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FEATURES OF INCREASING THE EFFICIENCY OF MANAGEMENT DECISIONS AT "DANISKO UKRAINE" LLC UNDER THE CONDITIONS OF RISK

Alla Cherep*, Doctor of Economic Sciences, Professor,
Serhii Tkachenko, PhD in Technical Sciences, Associate Professor,**
Natalia Kairachka, Master Student
Zaporizhzhya National University

**ORCID 0000-0001-5253-7481*
***ORCID 0000-0002-3798-5902*

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Introduction. With the outbreak of hostilities in Ukraine, the consideration of methods of effective managerial decision-making in conditions of risk has become relevant. Due to the existence of a situation of uncertainty in the domestic environment, the influence of social, political, economic risks is increasing, which has affected the economic situation in Ukraine in the form of a deterioration in the financial and economic crisis of the economic system. As a result, today enterprises have an urgent need to implement an effective risk management system. Therefore, today it is important for enterprises to form effective risk management to improve various areas of activity, especially during a full-scale war.

Analysis of recent research and publications. Analysis of studies and publications. Making managerial decisions were considered by domestic scientists. So, domestic scientists Nalyvaiko L. [1, p. 6] and Symonenko T. [1, p. 6] investigated the issue of making a managerial decision, its relationship with the concepts of "decisions", "state-managerial decisions" and "procedural decisions". In turn, Kuznecovoji I.O. [2, p. 9] considers the adoption of managerial decisions from the point of view of the leadership, highlighting it as an opportunity to choose an alternative option so that the organization can achieve its goals. The scientist Kravchenko M.O. [3] and Golyuk V.Ya. [3] highlight the fact that managerial decision-making is determined, for the most part, as the intersection of creativity and science.

Scientists Voitsitsky V.M. [6], Khizhnyak S.V. [6], Danchuk V.V. [6], Midik S.V. [6], Grishchuk I.A. [6] and Ushkalov V.O. [6] studied varieties of risks (natural risks, anthropogenic man-made risks, anthropogenic non-technogenic risks, environmental risks, commercial risks) risks and others), the main types of their analysis and identified the main environmental impact in terms of environmental risk. Pozhueva T.O. [7] studied the essence, importance of production risk and its impact on the functioning of the modern enterprise. Vlasenko R.V. [8] and Yatsenko L.D. [8] described social risks and their role in the post-war recovery period.

Scientist Borovyk M.V. [9] investigated the peculiarities of risk management in the context of effective personnel management. Grinko I.M. [14] at the same time studied the features of concordance in the context of developing strategies for the development of countries in industry 4.0. Domestic scientist Kalyuzhna Yu.V. [15, p. 13–14] also considered the peculiarities of calculating the concordance coefficient in order to assess various risks in the enterprise and determine effective tools for organizing risk management in the realities of the present.

Having considered the scientific works show that domestic scientists pay a significant role in the study of the level of influence of various risks on the organizational structure of the entity.

Objectives of the article. The aim of the article is to consider the theoretical foundations of managerial decision-making at the enterprise; analysis of methods for analyzing the effectiveness of managerial decision-making at the enterprise; study of the financial condition of "Danisco Ukraine" LLC and determination of significant risks with the help of expert assessments; providing proposals for improving the efficiency of managerial decision-making at the enterprise.

The main material of the study. In the realities of martial law in Ukraine, consideration of the effectiveness of managerial decision-making at the enterprise in today's conditions becomes relevant. In general, it can be analysed that a risk is a process that negatively affects the activity of a business entity and can be predicted for the long term. For a detailed understanding of the concept of "managerial decision" it would be advisable to consider the interpretation of various domestic scientists.

Nalyvaiko L. and Symonenko T. consider the concept of "managerial decision" as "the result of the management entity's choice of the best alternative aimed at solving a certain management problem" [1, p. 6].

Kuznecovoji I. O. considers "managerial decisions" as "the manager's choice of alternatives aimed at achieving the goals of the organization" [2, p. 9].

Scientists M.O. Kravchenko and Golyuk V.Y. that "managerial decision-making is a type of management activity aimed at improving the company's performance indicators, which is achieved by using all available information for better accuracy and consistency" [3].

It is determined as a result of the analysis that management decision-making is the process of choosing the most profitable alternative from a financial point of view by the management of the enterprise in order to increase the performance indicators of the business entity, as well as to have positive results in the form of profits in future periods.

It is noted that there is a management decision-making system, which is a pair consisting of a controlled installation and a controller, called a control system. Fig. 1 shows the structure of the management decision-making system.

Finally, it can be noted that all the given examples have the same structure, the diagram of which is presented in Fig. 1, where DM is the decision-maker, DMS is the decision-making situation. They are connected by channels 1 and 2. Through channel 1, the decision-maker receives data S = (Z, I) about the situation before the decision is made. Through channel 2, the decision-maker chooses the actions u ∈ u that lead to the consequences of c ∈ C on channel 3. Channel 4 is an experiment of the first type; Channel 5 is an experiment of the second type. Finally, θ ∈ Θ is an unknown parameter in a parametric solution situation.

Table 1 provides methods for analyzing the effectiveness of managerial decision-making, which reveal the features of each sphere of activity of the enterprise: marketing, financial, sales, innovation, production and organizational.

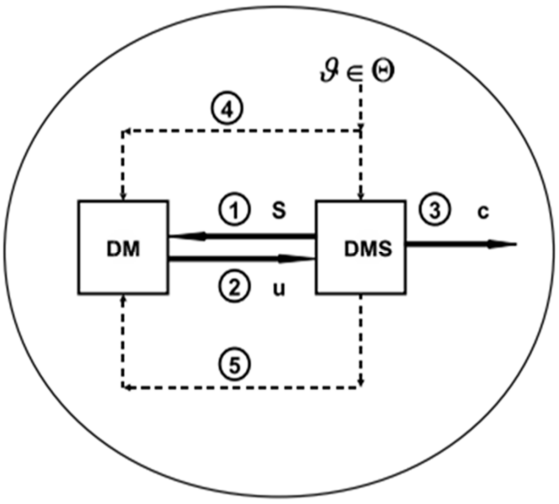

Figure 1. Structure of the management decision-making system

Source: compiled by the authors according to [3]

Table 1

Methods of Analysis of the Effectiveness of Managerial Decision-Making in the Enterprise

Title	Importance
Qualitative methods	The methods are used in cases where it is impossible to estimate the number of factors important for decision-making. Almost all expert methods belong to the class of qualitative methods.
Quantitative Methods	The methods also differ depending on the nature of the information that is available at the time of the decision. They are divided into: analytical, statistical, methods of mathematical programming, theoretical-game. They are used in conditions of uncertainty of information.
Peer review method	The method makes sense when the management of the company is not able to correctly assess the problem. In this case, the decision-making process is entrusted to professionals. They are provided with full information on the situation, freedom of action and often even anonymity. In the course of their work, experts can apply: – SWOT analysis; – scenario method; – Delphi method.
Brainstorming	A method that relies on collective discussion. Senior management and mid-level managers meet to discuss the situation. Each of them provides their own proposal for solving the problem. It is important not to criticize, even when the idea seems completely unsuccessful. When everyone has spoken out about the solutions, they discuss each idea together. In this way, it can be evaluated all offers and find the best solution.
Game Theory	The method is usually used in complex cases where there is a conflict of interests. The method is quite difficult. It is based on the mathematical study of operations, which allows to build the most probable scenario for the development of events, taking into account the actions of the opponent. This method is appropriate in competition or political rivalry. It has certain disadvantages, because mathematical calculation assumes logic and rationality in the actions of the parties. The script is built on this basis.
Decomposition Method	This method is suitable for making important management decisions. It is often used in the management of teams, processes, and projects. The essence of the method is to divide a large task into smaller blocks. Those, in turn, are divided into even smaller ones, and so on several times. As a result, it becomes possible to make a decision on a small problem and create a probable scenario of action from the main one.
Trial and error	The simplest decision-making method that is best suited for managers with a lack of experience or lack of expertise in the right field. It is also used to find a solution to a new problem that has not been encountered before, or in the absence of complete information on the situation. The method allows to make a decision in the shortest possible time. Its essence is to collect all possible approaches to the existing problem without trying to streamline them.
Control Question Method	This method allows you to streamline the procedure for choosing the right solution as much as possible. Its essence is to find solution options based on a number of leading questions. They are created individually depending on the characteristics of thinking. Each of them hides a keyword, all of them are arranged in a logical sequence.

Source: compiled by the authors according to [4]

Thus, from the above-mentioned Table 1 it can be concluded that there are various methods for analyzing the effectiveness of managerial decision-making at the enterprise, which give a complete description of the existing risks and the likelihood of new ones.

To begin with, it should be noted that operational risk is an economic term that describes a group of risks that arise in the course of the current activities (operations) of a bank or enterprise, it is the risk of direct or indirect losses caused by errors or imperfections of processes, systems in the organization, errors or insufficient qualifications of the organization's personnel or adverse external events of a non-financial nature (for example, fraud or natural disaster). This definition also includes legal risk (i.e., the risk that arises from non-compliance with the requirements of legislation, contracts, accepted practices, as well as due to the possibility of ambiguous interpretation of laws and regulations), but does not include strategic and reputational risks [12].

Types of operational risks were analyzed from Fig. 2, it can be seen that they consist of commercial, industrial and legal risks. Commercial risks have the following structure: marketing, trade risks, transport, settlement and property risks. Production risks include: the sphere of production, production infrastructure, main production activity, innovative, security and personnel spheres. Legal risks consist of the following risks: environmental, personal, non-fulfillment of contracts, organizational and managerial, risks of negligence, risks of incompetence.

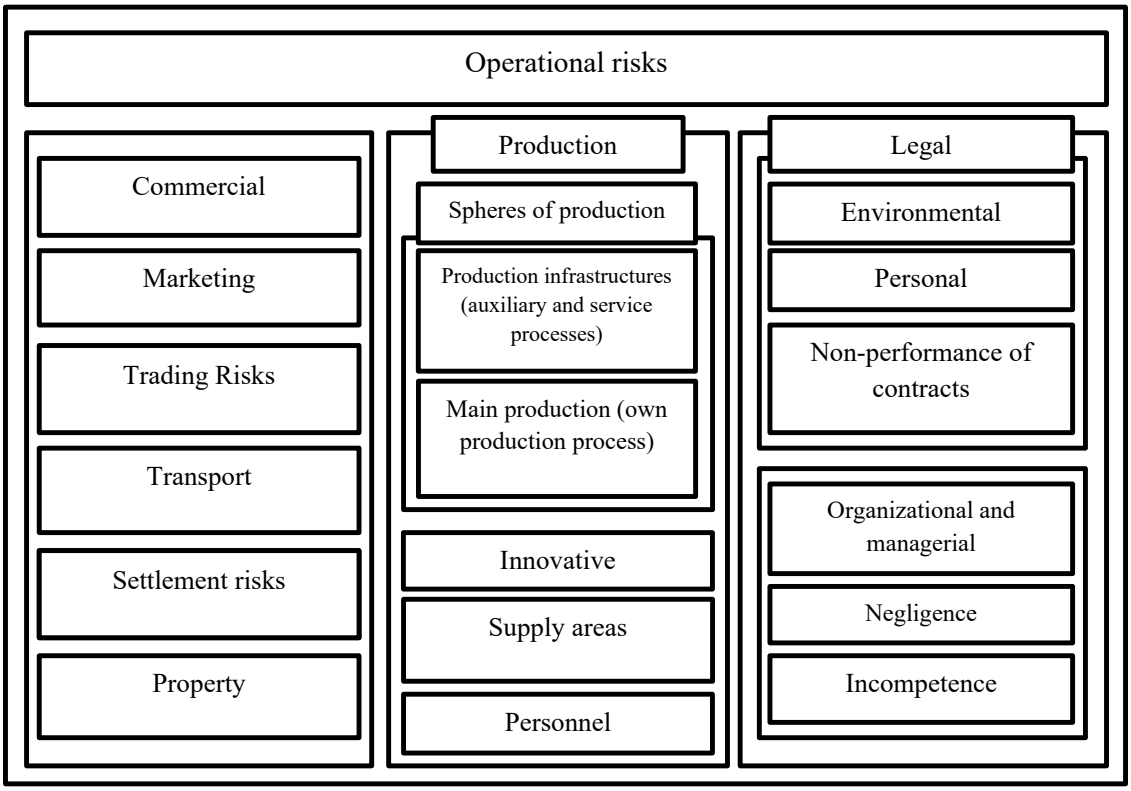

Figure 2. Classification of operational risk of an industrial enterprise

Source: compiled by the authors according to [12]

Therefore, "Danisco Ukraine" LLC was chosen for the consistency analysis. Its unrivaled product portfolio is the most robust in the industry, and the enterprise holds leadership positions in key categories of taste, texture, aroma, nutrition, enzymes, cultures, soy proteins, and probiotics [5]. In general, to begin with, the financial and economic activities of "Danisco Ukraine" LLC for the period 2019–2023 were analyzed (Table 2).

Table 2

Financial and economic activities of "Danisco Ukraine" LLC for the period 2019-2023

Indicators	2019	2020	2021	2022	2023	Deviations 2019-2023	
						+/-	%
Non-current assets	10860	7406	11595	9403	13900	3040	28%
Current assets	221448	180712	193213	356956	339390	117942	53%
Equity	218819	170923	188356	259697	271929	53110	24%
Long-term liabilities and provisions	1401	1600	1733	2378	5375	3974	284%
Current liabilities and provisions	12088	15595	14719	104284	75986	63898	529%
Net income from the sale of products (goods, works, services)	333999	428445	576188	517638	576188	242189	73%

Source: compiled by the authors according to [13]

Such a situation is observed that for the period 2019-2023. All indicators of "Danisco Ukraine" LLC had a positive trend, that is, the financial condition of this enterprise improved. The above-mentioned indicators had the following values: current liabilities and provisions (529%), gross: profit (371%), long-term liabilities and provisions (284%), net income from the sale of products (goods, works, services) (73%), current assets (53%), non-current assets (28%), equity (24%).

To calculate the level of agreement of the opinions of five experts, the concordance coefficient or Student's t-test is used. It can be noted that the concordance coefficient of experts' opinions is ranked in several stages: first, the total rank of importance is determined according to actual expert assessments, and then – in the case of complete agreement of opinions. In Fig. 3, the formula for the concordance coefficient was given: [15, p. 13]

$$W = \frac{12S}{m^2 * \left(n^3 - n\right) - m\sum\left(t^3 - t\right)}, \quad (1)$$

where *m* is the number of experts,

n is the number of questions,

t is the number of identical ranks for each question,

S is the sum of the squares of the deviation of the sum of m ranks from their mean value m.

It is noted that concordance is understood as the agreement of experts' opinions through the use of a system of indicators. Consistency and generalization of the experts' opinions of the team according to different directions (factors, parameters) is usually carried out using methods of statistical analysis of the results of sample observation using indicators of data variation, frequency or indicators of the distribution center [14].

It is highlighted that the expert assessment is performed by analyzing the priority of the type of risk to which each expert would assign a score of one point, based on the minimum total rank of the importance of the risk defined in the previous table (source data), etc. with increasing importance of risks. The total rank of importance in the case of complete agreement of opinions is defined as the product of expert assessment and the number of experts who participated in the survey [15, p. 14].

Variances of total expert assessments are calculated using Formulas 2 and 3:

actual expert assessments:

$$\sigma_{\phi}^2 = \left(x_{i\phi} - \bar{x}\right)^2 \quad (2)$$

assessments in case of complete coincidence of opinions:

$$\sigma_{max}^2 = \left(x_{i_{max}} - \bar{x}\right)^2, \quad (3)$$

where $x_{i\phi}$ – actual expert assessments (according to the total rank of importance);

$x_{i_{max}}$ – expert assessments in case of coincidence of opinions (according to the total rank of importance);

$\bar{x}$ - the average value of expert evaluation form objects appointed by n experts, calculated by the formula:

$$\bar{x} = \frac{n\left(m+1\right)}{2}. \quad (4)$$

The simplified method of expert risk assessment is based on a graphical representation of its results. Graphical interpretation consists in constructing the differential and integral function of the distribution of a random variable and further processing the results according to the method.

According to the previously considered formulas, an analysis of the expert assessment of the essential risks of the enterprise's activity, the expert assessment of the essential risks of the enterprise "Danisco Ukraine" LLC in the pre-war and post-war period was carried out – the military period of 2022–2023 (Table 3).

Table 3

Calculation of the level of consistency of opinions of five experts using the concordance coefficient for the pre-war and post-war period of "Danisco Ukraine" LLC

Year	For the period 2019–2021			For the period 2022–2023		
Level of consensus among experts	Environmental Risk	Production Risk	Social Risk	Environmental Risk	Production Risk	Social Risk
	0,16	0,95	0,96	0,47	0,23	0,31
	low level of consistency of expert assessments	high level of consistency of expert assessments	high level of consistency of expert assessments	average level of consistency of expert assessments	low level of consistency of expert assessments	average level of consistency of expert assessments

Source: compiled by the authors according to [6–8]

From the study (Table 3) it can be concluded that the concordance coefficient is used in statistical studies, that is, in a situation in which an object can be characterized not by two sequences, but by several, which are appropriately ranked with the help of experts who have the same level of professionalism in a particular field. In general, it is noted that the consistency of the rankings made by the experts needs to be determined to confirm the validity of the hypothesis that the experts produce relatively accurate measurements. As a result, this will allow for the formation of different groupings in expert groups in the future, which are largely determined by human factors, such as differences in views, concepts, different scientific schools, the nature of professional activity, etc.

In today's space, especially in the latter, as of today, the effective operation and development of enterprises is affected by the war. Therefore, an important role in the accumulation of as many financial resources as possible in the reserve base of an economic entity and the protection of competitive positions depends very much on effective managerial decision-making through the creation of an effective risk management system.

It should be noted that risk management is a process of influencing a business entity, which ensures the widest possible range of risks, their reasonable acceptance and reduction of the degree of their impact on the entity to the minimum, as well as the development of a strategy for the behavior of this entity in the event of the implementation of specific cases of risks [9].

The main features of risk management are as follows:

– a system that unites decision-makers and executors, establishes links between them and the order of their interaction;

– activities in the course of which management decisions are made and executed;

– the purpose of the risk management system is to reduce the impact of unforeseen events on the organization's operations.

In general, the main stages of risk management can be defined: risk expertise, risk analysis, information and communication, decision-making and ensuring the implementation of risk management measures, control and analysis of the effectiveness of risk management processes. Therefore, according to the expert assessment of the main three risks, it is necessary to develop software for the successful identification of risks, as well as factors influencing effective managerial decision-making in order to create an effective risk management system and partially or completely eliminate the existing negative impact of the risks under consideration on "Danisco Ukraine" LLC (Fig. 3).

Today, neural networks are actively developing in the era of technology dominance. In general, it should be noted that neural networks are computing systems inspired by the structure and function of the brain. They include layers of neurons that communicate with each other to make predictions or make decisions. Among the main types of neural networks are: [10]

– Artificial Neural Networks (ANN);
– Convolutional Neural Networks (CNN);
– Recurrent Neural Networks (RNN);
– Deep Neural Networks (DNN);
– Deep Learning Networks.

Therefore, it can be summarized that when developing and implementing an economic map for the enterprise in question, based on a neural network, it will help to increase the efficiency of managerial decision-making at "Danisco Ukraine" LLC and will help reduce the impact of various risks on the activities of a business entity in the future. In addition, this software will allow you to effectively manage environmental, industrial and social risks at industrial enterprises under risk conditions.

Conclusions. In general, from the conducted study, it was noted that effective management decision-making by the management of the business entity will contribute to the further expansion of the enterprise in the future. The features of the structure of the management decision-making system are characterized. The article also provides a number of methods for analyzing the effectiveness of managerial decision-making at an enterprise such as: qualitative methods, quantitative methods, expert evaluation method, brainstorming, game theory, decomposition method and control questions method. The above methods help business entities to choose the best option to ensure effective management of the organizational structure of the entity, operating with current data and the results of research among the staff of various units. In addition, there are a large number of risks that determine the features of the enterprise, especially in war conditions. In the context of the economic crisis, which is caused by negative political factors, production, environmental and social risks in the state have an extremely strong impact on the functioning of the domestic enterprise "Danisco Ukraine" LLC, when compared with a number of others. Therefore, it was important to consider the nature and types of risks, as well as their impact on the activities of the enterprise. The study was conducted due to the analysis of the main indicators of calculation and further assessment of the pre-war and post-war indicators of concordance of opinions as of 2019-2023 was carried out. So, the process of management decision-making has a systematic nature, which consists of elements that influence the final formation of management at "Danisco Ukraine" LLC. Therefore, taking into account the study of the need to acquire the introduction of software economic maps for enterprises based on a neural network for "Danisco Ukraine" LLC, taking into account the current trends in the development of AI and the dynamics of digital processes over the past decades.

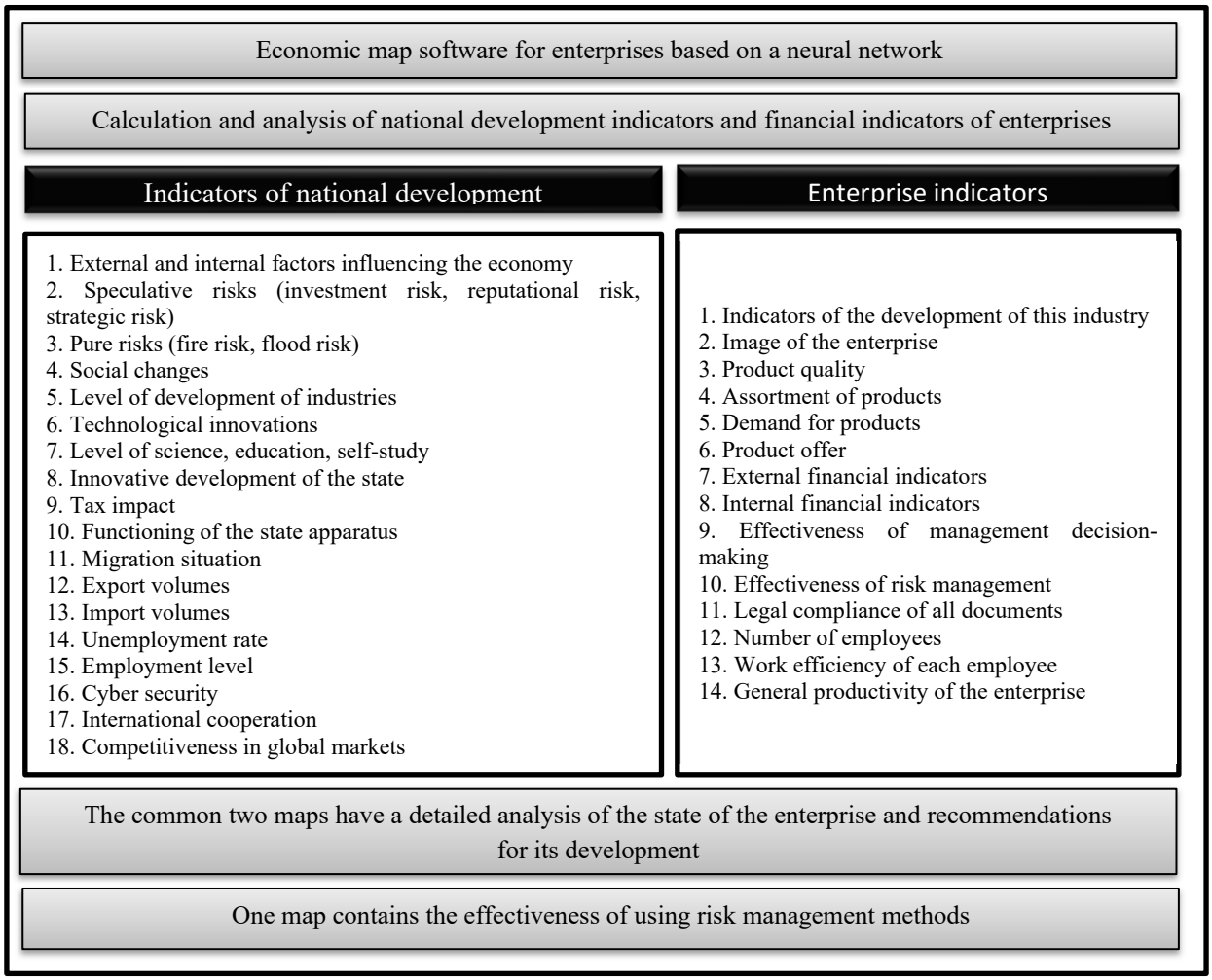

Figure 3. Economic maps for enterprises based on a neural network for "Danisco Ukraine" LLC

Source: compiled by the authors according to [10; 11]

REFERENCES:

1. Nalivayko L., Symonenko T. (2019) Metodu pryiniattia upravlinskyh rishen [Management decision-making methods: synopsis of lectures on academic discipline.]. Konspekt lekcij z navchalnoij dyscypliny. Dnipro: Dnipropetrovskyij derzhavnyij universytet vnutrishnih sprav. 67 p. Available at: https://dduvs.in.ua/wp-content/uploads/files/Structure/library/student/lectures/2020/kzpd/z/zl16.2.pdf (accessed September 22, 2024). (in Ukrainian)

2. Kuznecova I. O. (eds.) (2023) Tehnologiji pryjniattia upravlinskyh rishen: monografija [Technological perception of management decisions: monogr.]. Harkiv: «Disa plus», 430 p. Available at: http://surl.li/uyfnel (accessed September 25, 2024). (in Ukrainian)

3. Kravchenko M. O., Goluk V. Ja., (2022) Pryjniattia upravlinskych rishen: sutnist ta suchasni tendenciji rozvytku [Making management decisions: essence and modern development trends]. *Ekonomika ta suspilstvo,* no. 40. Available at: https://economyandsociety.in.ua/index.php/journal/article/view/1473/1419 (accessed September 26, 2024). (in Ukrainian)

4. Shkola biznesu. Nova poshta. [School of business. New mail]. Available at: https://online.novaposhta.education/blog/metodi-uhvalennya-upravlinskih-rishen#3403 (accessed September 27, 2024). (in Ukrainian)

5. UA-REGION. Available at: https://www.ua-region.com.ua/33548609 (accessed September 28, 2024). (in Ukrainian)

6. Vojcickyj V. M., Hyzhniak S. V., Danchuk V. V., Midyk S. V., Gryshuk I. A., Ushkalov V. O. Ekologichni ryzyky: pryroda i kryteriji [Environmental risks: nature and criteria]. *Naukovo-praktychnyj zhurnal,* no. 4(31), pp. 131–135. Available at: http://ecoj.dea.kiev.ua/archives/2020/4/23.pdf (accessed October 1, 2024). (in Ukrainian)

7. Pozhujeva T. O. Vyrobnychyj ryzyk jak skladova suchasnogo pidpryjemnyctva [Production risk as a component of modern entrepreneurship]. P. 68–74. Available at: https://core.ac.uk/download/pdf/162895798.pdf (accessed October 2, 2024). (in Ukrainian)

8. Vlasenko R. V., Jacenko L. D. (2023) Socialni ryzyky Ukrajiny v umovah vsjny ta povojennogo vidnovlennia [Social risks of Ukraine in the conditions of war and post-war recovery]. *Problemy suchasnyh transformacij. Serija: ekonomika ta upravlinnya,* no 7. Available at: https://reicst.com.ua/pmt/article/view/2023-7-07-01/2023-7-07-01 (accessed October 3, 2024). (in Ukrainian)

9. Borovyk M. V. (2018) Pyzyk-menedzhment: konspekt lekcij dla studentiv magistratury usih form navchannia specialnosti 073 – Menedzhment / M. V. Borovyk; Harkiv. nac. un-t misk. gosp-va im. O. M. Beketova. [Risk management: summary of lectures for master's students of all forms of study, specialty 073 – Management]. Harkiv: HNUMG im. O. M. Beketova, 65 p. Available at: https://eprints.kname.edu.ua/62534/1/%D0%91%D0%BE%D1%80%D0%BE%D0%B2%D0%B8%D0%BA%2C%20151%D0%9B%2C%202022%2C%20pdf.pdf (accessed October 4, 2024). (in Ukrainian)

10. Cpashka. Rizni vydy nejromerezh i jih zastosuvannia [Cpashka.. Different types of neural networks and their applications]. Available at: https://cpashka.biz/blog/rizni-vydy-nejromerezh-i-ikh-zastosuvannia/ (accessed October 5, 2024). (in Ukrainian)

11. Genesis. Nejromerezha: sho ce, jak pracuje, najkrashi pryklady [Genesis. Neural network: what it is, how it works, best examples]. Available at: https://www.gen.tech/post/sho-take-neiromerezhi (accessed October 6, 2024). (in Ukrainian)

12. Mizhnarodni naukovi internet-konferenciji. Klasyfikacija operacijnoho ryzyku jak zasib modeluvannia. [Operational risk classification as a modeling tool: international scientific Internet conferences]. Available at: https://economyandsociety.in.ua/index.php/journal/article/view/515 (accessed October 14, 2024). (in Ukrainian)

13. Clarity-project. TOV «Danisko Ukrajina» [Clarity-project. "Danisko Ukraine" LLC]. Available at: https://clarity-project.info/edr/33548609/finances?current_year=2020 (accessed October 17, 2024). (in Ukrainian)

14. Grinko I. M. (2021) Konkordacija ekspertiv – zaporuka uspihu v rozrobci strategij rozvytku krajin v industriji 4.0 [The concordance of experts is the key to success in the development of strategies for the development of countries in Industry 4.0]. *Ekonomika ta suspilstvo*. no. 28. Available at: https://economyandsociety.in.ua/index.php/journal/article/view/515/493 (accessed October 19, 2024). (in Ukrainian)

15. Kaluzhna Yu. V. (2017) Ryzykologija. Metodychni rekomendaciji do praktychnyh zaniat dla zdobuvachiv stupenia vyshoji osvity bakalavra specialnosti «Marketyng» [Methodical recommendations for practical classes for applicants of a bachelor's degree in "Marketing"]. Zaporizhzhia: Zaporizkyj nacionalnyj universytet. 36 p. Available at: https://dspace.znu.edu.ua/jspui/bitstream/12345/5260/1/%D0%9A%D0%B0%D0%BB%D1%8E%D0%B6%D0%BD%D0 %B0_2017.pdf (accessed October 22, 2024). (in Ukrainian)

СПИСОК ВИКОРИСТАНИХ ДЖЕРЕЛ:

1. Наливайко Л., Симоненко Т. Методи прийняття управлінських рішень. Конспект лекцій з навчальної дисципліни. Дніпро: Дніпропетровський державний університет внутрішніх справ. 2019. 67 с. URL: https://dduvs.in.ua/wp-content/uploads/files/Structure/library/student/lectures/2020/kzpd/z/zl16.2.pdf (дата звернення: 25.09.2024).

2. Технології прийняття управлінських рішень: монографія / За заг. ред. док. екон. наук, професора І.О. Кузнецової. Харків : «Діса плюс», 2023. – 430 с. URL: http://surl.li/uyfnel (дата звернення: 26.09.2024)

3. Кравченко М.О., Голюк В.Я., Прийняття управлінських рішень: сутність та сучасні тенденції розвитку. *Економіка та суспільство*. 2022. № 40. URL: https://economyandsociety.in.ua/index.php/journal/article/view/1473/1419 (дата звернення: 27.09.2024).

4. Школа бізнесу. Нова пошта. URL: https://online.novaposhta.education/blog/metodi-uhvalennya-upravlinskih-rishen#3403 (дата звернення: 27.09.2024).

5. UA-REGION. URL: https://www.ua-region.com.ua/33548609 (дата звернення: 28.09.2024).

6. Войціцький В.М., Хижняк С.В., Данчук В.В., Мідик С.В., Грищук І.А., Ушкалов В.О. Екологічні ризики: природа і критерії. *Науково-практичний журнал*. № 4(31). С. 131–135. URL: http://ecoj.dea.kiev.ua/archives/2020/4/23.pdf (дата звернення: 01.10.2024).

7. Пожуєва Т.О. Виробничий ризик як складова сучасного підприємництва. С. 68–74. URL: https://core.ac.uk/download/pdf/162895798.pdf (дата звернення: 02.10.2024)

8. Власенко Р.В., Яценко Л.Д.. Соціальні ризики України в умовах війни та повоєнного відновлення. *Проблеми сучасних трансформацій. Серія: економіка та управління.* 2023. No. 7. URL: https://reicst.com.ua/pmt/article/view/2023-7-07-01/2023-7-07-01 (дата звернення: 03.10.2024).

9. Боровик М.В. Ризик-менеджмент: конспект лекцій для студентів магістратури усіх форм навчання спеціальності 073 – Менеджмент. Харків. нац. ун-т міськ. госп-ва ім. О. М. Бекетова. Харків: ХНУМГ ім. О. М. Бекетова, 2018. 65 с. URL: https://eprints.kname.edu.ua/62534/1/%D0%91%D0%BE%D1%80%D0%BE%D0%B2%D0%B8%D0%BA%2C%20151%D0%9B%2C%202022%2C%20pdf.pdf (дата звернення: 04.10.2024).

10. Cpashka. Різні види нейромереж і їх застосування. URL: https://cpashka.biz/blog/rizni-vydy-nejromerezh-i-ikh-zastosuvannia/ (дата звернення: 05.10.2024).

11. GENESIS. Нейромережа: що це, як працює, найкращі приклади. URL: https://www.gen.tech/post/sho-take-neiromerezhi (дата звернення: 06.10.2024).

12. Міжнародні наукові інтернет-конференції. Класифікація операційного ризику як засіб моделювання. URL: https://economyandsociety.in.ua/index.php/journal/article/view/515 (дата звернення: 14.10.2024).

13. Clarity-project. ТОВ «Даніско Україна». URL: https://clarity-project.info/edr/33548609/finances?current_year=2020 (дата звернення: 17.10.2024).

14. Грінько І.М. Конкордація експертів – запорука успіху в розробці стратегій розвитку країн в індустрії 4.0. *Економіка та суспільство*. 2021. № 28. URL: https://economyandsociety.in.ua/index.php/journal/article/view/515/493 (дата звернення: 19.10.2024).

15. Калюжна Ю.В. Ризикологія. Методичні рекомендації до практичних занять для здобувачів ступеня вищої освіти бакалавра спеціальності «Маркетинг». Запоріжжя: Запорізький національний університет, 2017. 36 с. URL: https://dspace.znu.edu.ua/jspui/bitstream/12345/5260/1/%D0%9A%D0%B0%D0%BB%D1%8E%D0%B6%D0%BD%D0%B0_2017.pdf (дата звернення: 22.10.2024).

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Alla Cherep, Doctor of Economic Sciences, Professor, Zaporizhia National University. **Serhii Tkachenko**, PhD in Technical Sciences, Associate Professor, Zaporizhia National University. **Nataliia Kairachka**, Master Student, Zaporizhzhia National University. **Features of increasing the efficiency of management decisions at "Danisko Ukraine" LLC under the conditions of risk.**

The article examines the essence and significance of management decision-making at a domestic enterprise in the context of risk. The main elements of the overall structure of the management decision-making system were also characterized. The main methods of analysis of efficiency of managerial decision-making at the enterprise are considered, which allow a deeper study of various aspects of the work and conduct of the enterprise in the field of marketing, maintaining financial stability based on various economic indicators of financial statements, formation of logistics distribution channels, development of innovations and implementation of purely new innovative solutions, based on foreign experience, analysis of the features of the production process and the hierarchical structure of interaction between management and employees of the business entity. The main indicators of determining the expert assessment were analyzed: the concordance coefficient, Student's t-test, actual expert assessments, assessment in the case of complete coordination of opinions and the average value of expert assessments. The classification of operational risk of an industrial enterprise is specified. An analysis of the level of consistency of opinions of five experts using the concordance coefficient for the pre-war and post-war period (2019-2023) of "Danisco Ukraine" LLC is provided. The essence of risk management and its main structural features are indicated: a system that unites decision-makers and executors, which establishes links between them and the order of their interaction; activities in the course of which management decisions are made and executed; the purpose of the risk management system is to reduce the impact of unforeseen events on the organization's operations. The main stages of risk management in the context of the enterprise under consideration are characterized. It is highlighted that neural networks are computing systems that are inspired by the structure and functions of the brain. The main types of neural boundaries are defined: Artificial Neural Networks (ANN), Convolutional Neural Networks (CNN), Recurrent Neural Networks (RNNs), Deep Neural Networks (DNNs) and Deep Learning Networks. The software economic maps for enterprises based on a neural network for "Danisco Ukraine" LLC are proposed. It is assumed that this development will help to reduce the negative impact of the risks under consideration on the efficiency of managerial decision-making at industrial enterprises under risk conditions.

Key words: management decision-making, system, methods of analysis, expert assessment, risk management.

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Череп Алла Василівна, доктор економіних наук, професор, Запорізький національний університет. **Ткаченко Сергій Миколайович**, кандидат технічних наук, доцент, Запорізький національний університет. **Кайрачка Наталія Василівна**, магістр, Запорізький національний університет. **Особливості підвищення ефективності прийняття управлінських рішень на ТОВ «Даніско Україна» в умовах ризику.**

У статті розглядається сутність та значення прийняття управлінських рішень на вітчизняному підприємстві в контексті ризиковості. Також було охарактеризовано основні елементи загальної структури системи прийняття управлінських рішень. Розглянуто основні методи аналізу ефективності прийняття управлінських рішень на підприємстві, які дозволяють глибше вивчити різноманітні аспекти роботи та ведення діяльності підприємства в сфері маркетингу, збереження фінансової стабільності, яка базується на різноманітних економічних показниках фінансової звітності, формуванню логістичних каналів збуту, розробка інновацій та впровадження суто нових інноваційних рішень, спираючись на іноземний досвід, аналіз особливостей виробничого процесу та ієрархічної структури взаємодії між керівництвом та працівниками суб'єкту господарювання. Проаналізовані основні показники визначення експертної оцінки: коефіцієнта конкордації, t-критерія Стьюдента, фактичні експертні оцінки, оцінка у випадку повного узгодження думок та середнє значення експертних оцінок. Зазначено класифікацію операційного ризику промислового підприємства. Надано аналіз рівня узгодженості думок п'яти експертів за допомогою коефіцієнта конкордації на довоєнний та повоєнний період (2019-2023 рр.) ТОВ «Даніско Україна». Зазначено сутність ризик-менеджмент та основні його наступні структурні особливості: система, що об'єднує осіб, які приймають рішення, і виконавців, що

встановлює зв'язку між ними і порядок їх взаємодії; діяльність, в процесі якої приймаються і виконуються управлінські рішення; метою системи управління ризиками є зменшення впливу непередбачених подій на діяльність організації. Охарактеризовано основні етапи управління ризиками в контексті розглянутого підприємства. Виокремлено, що нейромережі є обчислювальними системами, які натхненні структурою і функціями роботи мозку. Визначено основні види нейромеж: штучні нейронні мережі (Artificial Neural Networks, ANN), згорткові нейронні мережі (Convolutional Neural Networks, CNN), рекуррентні нейронні мережі (Recurrent Neural Networks, RNN), глибокі нейронні мережі (Deep Neural Networks, DNN) та мережі глибокого навчання (Deep Learning Networks). Запропоновано програмне забезпечення економічні карти для підприємств на основі нейронної мережі для ТОВ «Даніско Україна». Передбачається, що дана розробка допоможе забезпечити зниженню негативному впливу розглянутих ризиків на ефективність прийняття управлінських рішень на промислових підприємствах в умовах ризику.

Ключові слова: прийняття управлінських рішень, методи аналізу, експертна оцінка, ризик-менеджмент, нейронні мережі.