charity fund. The research method revealed that the fund's stocks, which are critical medical goods, should be protected by international standards of transportation within the “cold chain”.

An analysis of the financial and economic indicators of the charity fund “AntiAIDS Ukraine” was carried out. On the basis of the performed calculations, it is

proved that this business entity is in an unstable financial state, since in 2021 it received smaller donor contributions than in 2020 only. The indicators of solvency and financial stability are also unsatisfactory, which has a negative impact on his activity. The sources of equity capital formation of CF “AntiAIDS Ukraine” due to the peculiarities of the activities of charitable funds are formed from the funds raised.

An assessment of the current state of the logistics system CF “Anti-AIDS Ukraine” was carried out. The divisions of the enterprise, whose employees are responsible for ensuring the effective functioning of the “cold chain”, have been determined. It was found that the proper functioning of the “cold chain” according to international standards is able to ensure the proper transportation and storage of critical medical products, which are the main stocks of the "Anti-AIDS Ukraine" charity fund.

The Fund manages its expenses and net assets in order to ensure the ability to carry out its activities on a continuous basis and, at the same time, achieve its objectives by optimizing the costs incurred during the implementation of the programs.

The organization of the “cold chain” of CF ”AntiAIDS Ukraine” was considered. The potential of the pharmaceutical market determines the special interest of the pharmaceutical industry in the problems of “cold chains” in recent years. It is the driving force behind the development of both the “cold chains” themselves and the entire logistics market, because significant efforts are needed to ensure temperature conditions throughout the entire logistics chain: from the raw material producer to the hospital and the patient as the final consumer. A cold chain is only as reliable as its weakest link. If in the process of transportation or storage, temperature or other conditions are not observed by at least one of the partners, we find ourselves in a situation where the efficiency of the entire “cold chain” is zero.

The peculiarities of the activity of the “AntiAIDS Ukraine” foundation as a charitable organization were investigated. In modern Ukrainian society, social organizations do not pay due attention to relations with the public. Society has already formed a positive attitude towards charity and volunteering in general, but the attitude towards specific charitable foundations remains wary. The interests of non-profit

organizations, namely social philanthropic centers, lie in many different interrelated areas, and the mechanisms of public relations and their promotion in these areas vary greatly. This includes work with mass media, fundraising, interaction with the state, lobbying, and work with personnel or internal communications. Due to a well-constructed scheme of public relations, an NGO can discover additional sources of various benefits – from loyalty on the part of the state to the trust of its target audience.

A project was proposed to attract donors and volunteers, who will be able to improve the condition of the "cold chain" at the CF "AntiAIDS Ukraine" with contributions. The above calculations show that the project is profitable. The project will begin to bring profits already in the fourth year. The profitability index of the project will be 1,42 (it is greater than one, which once again proves that the project will pay off). The simple payback period will be 3.007 years, and the discounted payback period will be 3,17 years. Using the selection method, it was established that the internal rate of return at which the NPV will be positive lies in the interval between 8,5 and 23%, and with accurate calculations, the internal rate of return IRR will be 22,6%.

The money included in the estimate for the purchase of the necessary equipment – purchase of the necessary equipment for the storage of medicines, purchase of the necessary equipment for the transportation of medicines, purchase of containers for packaging, purchase of necessary equipment for quality control of medication storage – amounts to 150 000 dollars. These funds can be used to improve the condition of the fund's "cold chain" as follows: 10 refrigerators for storage and transportation of blood and medicines at the price of $10000; 18 thermal bags for storage and transportation of blood and medicines at the price of $2000; 28 freezing indicator for checking blood temperature and medicines at the price of $500.

Carrying out a balanced policy in the field of organization of "cold chain" transportation will allow CF "Antisneed Ukraine" to ensure the fulfillment of consumer requirements, help needy people, reduce risks in their activities, be one step ahead of their competitors, and also reduce the negative impact of risks that have been identified

by the expert commission as the most dangerous – spoilage of critical medical products during transportation and storage.

Carrying out a balanced policy in the field of organization of “cold chain” transportation will allow CF “Antisneed Ukraine” to ensure the fulfillment of consumer requirements, help needy people, reduce risks in their activities, be one step ahead of their competitors, and also reduce the negative impact of risks that have been identified by the expert commission as the most dangerous – spoilage of critical medical products during transportation and storage.

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