The object of this study is a technique to reduce the personnel risks of an organization operating in a developing country under difficult conditions in order to improve the efficiency of staff. The form of ownership of the organization is state-owned, the number of employees is 120 people. The duration of the period for assessing the effectiveness of staff work and monitoring the impact of personnel risks on the organization is 4 weeks. It has been established that the organization has an integrated personnel risk management system. It enables fulfilling an average of 74 % of tasks and is not effective. Given this, an integrated personnel risk management system was developed based on the European approach. For this purpose, using technology transfer, information was obtained on the functioning of an effective personnel risk management system. After that, it was improved taking into consideration the peculiarities of the functioning of the organization when performing tasks. In addition, hard- and soft-skills of personnel were taken into consideration, thus, the complex effect of factors increasing the organization's resilience to personnel risks was taken into account. To implement the personnel risk management system in the organization's activities, a road-map was developed. Duration of implementation – 3 weeks. To assess the effectiveness of an integrated system for combating personnel risks, a comparative method was used for the qualitative and quantitative effectiveness of the tasks of 4 teams of the organization. Two of them worked according to the standard personnel risk management system, and 2 – according to the implemented one. The comparison was performed with the available data on the effectiveness of identical tasks for a period of 4 weeks. It has been established that the implemented comprehensive risk management system is effective, as it provides 100 % fulfillment of tasks under difficult conditions. The developed system can be used to improve the effectiveness of the tasks set for organizations in developing countries

Keywords: efficiency, personnel security, personnel risk, personnel, risk management, risk management system

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BUILDING AN EFFECTIVE PERSONNEL RISKS MANAGEMENT SYSTEM OF THE ORGANIZATION

Nazar Podolchak
Doctor of Economic Sciences, Professor,
Head of Department*
Natalia Tsygylyk
Corresponding author
Doctor of Philosophy, Associate Professor*
E-mail: nataljatsyg@ukr.net
Yurii Dziurakh
Doctor of Philosophy (Public Administration)
Associate Professor*
*Department of Administrative
and Financial Management
Lviv Polytechnic National University
S. Bandery str., 12, Lviv, Ukraine, 79013

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1. Introduction

In the course of their work, all organizations are exposed to negative external and internal factors, which are reflected in performance indicators and profits [1]. Personnel risks are especially dangerous since the financial and economic security of the organization depends on their successful reduction or leveling by 70 %. Risk management in the world is guided by the ISO 31000:2018 standard; it is based on the interaction of three main components of risk management: principles, structure, and process [2]. It also spells out the basics of personnel risk management. This uses the Shewhart-Deming principle (PDCA cycle), the purpose of which is to continuously improve processes. Since the modern world is VUCA-type: that is volatile, uncertain, complex, and ambiguous, HR risk management methods in developing countries are ineffective. After all, they are used according to templates that were developed in the last century. In developed countries, the effect of difficult conditions is quickly leveled. This is due to the use of a different risk management methodology, in particular, personnel.

It should be noted that organizations in developing countries cannot completely copy the personnel risk management system of developed countries. This is due to differences in the management style and organizational structure of organizations. Therefore, research into personnel risk management in the organization of a developing country under difficult conditions is relevant. In particular, it is necessary to focus on the formation of an effective personnel risk management system based on European experience. At the same time, it is advisable to apply technology transfer in order to make changes in the organization in a short time. In addition, it is necessary to take into consideration the peculiarities of the organizational structure and personnel of the organization of the developing country. The obtained results will have direct practical use. The developed system will find its direct application in organizations of developing countries. At the same time, it will function effectively under the conditions of a complex modern VUCA world.

2. Literature review and problem statement

Many review and scientific-practical articles report studies of crisis management and risk management in various fields. In particular, after analyzing in detail the fundamentals of the functioning of risk management, scientists came to the conclusion that the issue of risk management

until 2016 did not have a serious basis [3]. This conclusion is based on the statement that risk forecasting is conducted using probability theory and personal judgments that may not be fully objective. In addition, the cited work emphasizes the need for further study of ways to interpret uncertainty in risk assessments and involve a methodology for determining sustainability. Despite the very voluminous work done on the critical analysis of the theoretical base, the author of the research bypasses the capabilities of the risk management system in the organization.

Work [1] showed the importance of learning the risks in complex organizations and described in detail the mistakes that are made in the formation of the countermeasures system. The cited work was based on the statement that risks can be studied from two sides: using a personal and systematic approach. At the same time, each option used its own model of causality and, as a result, a management philosophy. It was concluded that in order to form an effective risk management system, there is an understanding of the qualitative differences between the types of risks – internal, strategic, and external. In particular, internal risks do not cause much harm to organizations and need to be eliminated. Strategic risks can be taken if higher profits are obtained as a result. External risks need to be identified and mitigated in time. As an option to mitigate the impact, it is proposed to provide systematic training and communication to analyze the factors that lead to errors. Despite the rather voluminous study, the authors did not study the effectiveness of the work of a group of workers in the application of risk management, limiting themselves only to citing the fact of the situation. In addition, the working conditions imposed by martial law in the country were not investigated.

Other authors, such as [4], reported the study of the influence of the human factor on risks in the service sector. For integrated measurement of the risk zone under the dominant action of the human factor, a sociogram of relationships in the group and the concept of modeling production risk management were used. However, it also did not take into consideration the strong external influences that cause stress in the group.

Studies show that more scientists rely on an integrated approach to assessing and regulating the risks of organizations in the crisis management system. In [5], it was proposed to determine the integral indicator of the level of crisis state of the organization. The scientists have developed and tested an approach that makes it possible to comprehensively diagnose the occurrence of a crisis at the enterprise, taking into consideration the provisions of the BSC balanced scorecard. Having included the marketing component in the calculations, the authors did not take into consideration environmental factors of a non-market nature, in particular technological ones.

Fragmentary, integrated, and comprehensive approaches in the formation of the risk management system of the enterprise is highlighted by the author of another work [6]. In particular, it is noted that the main elements in the formation of the risk management system should be goal, object and subject, methods, techniques, tools, and functional directions.

In work [7], it is noted that risk management should become an indispensable component of the overall management of the enterprise. In addition, the scientists have concluded that the basis of the risk management of an enterprise should be an individual approach to each type of organization. This statement is based on the fact that organizations differ in type of activity, financial stability, percentage of shareholder participation in management, strength, and nature of the influence of internal and external factors. The cited study also lacks an assessment of the effectiveness of the developed enterprise risk management system.

The authors of [8] focused their research on the interaction of risks in the organization. In particular, they reported a detailed study of the question of the dependence of the perception of the degree of risk on the cognitive worldview and the technique by which this risk is assessed. However, the practical results of comparing the effectiveness of the methods used are not given.

In [9], an express method for assessing financial security was developed in order to prevent the occurrence of risks in the activities of organizations but the innovative component of their management, which has a certain range of indicators for determining the level of security, was not taken into consideration.

Studies [10, 11] propose a comprehensive methodology for identifying the risks of sustainable development of agricultural enterprises, based on the calculation of absolute and relative indicators of changes in the cost of capital under the influence of the identified accounting, economic, personnel, environmental, and social risks. The novelty of this technique is in the combination of risk identification techniques within the specificity of achieving sustainable development by agricultural enterprises. In line with the study, the authors revealed the main shortcomings of accounting practice, affecting the change in the size of the capital of enterprises. However, the practical significance cannot extend to all types of organizations, including European ones, but only for use by agricultural enterprises in identifying factors affecting the profitability of anti-risk measures to improve sustainable development.

Paper [12] shows the significant impact of the Covid-19 pandemic on HR management techniques. 9 main problems in 13 industries have been identified. It was concluded that the impact of difficult conditions must necessarily be taken into consideration in the personnel risk management system. However, it is not described exactly how.

It has been established that the activities of innovative companies are constantly under the influence of a significant number of high-level economic and personnel risks. In order to improve the efficiency of risk management innovation, it is proposed to form and use a number of accounting reserves [13]. However, such research results cannot be of practical value due to the fact that they do not make it possible to increase the effectiveness of risk management and reduce them to an acceptable level in the organization as a whole [14–18].

The above suggests that it is not enough to develop a personnel risk management system for a particular type of organization. It is advisable to evaluate the effectiveness of this system in practice.

3. The aim and objectives of the study

The aim of this study is to form an effective personnel risk management system for an organization that operates under difficult conditions. This will make it possible to increase the effectiveness of the tasks set for organizations in developing countries.

To accomplish the aim, the following tasks have been set:

– to establish the type and evaluate the effectiveness of the personnel risk management system, which operates in the organization under difficult conditions;

– based on European experience, transfer of the best European technologies and taking into consideration the individual characteristics of personnel, to form the components of the innovative system of personnel risk management and choose its type;

– to develop a roadmap for the implementation of the developed system of personnel risk management in the activities of the organization;

– to evaluate the effectiveness of the developed innovative system of personnel risk management, which operates in the organization under difficult conditions.

4. The study materials and methods

The object of this research is to increase the efficiency of organizations in developing countries to the influence of difficult conditions through the formation of an innovative system of personnel risk management. The main hypothesis of the study assumes that the type of personnel risk management system affects the effectiveness of the tasks assigned to the staff. The simplifications adopted in the study are the same intensity of the impact of external and internal risks on the organization's activities.

To form the foundations of an innovative personnel risk management system, organizations under difficult conditions used the method of expert assessments using the Delphi method. Specialists from higher educational institutions in the field of risk management were chosen as experts:

– 6 professors, doctors of economic sciences;

– 4 associate professors, candidates of economic sciences.

They were offered an individual survey in the form of an individual assessment table. The table was formed on the basis of a review of literary sources with the possibility of writing factors that affect the level of personnel security (Table 1). The degree of influence of factors on personnel risks was proposed to be assessed by experts on a scale from 0 to 1: 0 – lack of influence, 1 – very strong impact. To obtain the results of opinions on each factor given in Table 1 and submitted for discussion by experts, the arithmetic mean method was used, taking into consideration the weighting coefficient. For a doctor of economic sciences, the weighting factor was 2, for candidates of sciences – 1. After summarizing the answers of experts, the table was sent to experts for reconsideration and clarification for 5 times. Thus, an acceptable convergence of opinions expressed was achieved.

The degree of coherence of experts was determined by the coefficient of variation according to the formula:

$$C = \frac{\sigma \cdot 100\,\%}{M}, \tag{1}$$

where σ is the quadratic mean deviation;

M is the arithmetic mean.

Table 1

Input data for expert assessment of factors influencing personnel risks by the Delphi method

Stage	Impact factor specification	Impact degree
1	2	3
Risk identification	Timeliness of monitoring	*X*1
	Reliability of preliminary risk prediction	*X*2
	Taking into account the influence of force majeure circumstances	*X*3
	Competence of the person performing risk identification	*X*4
	Clear identification of obvious risks	*X*5
	Clear identification of latent risks	*X*6
	Degree of reliability of information	*X*7
	Timeliness of risk information	*X*8
	Timeliness of response to risk	*X*9
	Availability of resources for risk detection	*X*10
	Degree of uncertainty	*X*11
	The number of persons performing risk identification	*X*12
Risk analysis	Competence of the person performing the risk analysis	*X*13
	Number of persons performing risk analysis	*X*14
	Accurate risk classification	*X*15
	Clear and accurate identification of risk influencing factors	*X*16
	Adequate assessment of the degree of risk	*X*17
	Reliable estimation of error in risk analysis	*X*18
	Number of persons performing risk analysis	*X*19
Choosing an acceptable alternative	Competence of the person who chooses an acceptable alternative	*X*20
	Taking into account the influence of force majeure circumstances	*X*21
	The number of persons who choose an acceptable alternative	*X*22
	The possibility of applying an acceptable alternative in a specific organization	*X*23
	Adequate assessment of the speed of change in circumstances	*X*24
	A reliable estimate of the error when choosing an acceptable alternative	*X*25
	Experience in mitigating or neutralizing risk	*X*26

Continuation of Table 1

1	2	3
Choice of methods	Competence of the person who chooses the methods	*X*27
	The number of people who make a choice of methods	*X*28
	The possibility of applying the selected methods for the organization	*X*29
	Presence and seriousness of competitors	*X*30
	Taking into account the influence of force majeure circumstances	*X*31
	Effectiveness of the chosen method in specific circumstances	*X*32
Realization	Competence of the person carrying out the implementation	*X*33
	The number of persons carrying out implementation	*X*34
	Force majeure circumstances	*X*35
	The level of involvement of the organization's personnel in the implementation	*X*36
	Clarity of implementation	*X*37
	Implementation speed	*X*38
Monitoring	Competence of the person who carries out monitoring	*X*39
	The number of persons performing monitoring	*X*40
	Adequacy of monitoring	*X*41
	Frequency of monitoring	*X*42
	Monitoring speed	*X*43
	The level of interaction of persons conducting monitoring with personnel	*X*44

With a degree of coherence of experts of more than 30, the obtained data cannot be reliable, and the expert group should be replaced by another.

To highlight the best European experience for the application of technology transfer, deductive and inductive analyzes were used. To form an innovative system for managing personnel risks, organizations under difficult conditions used a comparative analysis of the obtained analysis results.

The experiment of comparing the effectiveness of the functioning of standard and innovative risk management systems was carried out for 2 weeks in a public administration organization with the number of working civil servants of 120 people under martial law in the country. Location – Ukraine, a developing country, the city of Lviv. The sample consisted of 4 teams of 10 people each. Two teams worked according to the standard HR risk management system, and 2 – according to the innovative one. At the same time, all team members by age belonged to generation U. Comparison was made with the available data on the effectiveness of performing identical tasks on a scale from 0 to 100 % for a period of 2 weeks. In the analysis of the results obtained, inductive and deductive qualitative and quantitative analysis of data on the effectiveness of the performance of identical tasks obtained as a result of observation and evaluation of the sample were used.

To process numerical data obtained as a result of the analysis of qualitative and quantitative indicators of the effectiveness of the tasks, the software Statistica 6.0 (USA) and Microsoft Excel (USA) were used. To interpret the results obtained and establish the relationship between the indicators, dialectical and formal-logical methods were used: analysis, logical synthesis, scientific abstraction, and generalization.

5. Research results for the formation of an effective innovative risk management system

5. 1. Results of determining the type and evaluating the effectiveness of the risk management system that operates in the organization

Fig. 1 shows a schematic image of the existing system of personnel risk management of an integrated type of organization, which is built on the basis of an analysis that we conducted.

To assess the effectiveness of this risk management system, the effectiveness of tasks for 4 weeks of the work of 4 teams of 16 people in each, including the team leader, who performed the same type and scope of work, was evaluated. It should be noted that the experiment was conducted under difficult conditions – with the fading Covid-19 pandemic and martial law in the country. The results are given in Table 2.

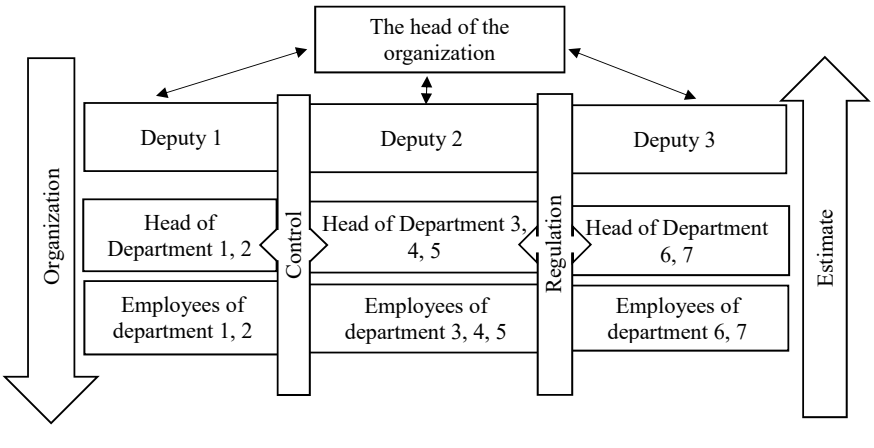

Fig. 1. Schematic representation of the existing risk management system of a fragmentary-type organization

The degree of performance of the tasks was assessed by the level of compliance with the predetermined results prescribed by the head.

Table 2

The results of the tasks in the functioning in the organization of the risk management system of the integrated type

Team name	The number of assigned tasks, pcs.	Expected level of performance of tasks, %	Actual level of performance of tasks, %
Team 1	7	100	70
Team 2	7	100	65
Team 3	7	100	82
Team 4	7	100	80

5. 2. Results for the development of an innovative risk management system

To build an innovative system of risk management, the method of expert assessments by the Delphi method was used. With the help of it, the components that have an impact on the quality and effectiveness of the functioning of the risk management system under difficult conditions were identified. Table 3 gives the results after 5 clarifications from experts. The degree of influence of factors on personnel risk from a numeric format is converted for convenience into a sign format. In Table 3, one plus indicates a low impact (from 0.1 to 0.5) of factors. Two plus signs indicate the average impact (from 0.5 to 0.7), three plus signs – a strong impact (more than 0.7). The minus indicates the absence of influence of factors (0). The degree of coherence of experts during the study was 5, which is an acceptable indicator for the method of expert assessments.

Based on the results of a detailed literary analysis, it was established that in developed countries the most popular and effective is a comprehensive system of risk management. The analysis of European experience confirmed the effectiveness of this type of risk management system in personnel risk management. It is its principles of functioning that correspond to the results of the factor analysis since they ensure the activity of the system in all departments and all stages of the organization's functioning. Therefore, such a system was chosen for implementation. For technology transfer, an organization was chosen that is geographically located in Europe and operates in the same field as the organization under study. An agreement was concluded with it on the transfer of a complex type of personnel risk management system with the possibility of its improvement.

Table 3

Results of selecting factors of influence for an innovative risk management system

Factor specification	Impact degree
Timeliness of monitoring	+++
Reliability of preliminary risk prediction	+
Taking into account the influence of force majeure circumstances	+++
Competence of the person performing risk identification	++
Clear identification of obvious risks	+
Clear identification of latent risks	+
Degree of reliability of information	–
Timeliness of risk information	+++
Timeliness of response to risk	+++
Availability of resources for risk detection	+
Degree of uncertainty	–
The number of persons performing risk identification	+
Competence of the person performing the risk analysis	+++
Number of persons performing risk analysis	+
Accurate risk classification	–
Clear and accurate identification of risk influencing factors	++
Adequate assessment of the degree of risk	+
Reliable estimation of error in risk analysis	_
Number of persons performing risk analysis	+
Competence of the person who chooses an acceptable alternative	+++
Taking into account the influence of force majeure circumstances	+++
The number of persons who choose an acceptable alternative	+
The possibility of applying an acceptable alternative in a specific organization	++
Adequate assessment of the speed of change in circumstances	+
A reliable estimate of the error when choosing an acceptable alternative	-
Experience in mitigating or mitigating risk	+
Competence of the person who chooses the methods	+++
The number of people who make a choice of methods	+
The possibility of applying the selected methods for the organization	++
Presence and seriousness of competitors	_
Taking into account the influence of force majeure circumstances	+++
Effectiveness of the chosen method in specific circumstances	+++
Competence of the person carrying out the implementation	+++
The number of persons carrying out implementation	+
Taking into account the influence of force majeure circumstances	+++
The level of involvement of the organization's personnel in the implementation	+++
Clarity of implementation	+++
Speed of implementation	+++
Competence of the person who carries out monitoring	+++
The number of persons performing monitoring	+
Adequacy of monitoring	+++
Frequency of monitoring	+++
Monitoring speed	+++
The level of interaction of persons conducting monitoring with personnel	+++

5. 3. Results of roadmap development of implementae tion of the devised risk management system in the organization's activities

Based on the analysis of the stages of implementation of an integrated risk management system, which was transferred by technology transfer, a number of features have been established. In particular, when introducing a complex-type system, selectivity should be avoided, and the system should be in place in all departments and all stages of the organization's activities. In addition, the management of the organization should be well versed in the conceptual approach and internal interactions in the organizational structure, as well as ensure the maintenance of efficiency in the implementation of specified standards. To do this, one should:

– avoid a high level of staff turnover in the organization;

– ensure a favorable psychological climate in the workplace;

– reduce the level of communication barriers;

– monitor the effectiveness of the personnel motivation system.

Fig. 2 shows the roadmap of the implementation of the developed risk management system in the organization's activities. The oriented implementation period is 21 days.

It should be noted that when implementing the developed system in the activities of the organization, special attention should be paid to quality control of implementation and elimination of communicative barriers.

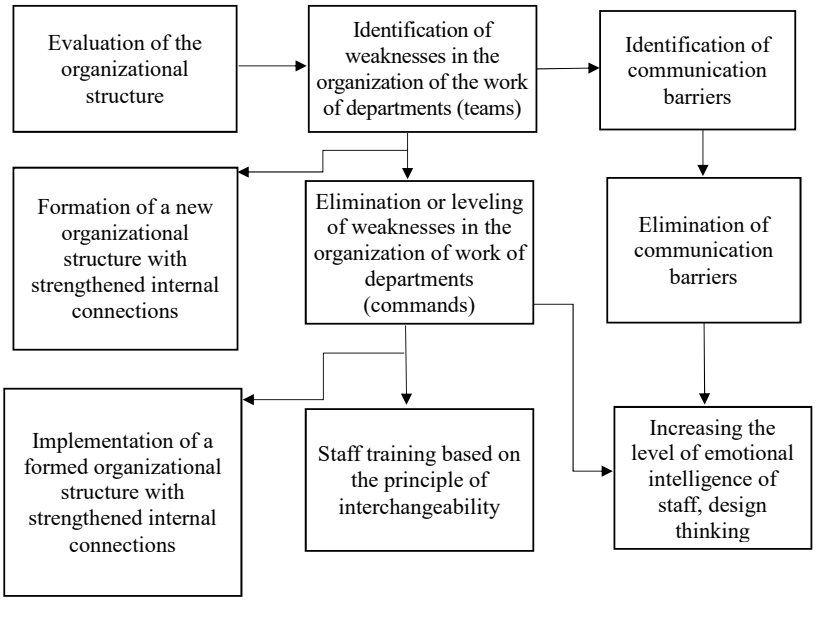

Fig. 2. Roadmap of implementation of the developed system of personnel risk management in the activities of the organization

5. 4. Results of evaluation of the effectiveness of the developed innovative risk management system

Table 6 gives the results of assessing the level of performance of the tasks in the functioning in the organization of an innovative system of personnel risk management of an integrated type.

It should be noted that the assessment was carried out on the actual results of the implementation of the tasks and was compared with clearly defined indicators of the level of performance of tasks by the head of the organization.

Table 6

The results of the tasks in the functioning in the organization of a risk management system of an integrated type

Team name	The number of assigned tasks, pcs.	Expected level of task completion, %	Actual level of task completion, %
Team 1	7	100	100
Team 2	7	100	100
Team 3	7	100	100
Team 4	7	100	100

6. Discussion of results of the study on the formation of an innovative risk management system

According to the results of deductive analysis from the existing system of personnel risk management of the organization, illustrated in Fig. 1, it was established that it is an integrated type. The system, in this case, refers to the well-established interaction of elements in order to achieve sustainable activities of the organization.

The risk management system of the organization includes:

– the purpose of risk management (ensuring the stable operation of the organization and the implementation of tasks);

– the object of risk management, which may vary depending on the situation (sources and risk factors);

– the subject of risk management (head, deputies, heads of departments);

– the topic of risk management (the level of acceptable risk at which the organization's activities remain stable);

– risk assessment methods;

– ways to manage risks (acceptance, avoidance, prevention, reduction of the level);

– ways to establish interaction to minimize or level risks;

– risk management tools.

Personnel risk management in an integrated system is entrusted to the head of the organization and is carried out on the basis of a situational approach. It is s/he who carries out the assessment, conducts with the help of deputies the organization of work and control of the results and independently makes decisions on the regulation of activities in a certain situation. The risk management function is integrated into the overall management of the organization. In the event of a risk, the head interacts directly with his/her deputies, and the deputies take actions to reduce the negative consequences for the organization. In fact, the organization of risk counteraction activities and control is carried out selectively and vertically. In such a situation, not all risks can be taken into consideration, especially those that arise against the background of force majeure circumstances that cannot be predicted with high accuracy. However, the counteraction to risks that is carried out is not effective enough due to the high level of communicative barriers that are formed against the background

of psychological stress and lack of time to eliminate them. As a result of the fact that not all personnel are involved in counteracting risks, the situation only becomes more complicated. As a result, the effectiveness of the tasks is reduced and the organization suffers even greater losses.

This is confirmed by the results of the assessment of the effectiveness of the tasks assigned to 4 teams under martial law and the fading Covid-19 pandemic. As can be seen from Table 2, the actual level of performance of the tasks decreased by an average of 26 % compared to the expected one.

Taking into consideration the results obtained, for the new innovative system there is a need for the following components:

– timeliness of monitoring;

– taking into consideration the impact of force majeure circumstances;

– competence of the person identifying the risk;

– timeliness of risk information;

– timely response to risk;

– competence of the person carrying out the risk analysis;

– clarity and correct identification of risk factors;

– competence of the person making the choice of an acceptable alternative;

– the possibility of using an acceptable alternative in a particular organization;

– competence of the person who makes the choice of methods of avoiding or leveling the risk;

– the possibility of applying the selected methods for the organization;

– the effectiveness of the chosen method in specific circumstances;

– competence of the person carrying out the implementation;

– the level of involvement of the organization's personnel in the implementation of the counteraction strategy;

– clarity of implementation of counteraction;

– the speed of implementation of counteraction;

– competence of the monitoring person;

– adequacy of monitoring;

– frequency of monitoring;

– monitoring speed;

– the level of interaction of persons conducting monitoring with staff.

These data are selected from Table 3 based on the results of the expert analysis, since they have a strong influence on the identification, analysis and counteraction to personnel risks. At the same time, to achieve a high degree of efficiency, European experience should be used. In Europe, the most common is the complex-type system. Its advantage is a well-established interaction between all elements and the inclusion in the system of absolutely all structural units of the organization. As a result, it makes it possible to quickly respond to risks that arise spontaneously under difficult conditions.

Since the integrated system is widely used in developed European countries to save time, it is necessary to apply technology transfer and implement this system in the organization of developing countries [19]. The conclusion of the agreement accelerated the transfer of technology and ensured its rapid implementation. To enhance the efficiency of the system, hard- and soft-skills of the organization's personnel were taken into consideration. This has significantly increased the advantages of the innovative system due to the rapid and comprehensive response to external and internal threats.

For the effective implementation of the integrated risk management system, 21 days were enough, in particular, 7 days for the implementation of each stage. First of all, we assessed the organizational structure of the organization (Fig. 2). It was carried out from the point of view of the expediency of the established horizontal and vertical connections, the identification of weaknesses, the presence of communication barriers. At the second stage, a new organizational structure was formed so that weaknesses were eliminated or minimized, and communication barriers were eliminated or minimized. At the same time, horizontal, vertical, and diagonal bonds should be reformed and strengthened. The principle of expediency and interchangeability in responding to external and internal spontaneous risks was maintained. This made it possible to avoid wasting time at each stage of the system's operation. Each team (department) provided two employees (the head of the department and one team member) who were directly responsible for identifying and leveling risks in addition to their work. Such a step will ensure the avoidance of the likelihood of not taking into consideration any risk. For this, it is necessary to provide for the establishment of surcharges proportional to the effectiveness of work from the special fund of the organization. After all, a correctly motivated employee is an effective employee. At the third stage of implementation of the organizational structure with strengthened internal ties, daily 20-minute meetings were launched to identify risks and counteract them. This has made the activity towards counteracting risks coordinated and constant. In addition, special attention was paid to assessing and increasing the level of emotional intelligence of employees. This not only increased the overall resistance of the organization to negative factors but also significantly increased the overall efficiency of work by leveling communication barriers. Another effective technique at this stage was the introduction of staff training for interchangeability. This significantly reduced the risks of not fulfilling the tasks assigned to the department due to staff losses. In each department, we started a method of design thinking to solve the tasks. In parallel to this, they began to develop the emotional intelligence of the staff according to the formed individual plan for each employee. This plan was formed based on the actual level of emotional intelligence, which is determined by the Hall test. A significant advantage of this is that each team will have the necessary skills and abilities that are necessary for 100 % of the tasks under difficult conditions. Of course, in 7 days it was not possible to significantly develop emotional intelligence to a high level in all workers, so they began to routinely replace workers with a low level of emotional intelligence. During the period of the experiment, they were transferred to work in other departments, several were entrusted with the implementation of not very important work. This approach allowed us in a short time to form temporary teams from different departments with a high level of emotional intelligence. That made it possible to get the desired result. As can be seen from Table 4, the introduction of an innovative risk management system of an integrated type has ensured 100 % effectiveness of the tasks. This became possible due to the proper organization of the stages of implementation and the correctly selected stages themselves. In particular, it was especially important to take into consideration the level of emotional intelligence and the application of design

thinking under difficult conditions. No less important was the introduction of the principle of interchangeability and the establishment of relationships between all project teams, as well as the formation of temporary teams. Such a comprehensive action under the management of the head of the organization in just 21 days of implementation of the system showed high efficiency when used in the organization of a developing country. Thus, the correctness of the proposed methodology was confirmed, which can be extended to other organizations of the country of state ownership.

The developed innovative system of personnel risk management is limited by the need for the organization to have personnel with a high and medium level of hard- and soft-skills. This may not always be ensured in all organizations in the developing country. However, the HR department of any organization can constantly encourage staff to improve and develop their hard- and soft-skills. In this way, the European principle of "lifelong learning" will be supported.

The disadvantages of the study are the failure to take into consideration the influence of the force and duration of the influence of difficult conditions on the functioning of the innovation system.

The development of this study can be continued in the direction of developing an innovative risk management system for privately owned organizations in a developing country. In addition, it will be interesting to compare the two developed systems – for public and private organizations and to derive one universal system. For effective practical implementation and use of the system, it is necessary to investigate the peculiarities of the strength and duration of the impact of complex conditions on the functioning of the system.

7. Conclusions

1. It has been established that in the organization of a developing country, there is an integrated type of personnel risk management system, and risk management is entrusted to the head of the organization. As a result of the analysis of the effectiveness of the tasks performed by 4 teams within 4 weeks, the non-effectiveness of the risk management system under difficult conditions was established.

2. Based on European experience, an innovative system of risk management has been developed, taking into consideration the functioning under difficult conditions, the individual characteristics of the staff. Particular attention is paid to the hypothesis that soft-skills and hard-skills of personnel are fundamental in the formation of teams for the effective implementation of tasks. It should be noted that, unlike the integrated type of system functioning in the organization, it is of a complex type. The main difference of the integrated system, which is widely used in developed countries, is the inclusion in the process of counteracting risks of each functional department of the organization. In this case, the risk of obtaining incomplete information to regulate the counteraction process is reduced to zero since all employees of the organization are involved in the process. In addition, all works aimed at counteracting risk are synchronous, and performers are interchangeable, which under difficult conditions increases the chances of success.

3. A roadmap for the implementation of an integrated risk management system in the organization's activities for 21 days has been developed. For this purpose, technology transfer with the conclusion of an agreement with a European organization has been applied. The implementation consists of three stages:

– identification of shortcomings in the organization;

– formation of a new organizational structure with well-established versatile relationships of teams;

– implementation of the developed organizational structure and organization of work, taking into consideration the level of emotional intelligence of employees and methods of designing thinking of temporary teams.

4. In practice, the effectiveness of the developed personnel system of risk management, which functioned in the organization under difficult conditions, was evaluated. As a result of the analysis of the effectiveness of the tasks by 4 teams within 4 weeks, the effectiveness of the integrated personnel risk management system under difficult conditions was established. At the same time, all the tasks were completed with 100 % effectiveness.

Conflict of interest

The authors declare that they have no conflict of interest in relation to this research, whether financial, personal, authorship or otherwise, that could affect the research and its results presented in this paper.

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