

Methodical and practical aspects of the analysis of the state and development of risk management systems for international corporations

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Abstract—In this article, the essence and main characteristics of the category “risk management system of an organization” are described. It is proposed to consider five levels of risk management system development (the third, the fourth and the fifth levels are typical for international corporations). We present the results of the risk management systems analysis for international corporations, namely: RusHydro, NLMK, Severstal, Gazprom Neft, Metalloinvest, Philips, Nestlé, Unilever, and others. Criteria for comparative characteristics of systems implementation experience are the following: the role in the organization management, basic standards, risk coverage, features of risk assessment and management, frequency and content of improvement measures, etc. Based on the study results, the main directions of development of risk management systems are considered.

Keywords—*risk management system, types of risks, risk management.*

I. INTRODUCTION

The high level of uncertainty and buoyancy of external environment are the main characteristics of the modern economic reality of international corporations. This drives the increase in the degree of negative risk impacts, which, among the other things, include: risks of violation/non-fulfillment of contractual obligations, business transformation, reduction in demand for products, decreasing the organization competitiveness, climate change, lack of resources, etc. Significant amounts of financial and other types of resources, large scale activities, wide range of the territorial and sectorial development directions of international companies determine the existence of risks of critical and global impact, and as a result, the likelihood of significant losses [4, p. 2]. Therefore, for several decades, risk management is one of the key functions of the international corporation management.

Despite the fact that the implementation of risk management systems (RMS) in modern corporations is carried out on the basis of generally accepted international standards (FERMA, ERM COSO, etc.), in practice there is no uniform, universal risk management system template and each of the organizations applies its own variant. Among the

main areas of study of risk management systems of modern corporations are the following: formation principles [3], [4], elements of risk culture, such as identification, assessment, prioritization, and others [3], [4], [5], [6], risk management as a basis for ensuring economic security [2], [3]. But it should be noted that the complexity and mutual influence of processes and procedures of risk management requires the use of a systematic approach that allows taking into account all the factors and elements that influence the productivity and efficiency of the RMS. The purpose of this research is to determine the parameters, levels and directions of the RMS development of modern organizations.

II. METHODS

The following methods were used in the study: situational, factor analysis, object-oriented modeling of the situation. So, to determine the methodological aspects of the RMS analysis, at first it is necessary to consider the essence of this economic definition based on the situational analysis. Currently, there are three options for the definition of the RMS proposed by the organizations. In the first case, the RMS is considered as a combination of individual elements such as the organizational structure, procedures, control and management, and others (RusHydro, FGC UES, etc.). In practice, the second option is more widespread, in which the RMS is a combination of methodology, methods, procedures, business processes, participants and individual functions, policies, tools and activities aimed at effective risk management of an organization (Aeroflot, Tatneft, Russian Railways, etc.). The third option is common for foreign companies, while the operation of the RMS is primarily associated with the formation of a certain risk management culture within the organization (Coca-Cola HBC AG, Volkswagen AG, BASF SE, Johnson & Johnson and others). It is proposed to take into account the existing definitions of the concept and consider the RMS as a set of individual elements and subsystems necessary for the implementation of risk management processes and procedures in order to create a risk management culture and ensure the effectiveness of the organization activities, including that by overcoming the economic growth barriers. To determine the level of the RMS development, it is recommended to consider the following parameters of the risk culture of the organization: the role and place of the RMS in the structure of the organization management; basic standards of the RMS; the

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number and qualification of personnel implementing the functions of the RMS; information security, level of the RMS automation; methods of risk assessment and minimization used in the RMS; improvement, cyclical development and evaluation of the RMS efficiency. The selection of the RMS characteristics was carried out taking into account the possibility of applying the project approach, which implies the need to assess the resources and capabilities, timing and quality of the management processes.

III. FINDINGS

The study allowed us to identify five levels of the RMS development, the characteristics of which are presented in Table 1. Corporate international companies with a high level of organization of business processes and risk management

systems operating within generally accepted international standards were selected for the study. Thus, risk management systems were considered for the following companies: RusHydro, NLMK Group, Gazprom Neft, Metalloinvest, Lukoil, NK Rosneft, Severstal, Tatneft Group, Philips, Nestlé, Unilever, Coca-Cola. The study was conducted on the basis of official data and reports of organizations [1], [7], [8], [9], [10], [11], [12], [13], [14], [15], [16], [18]. According to the results of the study, the following conclusions were made: the activities of companies such as Nestlé and PJSC Gazpromneft can be attributed to the third level of the RMS; the fourth level corresponds to the RMS of RusHydro, NLMK Group, Lukoil, Tatneft Group, Philips, Coca-Cola. The fifth level of the RMS is characteristic for Metalloinvest, NK Rosneft, Severstal, Unilever.

TABLE I. GENERAL DESCRIPTION OF THE LEVELS OF FORMATION OF RISK MANAGEMENT SYSTEMS OF THE ORGANIZATION

RMS level	Parameters of RMS formation						
	RMS in the organization management	The presence and appearance of the basic RMS standard	Compliance of personnel qualifications with RMS functions	The level of RMS information support	Revealing of problems within the list of risks	The used risk assessment and management methods	Assessment of efficiency and improvement of RMS
1st	There is no Risk Management Division	Standards are not applied	Staff qualification does not comply with RMS	There are no specialized forms for reporting	Risks are taken into account formally when making decisions	Risk assessment and risk management methods are not applied formally	No measures are implemented
2nd	Employee (s) responsible for risk management	Selected provisions of standards and internal regulations	Specialists with specialized economic education	Separate forms of management accounting and reporting	Only key risks are considered	Express - risk assessment. Insurance, outsourcing, etc. are used	Evaluation of overall performance indicators: profitability, NPV, IRR, DPP, etc.
3 rd	Structural unit within one of the departments	FERMA standard, ERM COSO, etc. Internal documents, regulations, etc.	Specialists with specialized education, increased qualification, etc.	Specialized form of reporting	The spectrum of risks without justification the factors and causes, the degree of impact	Separate methods in accordance with the standards	The possibility of reducing losses and individual measures is determined
4 th	Independent structural unit, but not in the framework of the highest level of management	Full compliance with FERMA, ERM COSO, ISO and internal regulations	Specialists with a specialized education or having a certificate	Risk management reports with justification of results	The spectrum of risks with justification of individual elements of risk culture	Methods within risk management standards are applied	It is carried out systematically for individual business processes within standards
5 th	Separate division, functioning along with other basic structures	The company's own risk management standard is used together with international standards	Certified risk management professionals in organizational units	Reports with substantiation of results and description of promising directions for the development of RMS based on calculations	The range of risks, taking into account the factors, causes, extent and measures to reduce the negative impact	Standardized and the company's own developed risk assessment and management methodologies are applied	Systematically based on business process monitoring procedures using specialized methodology and indicators

Consider the features of the RMS arrangement for individual companies. For example, since 2010, risk management for the NMLK Group is carried out independently within the framework of such activities as auditing and controlling all employees of the Group at different stages of risky business processes. PJSC Gazprom Neft also considers risk management as part of the implementation of internal audit procedures when implementing the internal control policy. This company is also characterized by the constant development of a methodological base for risk assessment. Issues related to the

implementation of risk management processes at Philips are considered by the Executive Committee, which oversees the activities of the company's main business groups. At Nestle, the Executive Board oversees risk management, among other issues. The risk management group at Nestle provides assistance to all corporate divisions in determining the highest possible level of exposure to risk, which is usually set once a year. In this case, as a rule, one considers the risks that require the implementation of individual measures, including insurance. At Coca Cola, the focus is made on studying four groups of risks from external impacts: the adequacy and

quality of water resources, global warming, the need for recycling plastic waste, and accounting for changing consumer demands. The presence of risks is confirmed by an objective justification.

We should note the high level of the RMS development at Severstal, which takes into account the main 9 types of risks affecting all stages of the production cycle. The main participants of the RMS are the Board of Directors, the Risk Management Committee, the Risk Management and Internal Control Service, the owners of risks. At each meeting of the Board of Directors, a risk analysis is conducted and decisions are made to reduce their negative impact. Within the framework of an objectively reasonable risk system, the relative degree and potential speed of the influence of risks, the nature, changes during the year, and measures to eliminate them are determined. For example, in order to reduce the negative impact of cyber risks, the company has developed a system of specialized training of employees. Based on the results of the assessment, the Board of Directors of the enterprise forms a statement on the business sustainability.

Uniliver applies an objectively sound risk management system, which not only identifies all types of risks in the direction of their impact, provides data on the results of their monitoring and focuses on measures to reduce their negative impact, including through the use of scenario modeling of the situation. Moreover, risk management procedures are integrated into all business processes and are considered at three levels: ie short-term risks – for a period of up to two years; ie medium-term risks – for a period of from three to five years; ie beyond five years – for a period of five years or more. As a rule, a detailed analysis is presented on the 16 types of risks. For each of the presented types of risks (business transformation, preservation of product quality, ethical, dependence on information systems, customer opinions, loss of personnel, etc.), the causes, factors of occurrence and measures used to minimize the risk are considered in detail. That is, the risk management system is formed in accordance with the established requirements.

IV. CONCLUSION

Under the conditions of the existing economic reality, risk management systems are an absolutely dynamic mechanism ensuring the development of economic entities. The uniqueness of the results of the presented research lies in the fact that, based on a study of existing practice and experience of international corporations, unified parameters and criteria for the development of the risk management system of modern organizations are established, which can be used not only to analyze the current RMS, but also to determine the directions of its development. So, among the most important directions of the RMS development of the modern organizations are the following:

1. Increasing the level of mastering of certain parameters that are not sufficiently developed within the framework of a specific RMS. For example, in the case of insufficient qualifications of employees, the possibility of organizing their training in risk assessment and risk management methods may be considered, or if the spectrum of all types of risks is not fully studied, the prospects for expanding their list and applying new methods, indicators and evaluation criteria are determined.

2. Development of the main elements of risk culture on the basis of increasing the degree of integration of the RMS in the activities of the organization as a whole.

3. Increasing the level of unification of the RMS in the framework of individual areas of activity.

4. Changing the structure and parameters for determining priority risks associated with a significant environmental impact.

5. Development of typical models of risk assessment and management, which, in turn, may affect the determination of potential effectiveness, not only of the RMS, but of the organization as a whole.

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