Risk-oriented approach in the activities of organizations: problems of theory and practice for its implementation

Alexander A. Kiselev

Candidate of Pedagogical Sciences, Professor
Yaroslavl State Technical University, Yaroslavl, Russia
E-mail: kiselevaa@ystu.ru
SPIN-cod: 4909-4138

Roman V. Kolesov

Candidate of Economic Sciences, Associate Professor
Financial University under the Government of the Russian Federation, Yaroslavl Branch, Yaroslavl, Russia
E-mail: RVKolesov@fa.ru
SPIN-cod: 6203-7200

Abstract. Nowadays, in Russia there is an active promotion of an idea of introducing a risk-based approach into the domestic organizations activities. Currently, there occur a number of legislative acts obliging organizations to implement a risk-based approach in their activities. Nevertheless, the concept of a risk-based approach in the adopted Laws and legislative acts is mostly declarative one. There is no proper justification of its scientific essence and, as a result, practitioners do not understand its practical application. At the same time, supervisory organizations (authorities) have to implement a risk-oriented approach, which should regulate the planning and frequency of control (supervisory) activities and inspections. Moreover, supervisory authorities should develop their own documents to classify the legal entities activities and (or) production facilities used to a certain risk category or class in terms of the specifics of their activities. However, practitioners have questions on documentation, methods, and implementation of the designated risk-oriented approach in the practical activities of organizations. Nowadays the domestic supervisory authorities should employ risk management specialists who are able to professionally and scientifically provide an objective assessment of risks in order to classify the activities of legal entities and (or) production facilities to a certain risk category or a class. This is the most difficult and time-consuming work when implementing a risk-based approach, as an effective one, requiring special training and conducting scientific research in this field.

Keywords: risk management, risk-oriented approach, risk categories, risk map.

JEL codes: D21, L02, M21

For citation: Alexander A. Kiselev & Roman V. Kolesov (2023). Risk-oriented approach in the activities of organizations: problems of theory and practice for its implementation. *Journal of regional and international competitiveness* 4(3), 28.

Introduction

Nowadays, in Russia there is an active promotion of an idea of introducing a risk-based approach into the domestic organizations activities. Currently, there occur a number of legislative acts obliging organizations to implement a risk-based approach in their activities.

Indeed, the risk-oriented approach in the organizations activities is firstly mentioned in Federal Law No. 277-FZ of 03.07.2016 "On Amendments to the Federal Law "On the Protection of the Rights of Legal Entities and Individual Entrepreneurs in the State (Supervision) and Municipal Control" and the Federal Law "On Strategic planning in the Russian Federation"; Federal Law No. 246-FZ of 13.07.2015 "On the Protection of the Rights of Legal Entities and Individual Entrepreneurs in the State (Supervision) and Municipal Control" was supplemented by Article 8.1 "Application of a Risk-based Approach in the Organization of the State Control (Supervision)"[1]. As it notes, "the risk-oriented approach is a method of organizing and implementing state control (supervision), in which, in the cases provided for by this Federal Law, the choice of intensity (form,

[1] *Federal Law No. 277-FZ of 03.07.2016 "On Amendments to the Federal Law "On the Protection of the Rights of Legal Entities and Individual Entrepreneurs in the State (Supervision) and Municipal Control" and the Federal Law "On Strategic Planning in the Russian Federation". Available at: http://www.kremlin.ru/acts/bank/40987 (accessed at 23.02.2023)*

duration, frequency) of control measures is determined by the attribution of the activities of a legal entity, an individual entrepreneur and (or) used in the implementation of such activities of production facilities to a certain risk category, or a certain class of danger". Additionally, it indicated a risk-oriented approach is being introduced "in order to optimize the use of labor, material, and financial resources involved in the implementation of state control (supervision), reducing the costs of legal entities, individual entrepreneurs and improving the effectiveness of their activities, state control (supervision) authorities in the organization of certain types of state control (supervision), determined by the Government of the Russian Federation"[2].

Experts consider introducing a risk-based approach in organizations allows business to reduce routine audit quantity. At present, the decision as to whether a particular business is associated with risks is made by the supervisory agency on the basis of criteria specially developed by the same agency. By the lawyer-consultant N. Loginova, "before the risk-based approach introduction, the supervisory authorities checked all enterprises and individual entrepreneurs periodically. This model is resource-intensive and insufficiently effective. The number of inspected objects significantly exceeds the labor, material, and financial resources of the supervisory authorities. For instance, the shortage of personnel ensures problems for supervisors to thoroughly check each enterprise on time. In this regard, supervisory measures were conducted superficially and less frequently, and the most of defaulters remained undetected. As a result, we have poor quality of services provided to consumers, unregulated prices, increased danger to the public, etc."[3]. In other words, the risk-oriented approach was designated by Law No. 277-FZ of 03.07.2016 in order to increase the efficiency of control and supervisory activities and reduce the burden on inspectors, avoid the previous total inspections.

For instance, during his speech at the St. Petersburg International Economic Forum in 2023, Russian President Vladimir Putin said that if a business is not associated with high risks of harm to citizens or the environment, then it should not be checked at all – neither in a planned manner, nor in an unplanned one. Preventive measures are sufficient ones[4].

At the same time, at the legislative level, businesses with a risk of harm to people include such production and types of entrepreneurship that sell goods and services, the addressees of which are consumers. For example, they include construction, catering, etc.

Therefore, today there is a legislatively determination to implement a risk-based approach by control (supervision) authorities and organizations. Firstly, there is in relation to organizations "with high risks of harm to citizens or the environment"; secondly, for optimal use of the organization's resources for inspections; thirdly, to reduce the costs of legal entities during such inspections; fourthly, to improve the effectiveness of the state supervisory authorities activities. Indeed, the concept of a risk-based approach has appeared in the current legislation, implying the resources of regulatory (supervisory) authorities and organizations for conducting inspections. Today they are distributed more regularly than usual, and in depending on the risk affect the frequency of inspections and their intensiveness.

However, practitioners have questions on documentation, methods, and implementation of the designated risk-oriented approach in the practical activities of organizations.

Main part

Nevertheless, the concept of a risk-based approach in the adopted Laws and legislative acts is mostly declarative one. There is no proper justification of its scientific essence and, as a result, practitioners do not understand its practical application. In the theory of organization management researchers discuss risk management issues (Kiselyov, 2023).

Hence, the researchers try to provide a scientific justification for the essence of the risk-based approach.

---

[2] Federal Law No. 277-FZ of 03.07.2016 "On Amendments to the Federal Law "On the Protection of the Rights of Legal Entities and Individual Entrepreneurs in the State (Supervision) and Municipal Control" and the Federal Law "On Strategic Planning in the Russian Federation". Available at: http://www.kremlin.ru/acts/bank/40987 (accessed at 23.02.2023)

[3] Risk-oriented approach: what is it and why is it needed. Available at: https://blogkadrovika.ru/risk-orientirovannyj-podhod-chto-eto-i-dlya-chego-nuzhen / (accessed at 23.02.2023).

[4] WhyPutincancelsbusinessinspectionsandhowitwillaffectcustomers.Availableat:https://63.ru/text/economics/2023/06/21/72417989/ (accessed at 23.02.2023).

For example, a number of researchers under a risk-based approach consider "a way of organizing supervision, which involves reducing the number of state inspections of businesses where the risk of irregularities is lower. In plain, businesses of a high risk category are controlled more and with a low risk category less often." Today a tax audit can take a long time, during which dishonest businessmen have time to sell off all their property, withdraw capital and declare their bankrupcy. But signs of possible tax evasion "will be established according to a certain risk-oriented approach"[5]. But such an understanding of the risk-based approach essence by researchers does not give practitioners a concrete understanding of its practical content. At the same time, it is necessary to proceed from the fact that the legislation has already established that a risk-based approach should be determined by a method, not by a way of its implementation. In terms of science, method and way of implementation are still different scientific concepts. Meanwhile, the main difference between the concepts is that the method is a broader concept describing general approach to achieve the goals of the activity; in its implementation various methods can be used. For example, flow production is a method of production which characterized by the division of the production process into separate, relatively short operations performed at specially equipped, sequentially located workplaces – flow lines. Therefore, method is a certain algorithm for applying a certain sequence of actions or procedures in the process of work. For example, an organization can use a method of flow production based on the rhythmic repeatability of the main, auxiliary, and servicing production operations coordinated in time and space, performed at specialized workplaces located along the technological process.

Other researchers suggest considering the risk-based approach as "a new model of state and municipal inspections aimed at total control over companies and individual entrepreneurs who can harm people and nature with their activities"[6]. But the model and the method are also different in their essence scientific concepts.

Nevertheless, all researchers, focusing on legislation, point out the essence of the risk-based approach with the organization of inspections. At the same time, the main meaning of the risk-oriented approach will be the choice of the intensity (form, duration, frequency) of inspections which is determined depending on the degree of the potential danger (harmfulness) that the activity of the supervised entity or object entails.

This was formulated, for example, in the Decree of the Government of the Russian Federation No. 806 on August 17, 2016 "On the Application of a Risk-based Approach to the Organization of Certain Types of State Control (Supervision) and Amendments to Certain Acts of the Government of the Russian Federation". The Rules for Attributing the Activities of Legal Entities and Individual Entrepreneurs and (or) production Facilities Used by them were approved to a certain category of risk or a certain class of danger; a list of types of federal state control (supervision), in respect of which a risk-oriented approach is applied; a list of types of regional state control (supervision), in the organization of which a risk-oriented approach is mandatory[7].

For example, it indicated that a risk-based approach must necessarily be applied by departments in the field of environmental, construction, housing, price supervision, as well as in the field of protection from natural and man-made emergencies, the safety of highways of regional significance, the technical condition of self-propelled vehicles, attractions and other equipment, etc.

At the same time, the Decree allowed ones to use of a risk-oriented approach to departments that control fire, medical, sanitary-epidemiological, transport, labor, energy, veterinary activities, as well as communications, civil defense, and road safety.

At the same time, the Decree allows the use of a risk-based approach by other organizations in the organization of its activities. For example, in the information letter of the Bank of Russia on December 27,

---

[5] *What is a risk-based approach? Explain easily. Available at: https://news.rambler.ru/disasters/47507181-chto-takoe-risk-orientirovannyy-podhod-obyasnyaem-prostymi-slovami/ (accessed at 23.02.2023).*

[6] *What is a risk-based approach? Explain easily. Available at: https://news.rambler.ru/disasters/47507181-chto-takoe-risk-orientirovannyy-podhod-obyasnyaem-prostymi-slovami/ (accessed at 23.02.2023).*

[7] *Decree of the Government of the Russian Federation on August 17, 2016 No. 806 "On the Application of a Risk-based approach in the Organization of Certain Types of State Control (Supervision) and Amendments to Certain Acts of the Government of the Russian Federation". Available at: https://www.consultant.ru/document/cons_doc_LAW_203819/1b4eb 7f157ab8133a972d132863e0f8dbb7d 398e/ (accessed at 23.02.2023)*

2017 No. IN-014-12/64 "On the Application of a Risk-based Approach in the AML/CFT Sphere" on January 18, 2018, it was noted that the Bank of Russia needs a risk-based approach "in order to counteract the legalization (laundering) of proceeds from crime and the financing of terrorism, to develop financial measures to combat money laundering." Based on this Letter, all financial institutions of the Bank of Russia are required to identify, evaluate, and take measures to reduce their own risks of money laundering and terrorist financing. And, as the Letter notes, it is the "risk-based approach which allows flexible application of money laundering and terrorist financing measures to more effectively allocate available resources and focus efforts on preventive measures in high-risk areas"[8].

However, none of this provided organizational practitioners with a clear understanding of the necessary actions to comply with the law on the risk-based approach, although the risk-based approach as a method of organizations' (facilities') inspections by supervisory authorities should be officially implemented at the legislative level since 1 January 2018.

As a consequence, even at the legislative level there was "specification" on the implementation of the risk-oriented approach. So, for example, according to Article 56 of Federal Law No. 248-FZ of 31.07.2020 "On State (Supervision) and Municipal Control in the Russian Federation" (with amendments and additions), it was clarified that borrowing with a controlled person is conducted during the following control (supervisory) measures: control procurement; monitoring procurement; selective control; auditor visit; raid audit; documentary audit; field audit[9]. Additionally, according to this Law, an inspection can be conducted even using means of remote interaction, including through audio or video communication. The control (supervisory) measures as monitoring compliance with mandatory requirements and on-site inspection can be conducted without interaction with a controlled actor. However, by the opinion of the Russian Government, organizations which may cause harm to the values protected by law need profound and regular supervision. However, it was not obvious how to determine in practice the risk categories and risk classes (categories), according to which the frequency of routine audits should be determined, as defined by Resolution No. 806 of the Government of the Russian Federation.

According to the Article 23 of Federal Law No. 248-FZ, there were presented categories indicating the degree of harm (damage) that organizations and entrepreneurs can cause during their activity. Such risk categories in accordance with the Law include extremely high risk; high risk; significant risk; medium risk; moderate risk, and low one.

Nevertheless, risk categories and hazard classes were established by law. According to this law, the timing of routine audit was determined, both for federal state control (supervision) and for regional state control (supervision) (Table 1).

Table 1 – Risk categories and classes

Risk categories	Risk classes	Features of scheduled inspections	
		for federal state control (supervision)	for regional state control (supervision)
Extremely high risk	1th class	routine audit is conducted once during the period established by the regulation on the type of federal state control (supervision) or the regulation on licensing of a specific type of activity	routine audit is conducted once a year
High risk	2nd class		routine audit is conducted once in 2 years
Significant risk	3rd class		routine audit is conducted once in 3 years

[8] Information letter of the Bank of Russia, December 27, 2017 No. IN-014-12/64 "On the Application of a Risk-based approach in the Field of AML/CFT". Available at: https://www.garant.ru/products/ipo/prime/doc/71751262/4. (accessed at 23.02.2023).
[9] Federal Law No. 248-FZ of 31.07.2020 "On State (Supervision) and Municipal Control in the Russian Federation" (with amendments and additions). Available at: https://base.garant.ru/74449814/ (accessed at 23.02.2023).

Risk categories	Risk classes	Features of scheduled inspections	
		for federal state control (supervision)	for regional state control (supervision)
Average risk	4th class	routine audit is conducted no more than once during the period established by the regulation on the type of federal state control (supervision) or the regulation on licensing of a specific type of activity	routine audit is conducted no more than once in 4 years and at least once in 5 years
Moderate risk	5th class		routine audit is conducted no more than once in 6 years and at least once in 8 years
Low risk	6th class	routine audits are not conducted	

Source: Federal Law No. 248-FZ of 31.07.2020 "On State (Supervision) and Municipal Control in the Russian Federation" (with amendments and additions)

Therefore, when implementing a risk-based approach, when drawing up a plan of inspections, it is necessary to be guided by the frequency of their conduct established by laws. Routine audits are not conducted.

Nevertheless, all above did not make it clear for the organizations the way to define risk categories and hazard classes. Although, in accordance with the current legislation, now each type of activity and (or) objects belonging to organizations and individual entrepreneurs should be assigned a certain category (a certain class) of hazard (risk) by the relevant regulatory authority. Therefore, taking into account the severity of the negative consequences that may occur if an organization or an individual entrepreneur does not comply with mandatory requirements, an assessment of the probability of non-compliance with such requirements by them is also taken into account. This category (class) of danger will influence the intensity, duration, and frequency of future control measures.

At present, the decision as to whether a particular business is associated with risks is made by the supervisory agency on the basis of criteria specially developed by the same agency.

At the same time, the legislation provides an opportunity for controlled organizations to realize the frequency of inspections, the category (class) the organizations danger. There are two ways they can do this. The first way is to review the information on the website of the supervisory authority. Indeed, the Decree of the Government of the Russian Federation No. 806 determined the website of the control authority should contain information about organizations and individual entrepreneurs classified as extremely high, high, significant risk or the first, second, or third class of danger (risk). For example, to determine the timing of fire inspections by the Ministry of Emergency Situations (MES), we can see the website of the regional MES department for information on risk categories.

The second way to determine the category (class) of hazard (risk) established for specific organizations is to request the supervisory authority. Within 15 working days from the date of receipt of the request it should give an answer not only about the category of hazard (risk). Also, in accordance with paragraph 13 of the RF Government Resolution No. 806, it should to provide the information on the basis of which the appropriate category (class) of hazard (risk) was assigned[10].

At the same time, in accordance with paragraph 6 of Article 8.1 of Law No. 294-FZ of December 26, 2008 "On the Protection of the Rights of Legal Entities and Individual Entrepreneurs of State (Supervision) and Municipal Control", if organizations do not agree with the data provided by the controlling (supervisory) authorities, entrepreneurs can submit an application to change the category (class) assigned to them danger (risk)[11].

[10] *Decree of the Government of the Russian Federation on August 17, 2016 No. 806 "On the Application of a Risk-based approach in the Organization of Certain Types of State Control (Supervision) and Amendments to Certain Acts of the Government of the Russian Federation". Available at: https://www.consultant.ru/document/cons_doc_LAW_203819/1b4eb 7f157ab8133a972d132863e0f8dbb7d 398e/ (accessed at 23.02.2023).*

[11] *Federal Law No. 294-FZ of December 26, 2008 "On the Protection of the Rights of Legal Entities and Individual Entrepreneurs in the State (Supervision) and Municipal Control"(with additions and amendments). Available at: https://base.garant.ru/12164247.*

But for controlling (supervisory) authorities required to define categories (classes) the dangers (risks) of controlled organizations are still the most problematic issue.

Firstly, the Decree of the Government of the Russian Federation No. 806 notes "the assignment to a certain class (category) of danger is conducted by the state control (supervision) authority, taking into account the severity of the potential negative consequences of possible non-compliance by legal entities, individual entrepreneurs with mandatory requirements, and to a certain category of risk. Also, it should take into account the assessment of the possibility of non-compliance relevant mandatory requirements". Secondly, "the criteria for classifying the activities of legal entities, individual entrepreneurs and (or) production facilities used by them to a certain risk category or a certain class (category) of danger are determined by the Government of the Russian Federation, unless such criteria are established by Federal law." Thirdly, "if the criteria for classifying the activities of legal entities, individual entrepreneurs and (or) production facilities used by them to a certain risk category provide for the state control (supervision) authority to calculate the values of indicators used to assess the severity of potential negative consequences of possible non-compliance with mandatory requirements, assess the possibility of non-compliance, methods of such the calculations are approved by the federal executive authorities performing the functions of developing state policy and regulation." Fourth, "the rules for classifying the activities of legal entities, individual entrepreneurs and (or) production facilities used by them to a certain risk category, a certain class (category) of danger are determined by the Government of the Russian Federation." Fifth, "if, in accordance with the Federal law, the activities of legal entities, individual entrepreneurs and (or) production facilities used by them to a certain risk category, a certain class (category) of danger is conducted by the state control (supervision) authority for state registration, issuance of a permit (special paper) or other similar papers, the rules for classifying the activities of legal entities, individual entrepreneurs and (or) production facilities used by them to a certain risk category, a certain class (category) of danger are determined by a regulatory legal act establishing the procedure for such a state authority"[12].

The absence of a clear and "transparent" mechanism for assessing risks and hazards can cause a conflict between controlling organizations and controlled (audited) organizations.

Thus, the risk-based approach is defined by federal legislation as a method of reducing the costs of control measures by regulatory and supervisory authorities in the activities of relevant organizations, both at the federal and regional levels. However, clear and understandable mechanisms for its implementation in practice have not yet been developed. It makes the implementation of a risk-based approach problematic for practitioners, primarily from the standpoint of determining and assessing the criteria for assigning subjects to different classes.

As a rule, the hazard class (category), for example, in construction can be determined by the severity of the potentially negative consequences of possible non-compliance with mandatory requirements, and the risk category – by assessing the likelihood of non-compliance with mandatory requirements (Fig. 1).

At the same time, it should be taken into account that in accordance with GOST R 51.898.2002 "Safety aspects. Rules for inclusion in standards" risk refers to the expected frequency or probability of occurrence of hazards of a certain class and the amount of damage from an undesirable event.

The danger is considered as an undesirable event, situation, object that can potentially lead to losses or damage to the organization or an undesirable outcome of any type of activity.

Indeed, according to the Decree of the Government of the Russian Federation No. 806, the classification of organizations, individual entrepreneurs, and types of activities into the risk category is providing by calculation, which takes into account such indicators as:

- severity of potential negative consequences of possible non-compliance of legal entities and individual entrepreneurs with the requirements in sanitary and epidemiological welfare;
- index of the weighted average frequency of disturbances per check (probability of disturbances of

[12] *Decree of the Government of the Russian Federation on August 17, 2016 No. 806 "On the Application of a Risk-based approach in the Organization of Certain Types of State Control (Supervision) and Amendments to Certain Acts of the Government of the Russian Federation". Available at: https://www.consultant.ru/document/cons_doc_LAW_203819/1b4eb 7f157ab8133a972d132863e0f8dbb7d 398e/ (accessed at 23.02.2023).*

mandatory requirements) in the implementation of a certain type of activity;

- index of potential harm to human health due to possible non-compliance with mandatory requirements when conducting a certain type of activity;
- index of the population size under the influence of the object of state supervision.

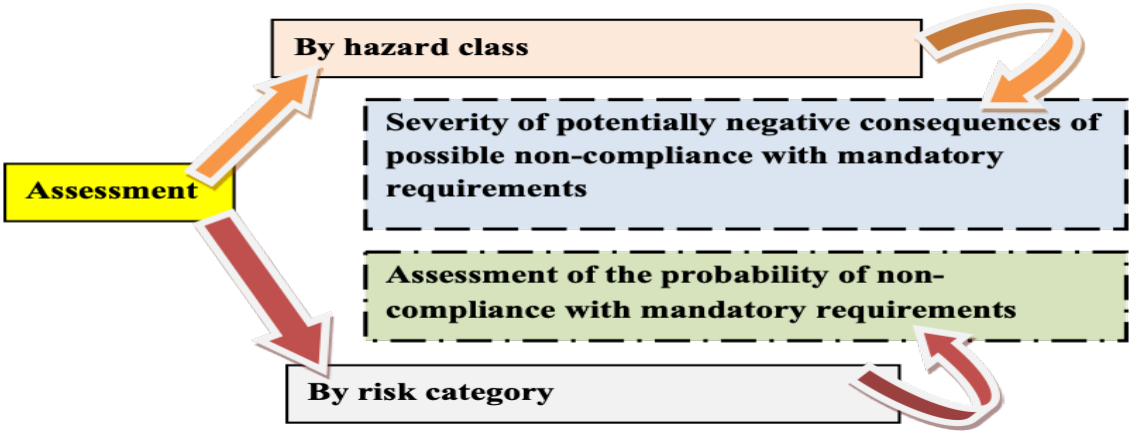

Figure 1. The essence of hazard classes and risk categories

Source: composed by the authors

Meanwhile, the indicator of the population size under the influence of the state supervision object or the indicator of the weighted average frequency of violations per inspection (probability of mandatory requirements violation) in the implementation of a certain activity can be determined, as it is related to the availability of statistics. Thus, the following statistics are used to assign an entity to a hazard class: the number of employees, the size of the population living in the sanitary protection zone, the size of the normative sanitary protection zone, the population density in the nearest settlement, and the area of the supervised object.

Nevertheless, there is an issue of calculating the severity of potential negative consequences of possible non-compliance by legal entities and individual entrepreneurs with requirements on sanitary and epidemiological well-being or the indicator of potential harm to human health due to possible non-compliance with mandatory requirements when conducting a certain type of activity.

The categorization of an object into a particular risk category will depend on such factors as:

- type of activity of production facilities of a legal entity or individual entrepreneur subject to supervision;
- the size of the population affected by the supervised object's activities (labour conditions, products manufactured, services provided, discharges into water bodies, atmospheric air emissions, soil pollution, etc.);
- unsatisfactory environmental factors at the facility, confirmed by laboratory for three years;
- relationship of the facility to population morbidity;
- repeated confirmed complaints on actions of business entities;
- number of detected sanitary and consumer protection legislation violations over 3 years.

Moreover, Decree No. 806 of the Government of the Russian Federation provides the possibility for legal entities to submit applications to change the risk categories or hazard class categories previously assigned to their activities or production facilities used by them by providing reliable information or updated information on their activities and production facilities. For the moment, an increase or decrease of risk is influenced by the presence of control and supervisory activity results within the last three years as of the decision-making date to classify the state supervision object to the risk category. In particular, two or more resolutions on administrative offence cases or a decision to suspend or cancel an activity license, as well as the conduct of an inspection without irregularities.

However, the Decree of the Government of the Russian Federation No. 806 does not specify how the designated risk factors can be assessed.

But Federal Law No. 248 established the risk criteria should be taken into account:

- severity of causing harm (damage) to legally protected assets (this assessment is made on the basis of

information on the severity of harm actually caused, damage in such cases, the potential scope of spread of probable negative consequences entailing its infliction, taking into account the complexity of handling such consequences);

- probability of negative events that may cause harm (damage) to legally protected assets (previous data on the actual infliction of harm (damage) due to the events caused by certain sources and causes of harm (damage) risk are considered for different types of objects controlled with the identification of control objects characterized by similar or different frequency of cases of actual harm (damage);

- integrity of controlled entities (assessed based on information about the measures implemented by the controlled entity to reduce the risk of harm and its prevention; the presence of implemented certified internal control systems; the controlled entity's provision of access to its information resources to the control (supervisory) authority; independent assessment of compliance with mandatory requirements; voluntary certification, confirming the increased required level of security of legally protected assets; the controlled entity's access to its information resources)[13].

The current model of determining the criteria for attributing objects of state control (supervision) to risk categories is focused only on the severity of potential negative consequences of possible non-compliance by legal entities and individual entrepreneurs with the established requirements and the probability of non-compliance. These criteria are most often subjective. Therefore, they indicate on the problems in this area. As a consequence, in fact, these risk criteria are constantly being updated legislatively. For example, in 2021, the Decree of the Government of the Russian Federation No. 1662 on 12.10.2020 "On Amendments to the Regulation on Federal State Fire Supervision" appeared. It specified the procedure for assigning objects to the fire risk category[14]. The document introduced a risk-based approach to the objects of protection. It attempts to determine not only the degrees of fire danger in the industry, but also for individuals. Otherwise, after this Decree adoption, each building started to be considered separately. It results, for example, that gross irregularities of one organization located in the building would not result in an increased audits frequency for the other organizations in those building.

Meanwhile, to separate dangerous activities from safe ones, there is a need of scientific methods for all economic sectors. The Russian Government has developed a special risk scale. However, N. Klyuchevskaya believes that "the risk assessment model is not specified in the norms. It can cause significant difficulties in law enforcement, since the limits of discretion or the possibility of unjustified application of exceptions from the general rules in the actions of regulatory authorities and their officials are expanded." In addition, "there may be risks of substituting the formation of a risk-based approach. That is, control is based on the risks of causing damage (harm), by creating legal conditions for manipulation ("management") risks in determining the risk categories for the objects of control". At the same time, "it is unclear how the adopted norms will correlate with the risk-based approach system already used in the organization of control (supervision)". In addition, experts in risk management believe that "at present, in a number of control (supervision) types, it is sufficient to commit only one or two offences to increase the risk category and, therefore, to increase the intensity of audits". However, an increase of the risk category should not be based on minor infringements, which do not critically affect the establishment of hazards, but on the identification of systematic and significant infringements" (Klyuchevskaya, 2023).

Furthermore, in addition to general risks (for example, fire safety risks and hazards in an industry) each industry may have its own specific risks and hazards that need to be taken into account by the relevant supervisory authorities (organizations) of the industry. Researchers Gerasimova M.V. and Avdeeva L.A. consider "the construction industry is one of the key sectors of the Russian economy. It has a significant impact on the development of almost all branches of material production and largely determines the solution of social, economic, and technological problems of the country's development. Meanwhile, there are many problems in construction, determined by factors that increase the level of risk in the industry: high prices

[13] Federal Law No. 248-FZ of 31.07.2020 "On State (Supervision) and Municipal Control in the Russian Federation" (with amendments and additions). Available at: https://base.garant.ru/74449814/ (accessed at 23.02.2023).

[14] Federal Law No. 248-FZ of 31.07.2020 "On State (Supervision) and Municipal Control in the Russian Federation" (with amendments and additions). Available at: https://base.garant.ru/74449814/ (accessed at 23.02.2023).

for building materials; high competition; risks of shared-equity construction when purchasing housing; insufficient financing of road construction; long time to obtain a construction permit; bureaucracy in the sphere of state and municipal tenders. These problems can provide the risks for the particular construction company" (Gerasimova & Avdeeva, 2015). However, they believe risks most frequently occurring in the construction company's activity are divided into two groups: production and financial risks. Production risks include natural and environmental risks, property risks, organizational, sociological, and technological risks. Financial risks include credit risks, bankruptcy risk, liquidity risks, inflation risks, which together form the total risk of construction.

Therefore, today supervisory authorities should have risk management specialists. They can identify and take into account the necessary risks, on the basis of which organizations and production facilities can be assigned to a certain risk category, a certain class of danger.

Nevertheless, even the practitioners need the scientific help; only science is able to provide methods for determining (assessing) risks so that practitioners can professionally determine categories (classes) of risks and hazards to optimize the use of resources for control (supervisory) activities.

Nowadays, researchers offer various scientific methods. For example, at present, specialists apply a risk matrix for application at each facility in accordance with the history of compliance with the requirements of those facility (Fig. 2).

Danger level	**Probability of non-compliance at the facility**				
	Extremely low	Low	Average	High	Very high
High	*RA*	*HA*	*HA*	*High*	*High*
Higher average (HA)	*Reduced average (RA)*	*RA*	*HA*	*HA*	*High*
Reduced average (RA)	*Low*	*RA*	*RA*	*HA*	*Higher average (HA)*
Low	*Low*	*Low*	*RA*	*RA*	*HA*

Figure 2. Risk matrix for application at sites according to compliance history
Source: composed by the authors

For distribution of risks on categories of importance we can use the matrix of ranking of risks. To categorize the risks, it is divided into corresponding zones, i.e. qualitative categories. Figure 3 shows a variant of matrix with the distribution of risks by category (by score).

Probability levels	**Levels of serious consequences (severity of damage)**				
	Low (1)	Insignificant (2)	Medium (3)	High (4)	Critical (5)
Often (5)	5	10	15	20	25
Possible (4)	4	8	12	16	20
Rarely (3)	3	6	9	12	15
Unlikely(2)	2	4	6	8	10
Impossible (1)	1	2	3	4	5

Figure 3. Matrix of risk distribution by significance categories (variant)
Source: composed by the authors

For example, risks can be ranked as follows: 1-4 scores are moderate (minimal) risks, 5-10 scores – significant (acceptable) risks, 12-25 scores are critical ones (unacceptable or undesirable risks).

However, as applied to the specific conditions of organizations' activities, these matrices may vary in terms of both the risks identified and the indicators of their assessment, for example, the number of points assigned to risks and hazards.

We must also take into account the degree to which different risks affect the characteristics of a business or facility may vary by industry and environment. To distribute risks by categories of significance, domestic researchers often suggest dividing them into three groups: critical risks, significant risks, and moderate risks

(Fig.4).

Levels of probability	Severity levels of consequences (damage)				
	Insignificant	Moderate	Significant	High	Critical
Often	II	II	III	III	III
Probable	I	II	III	III	III
Improbable	I	II	II	III	III
Rarely	I	I	II	II	III
Very rarely	I	I	I	II	II

Figure 4. Distribution of risks by categories of significance (option)
Source: composed by the authors

Legislation risks are divided into six classes, which create problems for practitioners to use these matrices in practical work.

Concurrently, to completely characterize risks, it is not sufficient to assess the probability of risk occurrence. Essentially, it is necessary to identify critical risks which can cause serious performance problems for organizations.

To identify critical risks, researchers commonly recommend developing a risk map identifying a set of critical risks, the ignoring of which would be disastrous for organizations.

A risk map is a graphical and textual description of a limited number of an organization's risks arranged in a rectangular table. One "axis" of the table shows the impact, consequence or significance of the risk and the other – the probability or frequency of its occurrence. The map provides a visualization of the probability and degree of impact of various risks on performance based on the experts' analysis of possible risks. The map makes it possible to determine which risks should be prioritized, facilitates a regulated procedure for planning the minimization of threats from risks, and the method of responding to anticipated risks, as well as for planning control (supervisory) measures (Fig. 5).

For example, the group of risks outlined inside the red line will include the "critical risks". Consequently, they should be prioritized for minimizing the negative impact of risks and hazards and planned for unscheduled (urgent) audits.

According to the practice, to develop a risk map it is necessary to engage risk managers, experts who are competent to perform such complicated analytical work. The advantages of the risk assessment experts' activity include the absence for accurate source data and expensive software tools. But the disadvantages of expert risk assessment include the difficulty in attracting professional experts (there is difficult to find them), and their certain subjectivity.

It is impossible to regulate this kind of analytical work. Currently, there are attempts to develop IT tools to assess risks. Nevertheless, modern software designed for different levels of risk assessment. For example, for a large organization, risk analysis tools are most often embedded immediately in an integrated ERP-class package. ERP systems are based on the principle of creating a single data warehouse containing all corporate business information and providing simultaneous access to it for any required number of employees with the appropriate authority. The latest versions of MS Project are also used for risk assessment. They configure the risk assessment unit for identification, classification, as well as assessment and qualitative risk analysis with the construction of a probability matrix. Simulation modeling is provided by Project Expert, Alt-Invest software, etc. These techniques also need to be used correctly; we should be aware the field of their application, industry specifics, etc.

Thus, if a risk map was compiled by professionals, it allows us to identify potential risks; arrange risks by categories of significance; highlight the key, most dangerous risks, etc. Actually, a risk map will not solve the problems of reducing the negative impact of possible risks on activities or objects, but it will help specialists to resolve them practically.

For example, in relation to the construction of M.V. Gerasimova and L.A. Avdeeva proposed an algorithm containing three stages (Fig. 6).

At the first stage we conduct risk identification. It is the process of identification and compilation of

risks of the construction organization; each risk is characterized by risk management specialists, considering the specifics of the project's activity or object.

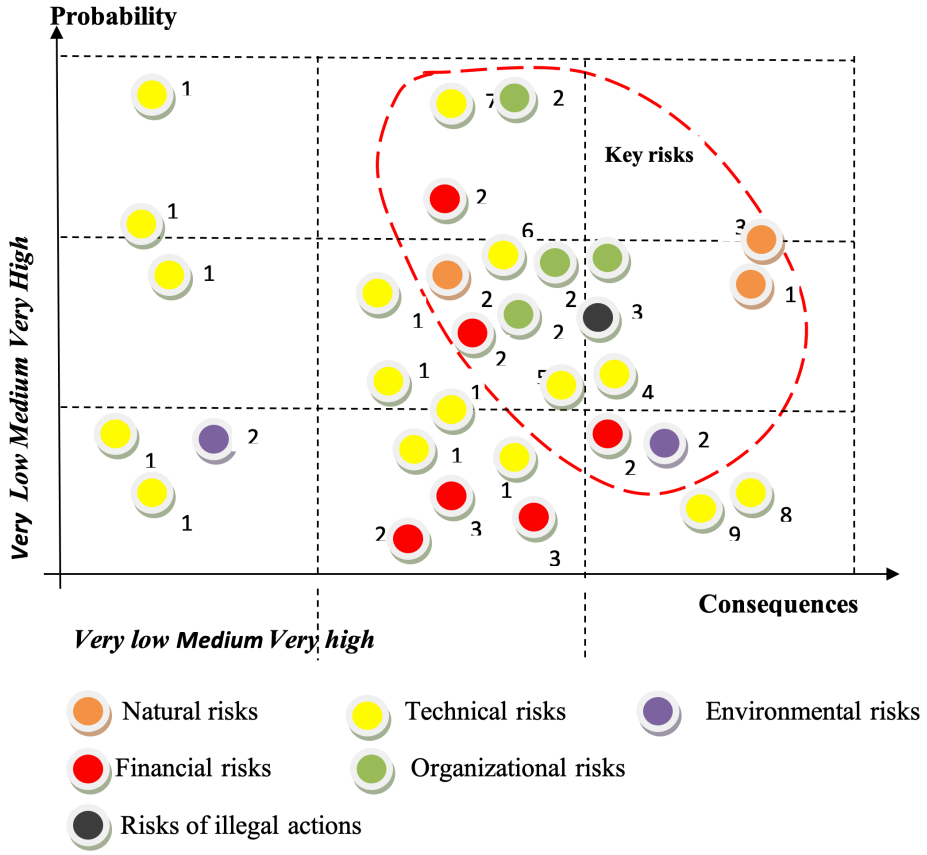

Figure 5. Risk map (option)

Source: composed by the authors

At the second stage, using the SWOT analysis method, it is possible to identify the maximum number of risks to which the organization is exposed. Concomitantly, risk management specialists can categorize the identified risks and describe their components (causes, hazardous events, types of impact, consequences and risk factors) in a uniform format.

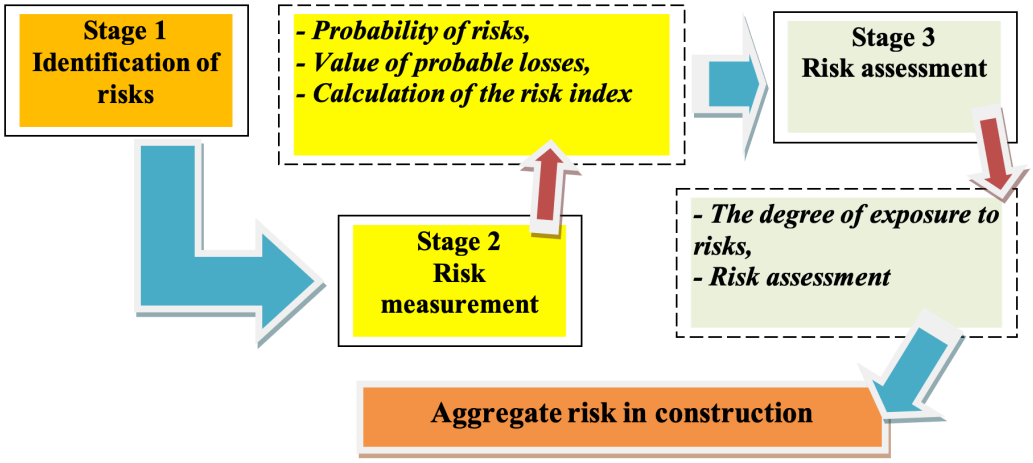

Figure 6. A variant of the algorithm determines the level of cumulative risk in construction for a specific organization or a specific production facility to a certain risk category or a certain hazard class.

Source: composed by the authors

At the third stage, risk management specialists should measure the probability of identified risks occurrence and the probable losses (Gerasimova & Avdeeva, 2015).

As a result of these actions, the level of cumulative risk in construction is determined for a specific organization or a specific production facility. Their assignment to a certain risk category or a certain hazard class (category) will serve as a basis for determining the frequency of their audits and the content of control (supervisory) measures.

This algorithm is applicable for risk assessment in all economic sectors. The effectiveness of this algorithm implementation will be determined by professional qualifications of the specialists performing this work, as well as by the methods they apply to assess the risks and hazards.

Conclusion

Therefore, firstly, at present, supervisory organizations (authorities) are obliged to implement a risk-oriented approach, which should regulate the planning and frequency of control (supervisory) activities.

Secondly, in order to classify the activities of legal entities and (or) production facilities used by them to a certain risk category or a certain hazard class (category) in order to determine the frequency of routine audits, it is necessary to take into account the documents of relevant departments, such as the Ministry of Emergency Situations, as well as documents adopted in the relevant industry, characterizing the specifics of the industry and individual types of activities and facilities in this industry.

Moreover, supervisory authorities should develop their own documents to classify the legal entities activities and (or) production facilities used to a certain risk category or class in terms of the specifics of their activities. At the same time, data on the attribution of the activities of controlled legal entities and (or) production facilities used by them to a certain risk category or a certain class (category) of danger should be posted on the website of the controlling (supervisory) authority and available to the audited organizations.

Nowadays the domestic supervisory authorities should employ risk management specialists who are able to professionally and scientifically provide an objective assessment of risks in order to classify the activities of legal entities and (or) production facilities to a certain risk category or a class. This is the most difficult and time-consuming work when implementing a risk-based approach, as an effective one, requiring special training and conducting scientific research in this field. All above actualize the topic of training specialists in domestic universities.

Fifth, Laws and regulatory documents in the field of risk management should take into account the recommendations of analysts, risk management specialists and domestic researchers studying the problems of implementing a risk-based approach in organizations.

Hence, only complex measures will make it possible to effectively fulfill the requirements of legislation on the implementation of the required risk-oriented approach in controlling (supervisory) organizations (authorities). It allows them to reduce the costs of conducting control (supervisory) measures and ensure their effectiveness through timely response to possible risks and dangers.

FUNDING

The work was done on a personal initiative.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

AUTHORS' CONTRIBUTION

Alexander A. Kiselev – conceptualization, project administration, funding acquisition, writing – original draft.

Roman V. Kolesov – validation, writing – review & editing.

References

1. Gerasimova, M. V., & Avdeeva, L. A. (2015). Methodological approach to the assessment of the aggregate risk of a construction company. *Science Studies*, 7(3). Retrieved from http://naukovedenie.ru/PDF/150EVN315.pdf (accessed 23.02.2023) (in Russian).

2. Kiselyov, A. A. (2021). *Risk management*. Moscow: KNORUS (in Russian).

3. Klyuchevskaya, N. (2023). *Risk-oriented approach: priority of the state control reform*. Retrieved from https://www.garant.ru/article/1406579/ (accessed 23.02.2023) (in Russian).

4. Federal Law No. 294-FZ of December 26, 2008. On the Protection of the Rights of Legal Entities and Individual Entrepreneurs in the State (Supervision) and Municipal Control. Available at: https://base.garant.ru/12164247 (accessed at 23.02.2023).

5. Federal Law No. 277-FZ of 03.07.2016. On Amendments to the Federal Law "On the Protection of the Rights of Legal Entities and Individual Entrepreneurs in the State (Supervision) and Municipal Control. Available at: http://www.kremlin.ru/acts/bank/40987 (accessed at 23.02.2023).

6. Federal Law No. 248-FZ of 31.07.2020. On State (Supervision) and Municipal Control in the Russian Federation" (with amendments and additions). Available at: https://base.garant.ru/74449814/ (accessed at 23.02.2023).

7. Decree of the Government of the Russian Federation No. 806 on August 17, 2016. On the Application of a Risk-based approach in the Organization of Certain Types of State Control (Supervision) and Amendments to Certain Acts of the Government of the Russian Federation. Available at: https://www.consultant.ru/document/cons_doc_LAW_203819/1b4eb 7f157ab8133a972d132863e0f8dbb7d398e/ (accessed at 23.02.2023).

8. Decree of the Government of the Russian Federation No. 1662 on 12.10.2020. Available at: https://f-metrics.ru/blog/novosti/postanovlenie-pravitelstva-rf-s-novymi-kriteriyami-i-poryadkom-otneseniya-obektov-k-kategorii-riska (accessed at 23.02.2023).

Received 12.06.2023
Revised 19.07.2023
Accepted 06.08.2023