FORMATION OF AN ASSESSMENT MODEL AND PREVENTION OF TECHNICAL RISKS IN ECONOMIC MANAGEMENT SYSTEMS

Salekh Khodzhaliev[1], Zainodin Rasulov[2], Umar Khadzhiev[3]

•

[1]Chechen State University named after A.A. Kadyrov, Russia
[2]Baltic State Technical University Voenmekh named after D. F. Ustinov, Russia
[3]Grozny State Oil Technical University named after Acad. M.D. Millionshchikov, Russia
tankaevz@mail.ru
salamova_chgu@mail.ru

Abstract

Modern studies on the causes and consequences of the global financial crises confirm that the growth of the uncertainty factor in the global economy has a detrimental effect on the development of the world economy, provoking a slowdown in the economic activity of business structures. A slowdown in economic activity triggers responses from decision makers in commercial organizations, such measures include, for example, curbing investment, reducing spending through increased savings, increasing interest rates through a risk premium. According to a study by the Confederation of British Industry (CBI), 42% of UK companies say leaving the EU is hurting investment activity. Of these, 98% of companies characterized this impact as negative. The increase in uncertainty due to the exit from the EU also affected the UK economy itself, which is confirmed by the estimates of the Bank of England, which indicate a decrease in investment within 3 years from 2016-2019. by 11%. Such studies confirm the relevance of the topic of managing business structures in conditions of uncertainty, which create risks for the implementation of the strategy and achievement of the goals of commercial organizations. The increase in the significance of the uncertainty factor is due to the fact that the world economy for the first time faced a significant number of large-scale changes, increasing exponentially. Change creates risks that can be sources of both favorable and unfavorable outcomes.

Keywords: global financial crises, business structures, global economy, strategy

I. Introduction

The main large-scale changes taking place in the world economy are associated with the high rate of development of scientific and technological progress, provoked by the "Fourth Industrial Revolution" [1]. The technologies that enable the Fourth Industrial Revolution affect the form and quality of products and services, shape consumer behavior, and create new models for the growth of commercial companies. Thus, only artificial intelligence (AI), one of the technologies related to the digital industrial revolution, according to the McKinsey Global Institute, will create an economic effect for the global economy in the amount of 13 trillion dollars a year by 2030. According to the same institute, in the next 20 years, 50% of the operations in the world will be automated [2]. The global technological transformation driven by the digital revolution will not only lead to business process automation, thereby increasing labor productivity (according to the consulting audit campaign Deloitte, the annual growth rate of labor productivity will be 2.3% during 2025-2030), but and will be accompanied by new risks associated with these changes (“cyber attacks”, “data theft”). According to the World Economic Forum's 2019 WEF (World Economic Forum) Global Risks report, the economic cost of cybercrime will reach $3 trillion by 2020 [2-3]. Such risks are among the five most likely global risks. The most significant in terms of damage, according to the 2019 WEF report, is the risk of “weapons of mass destruction”. The ongoing "trade war" between the US and China, Brexit, the nuclear programs of Iran and North Korea, the growing tension between Russia and the West - all this increases the uncertainty in the development of the world economy. The growth of the uncertainty factor in the economic policy of EPU (Economic Policy Uncertainty Index) in Russia, caused by external political events and high volatility in energy prices, in 2014 reached its maximum value since 1995 [3]. The values of the EPU indicator decreased only by 2016. Such changes led to the formation of a new economic environment in 2015, expressed in a general decline in GDP by 2.5%, stagnation in production volumes (industrial production index according to Rosstat was 99.2% in 2015, which is 2.5% less than than in 2014), a decrease in investment in industry by 5.8%, a decrease in real wages of industrial workers by 6.9%, an increase in unemployment of the economically active population of Russia by 0.3%. One of the reasons for such indicators is the unwillingness of businesses (entrepreneurial structures) to work in harsh conditions of limited financial resources, a general decline in demand for manufactured products, increased inflationary threats, which is due to an underestimation of the risk of crisis events. Industrial development indicators returned to the values of 2013 only in 2017. Entrepreneurship is the most important factor in the development of the Russian economy. The presence of a large number of internal and external risks is the reality of the modern Russian economy that affects the functioning of business entities working in the field of entrepreneurship [5-6]. According to the Global Entrepreneurship Monitor (GEM) report of St. Petersburg State University, risk factors that do not contribute to improving the business climate in Russia include: “unpredictability of state policy”, “high level of bureaucracy”, "limited financial resources", "corruption as a factor hindering doing business in the country". A separate place in entrepreneurial activity is given to industrial enterprises that form industrial entrepreneurship. Industrial entrepreneurship occupies a central place among entrepreneurial structures in the development of high value-added innovations, which form the basis of the competitiveness of firms and contribute to the modernization of the economy through scientific and technological progress. Industrial entrepreneurial structures involved in the Fourth Industrial Revolution are subject to constant changes in the external environment, technological changes, political and social risks, and are also forced to control the risks that arise within the organization. The success of industrial enterprise structures, taking into account significant structural changes in the industry, will depend on the choice and implementation of a strategy that allows you to plan ways to achieve goals. The right choice of a new strategic position for a commercial company will make it possible to make the right decisions in the face of uncertainty and effectively manage risks, which will create additional opportunities and lead to an increase in the value of the company through an increase in profits. The spread of entrepreneurial activity to the latest achievements of science and technology with the ongoing aggravation of socio-economic problems entails a sharp increase in uncertainty and an increase in its influence on the results of economic activity, which is associated with the need to further improve the methodological apparatus of risk management theory.

II. Methods

Despite the significance of the problem of risk management, the analysis of the production sector shows the low efficiency of risk management in Russian business structures. The main reason is the weak integration of risk management with the overall management system. Risk management is considered as an autonomous system, isolated from the main activities of a commercial organization [7]. Such an approach can lead to ineffective risk assessment and, consequently, to significant losses or bankruptcy. It is necessary to improve the risk management system, integrating it into key business processes and taking it into account when making decisions. The process of integrating risk management for business structures is associated with a number of organizational, methodological, technical problems, the solution of which can lead to additional unreasonable costs and entail the diversion of funds from core activities and ultimately adversely affect the development of the company. Therefore, the process of integrating risk management into the management system requires the development of new methods, practical recommendations and additional tools, which is part of the current scientific direction in the development of risk management theory and methodology [8].

III. Results

Based on the above definitions, the author believes that in the context of the activities of a commercial organization, the following can serve as a more accurate definition. Risk is a state of uncertainty in the activities of business structures associated with various possible outcomes (loss, loss or favorable outcomes) that affect the implementation of the strategy and the achievement of the organization's goals [9].

Table 1: *Basic definitions of risk*

ISO 31000 2018	Risk - Impact uncertainty on the target. Influence is a deviation from what is expected (positive and/or negative)	Definition in context organization activities and risk associated with impact uncertainty on the target organizations
Douglas Hubbard	Risk is a state uncertainty when opportunities include losses, disaster or other unwanted outcomes	Definition in context uncertainty associated with negative outcomes
Committee of Sponsoring Organizations of the threadway (COSO)	Risk is the possibility that events will occur that will affect the implementation strategies and achievement of business goals	Definition in context organization strategy. Risk is defined as possibility
Mathematical concept of risk (Pugachev V.S.)	$r(z\|x) = M\ [\|z - Y\|2\|x] = \int \|z - y\|\ 2\ f(y\|x)\ dx$, where $r(z\|x)$ is the risk, i.e. losses, to which the decision leads; z is the totality of all quantities, characterizing the solution; x is the totality of all quantities, characterizing the initial decision data	Risk is defined as losses to which gives a solution

Each company seeks to avoid threats, damage, i.e. trying to achieve a certain sustainability of development. According to ISO, sustainability is the degree of sustainable development. Sustainability (as applied to the organization) is development that meets the needs of the organization without compromising future opportunities to achieve its business goals. Sustainable development allows businesses to strike a balance between remaining competitive, stimulating innovation and preserving the environment in the external and internal business environment. In order to ensure sustainable development, commercial companies, when making decisions based on risk in a business environment, must properly understand and classify the risks that arise.

A holistic view of risk management in long-term forecasting will contribute to sustainable business development. The author believes that ensuring sustainable development (Business continuity management and disaster recovery (ISO standards 22301 and 22313) is reduced to ensuring business continuity, crisis management, incident management, cybersecurity, capacity management. The author refers to the main classification of risks that are significant for the organization, i.e., those that can affect the achievement of the organization's goal and the implementation of the company's strategy [5-6].

IV. Discussion

Risk management is an integral part of the planning process and the control process, but at the same time it implements an independent operation for analyzing and making management decisions taking into account risks. Risk management can be attributed to a subsystem of an organization's management system or a set of risk management measures. The author calls a subsystem (or subsystem) a system of a smaller scale than the original one, organizationally included in the last, realizing an independent operation, the purpose of which is subordinate to the purpose of the operation carried out by the original system, which is a supersystem in relation to the subsystem. The author believes that the essence of risk management, first of all, is to create such a culture within the organization that would facilitate the analysis of risks when making managerial decisions. No company can manage risk if employees and managers reject the risk management process itself. The author introduces such a concept as a risk-oriented culture. A risk-based culture is a part of corporate culture that provides for the creation of an environment in the organization that would facilitate the identification, assessment and mitigation of risks, as well as open communication about risks. Table 2 shows the main components of a risk-based culture, proposed by the author [10].

A risk-based culture reflects the organization's core values: beliefs, attitudes, desired behaviors, and the importance of understanding risk [8]. An organization with a culture of risk awareness emphasizes the importance of risk management and encourages the creation of a transparent and timely flow of risk information. A risk-based culture includes requirements for the organization's governing body (the board of directors), which plays an important role in corporate governance and has a significant impact on the organization's risk management.

Economic risk arises in cases where the probabilistic nature of the situation arises as a result of the action of certain dangers and threats, that is, under certain objective circumstances, due to which there is a possibility of an unfavorable development of a particular economic situation [9].

It should be noted that there are a number of threats specific to individual sectors of the economy, that is, threats are associated with industry specifics. In particular, industrial enterprises are most characterized by the following threats:

1) use of administrative opportunities to obtain benefits;

2) the use of administrative opportunities to increase pressure from competitors or so-called raiders;

3) the growth of the influence of administrative risks. This is a change in legislation, regulatory documents, a change in administrative and regulatory bodies, a change in his position in relation to the company for any reason;

4) the enterprise becomes dependent on officials or intermediaries, including its employees.

Table 2: *Basic definitions of risk*

Events	Content
Maintaining leadership	– Clear and consistent risk management expectations from management. – Leaders should lead by example on how to approach risk when discussing it. – The board of directors and management attach great importance to the awareness of employees about risks. Risk culture cannot be changed by a team or a second-level department alone, the top management of the organization must be a real driver of change
Using participatory management style	Management encourages staff to participate in discussions about risks to the strategy and business goals of the organization
Implement accountability for all actions	Management encourages and adheres to a policy of accountability, demonstrating to staff that lack of accountability is unacceptable, and putting the principle of accountability into practice is rewarded
Aligning risk-based behavior and decision making with performance	Reward and incentive programs are aligned with the core values of the organization, including expected behaviour, adherence to codes of conduct, accountability for decision-making and risk-based judgment
Considering risks in the decision-making process	Management systematically considers risks when making key business decisions. Risk scenarios are discussed and analyzed to help everyone understand the relationship and impact of risks before making final decisions.
Holding open and honest discussions about the risks the organization faces	Management does not view risks as a negative phenomenon and understands that risk management is critical to the implementation of the strategy and achievement of business goals
Promoting risk awareness throughout the organization	Management constantly signals to employees that risk management is part of their day-to-day responsibilities and that it is not only valued but critical to the success and survival of the organization.

In addition, most industrial enterprises have a specialization in any direction. The nature of production does not allow, if necessary, a quick transition to the production of other products. It also poses certain threats:

1) increased competition in the market for products manufactured by a highly specialized enterprise;

2) increased competition in the region, which is important in cases where the transportation of products leads to a significant increase in prices for the consumer (primary industry, production of a number of goods);

3) a drop in demand for manufactured products due to objective reasons;

4) unfair competition in all its manifestations;

5) monopolization of the market.

In addition to the existence of individual threats, there are also many factors that contribute to the emergence of threats to the economic security of the company. Knowledge of these factors will help to identify and eliminate them and, therefore, reduce the possibility of threats to the economic security of the company [7]:

It should be noted that there are a number of threats specific to individual sectors of the economy, that is, threats are associated with industry specifics. In particular, industrial enterprises are most characterized by the following threats:

1) use of administrative opportunities to obtain benefits;

2) the use of administrative opportunities to increase pressure from competitors or so-called raiders;

3) the growth of the influence of administrative risks. This is a change in legislation, regulatory documents, a change in administrative and regulatory bodies, a change in his position in relation to the company for any reason;

4) the enterprise becomes dependent on officials or intermediaries, including its employees.

In addition, most industrial enterprises have a specialization in any direction. The nature of production does not allow, if necessary, a quick transition to the production of other products. It also poses certain threats:

1) increased competition in the market for products manufactured by a highly specialized enterprise;

2) increased competition in the region, which is important in cases where the transportation of products leads to a significant increase in prices for the consumer (primary industry, production of a number of goods);

3) a drop in demand for manufactured products due to objective reasons;

4) unfair competition in all its manifestations;

5) monopolization of the market.

In addition to the existence of individual threats, there are also many factors that contribute to the emergence of threats to the economic security of the company. Knowledge of these factors will help to identify and eliminate them and, therefore, reduce the possibility of threats to the economic security of the company [8-9]:

1) a significant degree of market monopolization, partially preserved from the former administrative-command system, was partially revived. At the same time, the level of competition in the Russian markets is growing from both domestic and foreign manufacturers. Given this condition, the entrepreneur must plan the activities of his enterprise in accordance with the current situation;

2) establishing control of criminal structures over a number of sectors of the economy and business entities;

3) maintain significant pressure on commercial organizations from government agencies (for example, in the field of licensing, taxation). Although a sufficient number of legal acts have been adopted to protect small businesses, the problem remains relevant;

4) an increase in the criminalization of Russian business (hostile takeovers, hostile takeovers);

5) the presence of various social problems - low income, unemployment, staff turnover - all this reduces the degree of responsibility and increases the likelihood that an employee will sell company secrets and other illegal activities;

6) the imperfection of the legislation regulating relations in the field of entrepreneurship (expressed, for example, in the orientation of legal norms to combat the consequences of crimes, and not the causes, in the failure of the damage caused and the sanctions applied);

7) lack of unity of action and mutual coordination of various law enforcement agencies. Thus, one can see many factors that create threats to the economic security of the enterprise, which once again proves the need for careful monitoring of situations that contribute to the emergence of threats to the economic security of the enterprise and constant readiness to neutralize them.

References

[1] Anshin V.M. Project management based on the concept of sustainable development. Scientific research and development. Russian journal of project management, 2019, 313-339.

[2] Ilyina O.N. Project management methodology: formation, current state and development, 2020, 153.

[3] Andrea, J.J., Burns, C., Touza, J. Renewable Energy as a Luxury? A Qualitative Comparative Analysis of the Role of the Economy in the EU's Renewable Energy Transitions During the 'Double Crisis'. Ecological Economics, Vol. 142, 2020,81–90.

[4] Yang, J., Zhang, F., Jiang, X., Sun, W. Strategic Flexibility, Green Management, and Firm Competitiveness in an Emerging Economy. Technological Forecasting and Social Change, Vol. 101, 2018, 347–356.

[5] Dulal, H.B., Dulal, R., Yadav, P.K. Delivering Green Economy in Asia: The Role of Fiscal Instruments. Futures, Vol. 73, 2019, 61–77.

[6] Mauritzen, J. Cost, Contractors and Scale: An Empirical Analysis of the California Solar Market, 2018, 105-214.

[7] Meckling, J., Hughes, L. Protecting Solar: Global Supply Chains and Business Power. New Political Economy, Vol. 23, No. 1, 88–104.

[8] Monasterolo, I., Raberto, M.The EIRIN Flow-of-Funds Behavioural Model of Green Fiscal Policies and Green Sovereign Bonds. Ecological Economics, Vol. 144, 2018, 228–243.

[9] Molchanova Ya.P. 2019. Hydrochemical indicators of the state of the environment, 192.

[10] Braverman A., Saulin A. 2019. Integral assessment of the performance of enterprises Economic issues, 6 (1), 108.