RISK MANAGEMENT AT EDUCATIONAL INSTITUTION*

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Abstract. Educational institutions have the right to independently determine the paths of their development, the methods and goals of their achievement, which made them full-fledged subjects of a market economy. The public’s demands for the quality of education have increased, the technological side of education has been radically updated, the economic and organizational conditions of their activities are changing rapidly, competition in the educational services market is growing, and the state’s attitude towards the education system is steadily changing. Increasing the freedom and independence of educational institutions has led to an increase in their responsibility for the results of their activities. The transformation of the working conditions of the educational services market in the current conditions of socio-economic development of the Russian Federation actualizes issues that are closely related to risk management in educational institutions, because an increase in the independence of educational institutions entails an increase in managerial and, in particular, financial risks for erroneous decisions. In this regard, there is a need to search for effective risk management mechanisms, especially since today there is no universally recognized theoretical approach to the issue of risk management in the field of education.

Keywords: risk management; management; educational institutions; efficiency; implementation problems


JEL Classifications: O33, O38, J21

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1. Introduction

The creation of a risk management system arises with the definition of the subjects and objects of the system, as well as the risk management process. There is a lot of attention to various facets of risk management in current literature (e.g. Androniceanu 2017; Tvaronavičienė 2018; Fakhry et al. 2018; Litau 2018; Akberdina et al. 2018; Sycheva et al., 2018; Goloshchapova et al., 2018).

The activities of educational organizations, similarly like other institutions, are subject to various types of risks that require the creation of a risk management system. The specifics of the risk management of educational institutions is determined by the characteristics of educational services, the labor market and other factors of the educational market. For this reason, to create a risk management system in educational institutions, first of all, it is necessary to develop an organization development strategy, then design a factor model, then form a risk management model (Pastukhov 2013; Menyaylo 2016; Sharafutdinov et al., 2018; Goryushkina et al., 2018, 2019; Corluchic 2019; Voronkova et al., 2019).

In 2005, the first study of the risks in education appeared. So, E.V. Ilyashenko considered the main risks that arise when introducing specialized education in schools. N.D. Sorokina emphasizes that, first of all, the challenges and threats important for educational activities should be highlighted (Sorokina 2009). She refers to them the transition to a “knowledge” society, the rapid obsolescence of the transmitted knowledge, the wider spread of the Internet as a global network, the informatization of almost all life situations, etc.

In educational activities, the objects of risk management are the following processes: resource management, management of innovative and scientific and methodological activities, personnel management, the provision of educational services, procurement management, maintenance, disposal and repair management.

The head of the educational institution is the only subject of risk management carried out in educational activities (Bozhkova et al., 2019; Ahtarieva et al., 2018; Thalassinos et al., 2011; Tarman, 2012; Korabieva et al., 2019; Tarman and Dev, 2018; Tarman, 2018; Tünkler et al., 2016). At the same time, foreign experts are of the opinion that it is necessary to distribute responsibility between the leaders of different areas who need to take an active part in the risk management system (Effective risk management in the school). The management staff of educational institutions face risks daily. Risk management can help management personnel correctly understand and evaluate risks, create measures against risks in order to increase the likelihood of successful work.

2. Methods

The risk in the field of educational activity lies in the lack of achievement by stakeholders (educational institution, person, society, state and employers) of goals, which largely depend on the quality of education received (Girdzijauskaite et al. 2019; Shatunova et al., 2019). However, there is a likelihood that stakeholders through the use of educational institutions by an effective, constantly improving risk management system, as well as a system for predicting the future wishes of graduates and consumers of educational services, can get results higher than their expectations.

Let us classify the risks of educational activity. Risks in the field of education can be divided into systemic and non-systemic. The degree of systemic risks cannot be reduced, since their presence is determined by the education system itself. Often, systemic risks are associated with the external environment - the macroenvironment of the organization of the educational sphere. The macroenvironment of the educational organization consists of enlarged groups of factors that form the systemic risks of the activities of this organization of the educational sphere (table 1). Unsystematic are unique risks, whose level can hypothetically decrease to a certain level (table
2). You can also highlight the unique risks of educational organizations associated with their internal environment (table 3).

### Table 1. Types of systemic risks of the educational organization

<table>
<thead>
<tr>
<th>Factors</th>
<th>Types of risk</th>
<th>Characteristic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Political factors</td>
<td>Political risk</td>
<td>Political uncertainty, regional conflicts</td>
</tr>
<tr>
<td></td>
<td>Legislative risk</td>
<td>Legislative instability, changing educational standards</td>
</tr>
</tbody>
</table>
| Economic forces    | The risk of changes in incomes | Change in real incomes of the population:  
- an increase in income will affect the choice of the most prestigious educational institution;  
- a decrease in income will affect the decrease in demand for paid educational services |
|                    | Demographic risk    | Decrease in birth rate can lead to a decrease in the number of students                                                                      |
|                    | Psychological risk  | Deterioration of the educational environment that impedes the full personal and mental development of students                                |
| Social risk        | Change in interest in education, change in unemployment                                                                   |
| Technological factors | Innovation risk   | Changes associated with the use of innovative technologies in education, research                                                             |

*Source: Menyailo, 2016*

As mentioned above, risk minimization is not a universal approach to making optimal decisions in risk situations, which is explained by a very simple question: even without taking into account the costs of risk reduction, choosing the smallest decisions from the point of view of risk often leads to relatively small incomes.

### Table 2. Types of unique environmental risks of the educational organization

<table>
<thead>
<tr>
<th>Factors</th>
<th>Types of risk</th>
<th>Characteristic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Competitors</td>
<td>Risk associated with competitors</td>
<td>Changing the position of the organization of the educational sphere in the market of educational services, modifying the position in Russian and international ratings</td>
</tr>
<tr>
<td>Consumers of educational services</td>
<td>The risk of changes in the demand for services related to educational activities</td>
<td>Changes in demand associated with changes in the prices of educational services or consumer preferences</td>
</tr>
<tr>
<td>Companies, organizations</td>
<td>Risk associated with employment of graduates</td>
<td>Refusal to provide places of practice, reduced interest of employers in hiring graduates of this institution</td>
</tr>
<tr>
<td>Social partners</td>
<td>The risk of changing relationships with social partners</td>
<td>Decrease or increase in the number of joint projects that are associated with the preparation and conduct of Olympiads, continuing education courses, etc.</td>
</tr>
<tr>
<td>State bodies that exercise control</td>
<td>Risk associated with accreditation and licensing of educational</td>
<td>Non-receipt by the institution of a license to carry out educational activities, denial of state</td>
</tr>
</tbody>
</table>

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At the same time, there are a large number of situations when the size of the risk, of course, should be reduced to the smallest values. These are the risks of various irreversible events. So, the risk that a fire may occur in an educational institution must be minimized, regardless of the costs of minimizing it.

When constructing a risk management system, an educational organization sequentially determines the sources of risk, exposure zones, events and their causes, the likely consequences of the onset of certain types of risks.

**Table 3. Types of unique risks of the internal environment of the educational organization**

<table>
<thead>
<tr>
<th>Factors</th>
<th>Types of risk</th>
<th>Characteristic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organization</td>
<td>Strategic risk</td>
<td>Changes in the strategy of the educational organization</td>
</tr>
<tr>
<td>of the educational process</td>
<td>Organizational risk</td>
<td>Organizational changes in the structure of the educational process and the organizational culture of the organization of the educational sphere</td>
</tr>
<tr>
<td></td>
<td>Operational risk</td>
<td>Loss of contingent, changes in the educational process</td>
</tr>
<tr>
<td></td>
<td>Innovation risk</td>
<td>Changes that are associated with innovations in the research, educational, administrative, scientific and technical process</td>
</tr>
<tr>
<td></td>
<td>Marketing risk</td>
<td>Changing the image of the organization of the educational sphere</td>
</tr>
<tr>
<td>Staff</td>
<td>HR risk</td>
<td>Lack of personnel, reduction of competence and demotivation of personnel</td>
</tr>
<tr>
<td>Finance</td>
<td>Financial risk</td>
<td>Shortage of working capital, deterioration of the financial and economic situation of the organization of the educational sphere</td>
</tr>
</tbody>
</table>

The degree of risk cannot be reduced to almost zero: even as a result of very expensive events, the possibility of a fire in an educational institution remains a positive value. We can only say that such a probability will be less than the significance level, that is, so small that the fire can be considered a practically unrealizable event.

The risk management process in the educational institution works taking into account: process and system approaches, sustainable improvement, contribution to the process of the most efficient use of capital and resources, protection of the educational organization’s property, improvement of its image, growth of the teaching staff qualification and formation of the organizational base in management, process optimization.

The risk management process can be represented in the form of a scheme, where the entrance is the operational goals of the school, the results of external and internal audits, analytical materials reflecting the development trends of the internal and external environment, research results, operational plans and reports of structural units of the educational institution, a management report on the conducted work.

At the output of the risk management process, a risk register (card), a risk management plan, and a report on existing risks are created. These documents provide information about the operational risks of the underlying...
processes. The process itself includes a procedure for assessing and monitoring risks, it contains documents explaining how to identify and assess risks that are suitable for use in an educational institution (see Fig. 1).

Fig. 1. The risk management process
Source: authors

To date, a number of risk assessment methods have been developed that can be divided into two large groups: qualitative, such as the “tree of consequences” or “tree of causes,” and quantitative, such as the Monte Carlo method, as well as the probability density function.

Risks can come from the categories of four varieties: places, people, money and things. Risks associated with people - teachers, specialists, researchers, etc. are expressed in their action (or inaction). The same group may include violations by employees of legislative acts (starting with the policy of an educational institution and ending with a violation of Russian laws, for example, by applying violence to students), injuries on the territory of an educational organization, etc.

The communication and information stage serves as the main connecting link of the entire risk management system and other management systems of the educational institution. At this stage, risk information is collected, which serves as the basis for making reasoned managerial decisions by the leaders of the educational institution. Depending on how the communication process is organized, how much risk information is provided to the manager in the necessary volume and in a timely manner, the effectiveness of the entire risk management system will be determined (Dunets et al., 2019).

Based on the information received from the external environment, the management of the educational institution makes decisions on choosing approaches to risk management, which can be as follows depending on the level of importance of risk (as a rule, there are four main ways of risk management): refusal (avoidance) of risk transferring risk to the other party, reducing risk and accepting risk / reimbursement.

Risk management is an integral part of the project management process, since it involves the occurrence with a certain probability of an event that will affect the result (the implementation of a task or plan). In the risk management of educational institutions, particular importance is given to the risk management of construction
projects, which makes it possible to determine the potentially unbearable growth of costs, the suspension of work time or problems associated with their quality.

The advantages of integrating risk management into the management system of educational institutions are:
- increased perception of risk, opportunities and threats;
- planning, "look into the future";
- increasing the likelihood of successfully achieving the desired results.

The risk assessment process in an educational institution is associated with the following approach:
- identification of organization goals and risks;
- consideration of the origin of risks and their importance;
- planning risk management actions;
- management / control / monitoring of the results of the chosen approach (to track its effectiveness) (Serebryakova, 2017).

The risk in the identification process can be attributed to one of the following categories:
- management risk
- operational risk
- regulatory risk,
- financial risk.

The main task of the leadership of the educational institution is to create a sustainable risk management program, since the educational organization and its environment are constantly changing, but risk management should always remain. The main element of a dynamic and sustainable risk management is monitoring and consideration of identified risks, as for their effective management should:

- delegate responsibility by indicating in the job responsibilities the need for risk management;
- identify indicators that can be used to find the magnitude of the risk;
- introduce the reporting of the leadership of the educational institution to reduce certain risks identified earlier.

3. Results

The risks of the organization of the educational sphere are probabilistic in nature and establish various consequences for the organization. That is, for risk management and constant monitoring, two risk characteristics should be included in the criterion for their selection: the probability of its occurrence and the consequences of the onset for the organization.

The risk map (or risk matrix) makes it possible to group risks from the point of view of probability of occurrence and importance, and shows the general picture of risks faced by the activities of educational institutions (Fig. 2).

Areas of risk for the educational organization are distinguished according to the degree of acceptability, since the main task of risk management is to improve the organization’s position, “transfer” it from a risk zone of lower acceptability to a risk zone of higher acceptability (for example, from a high risk to a low or medium risk area).
When used correctly, a risk matrix / map is an effective risk management tool. The educational organization, being in a certain position in the analyzed coordinate system, bears losses from risks, moves in the risk matrix towards a better position and causes “position change costs”. A comparison of changes in losses incurred with “costs of changing positioning” allows us to evaluate the effectiveness of risk management in educational institutions, and compare the effectiveness of managing such organizations.

Another way of ranking risks is to use a matching matrix. Moreover, all risks are presented in pairs, for comparison - by the degree of probability / impact, or other indicators. The following risk management model can be proposed. This model (see. Fig. 3) allows you to apply different risk management methods for any risk group of educational institutions, taking into account the specifics of the industry.

![Risk matrix / map](source: Kornienko, Makarova 2015)

### Fig. 2. Risk matrix / map

### Factor analysis and risk identification
- system
- external environment
- internal

### Calculation of marginal costs associated with risk management

### Comparison of marginal costs and results

### Determining the nature of the risk
- positive
- negative

### Choice of risk exposure methods
- risk taking
- risk reduction
- risk aversion
- risk transfer

### Building a “risk matrix”

### Considering Alternatives

### Determining the level of risk and their ranking
- acceptable
- unacceptable
- optimal

### Management decision-making and control of the results

![Risk management model](source: authors)

### Fig. 3. Risk management model of an educational institution

Source: authors
The probability of manifestation of different types of risk can be estimated either by the method of expert estimates, or by the method of statistical observations. In some cases, a method of assessing the probability of risks can be used, based on the experience of the leadership of the educational organization, using a rating system:
0 - there is an insignificant risk; 25 - most likely the risky situation will not occur; 50 - nothing definite can be said about the possibility of an offensive; 75 - most likely a risky situation will occur; 100 - a risky situation will surely come.

The probability of the onset of risk and its consequences can also be determined by modeling the outcome of a series of events, extrapolating the data encountered or data obtained through experimental studies.

Risk management is a rather complex process and when it is introduced into the work of the organization of the educational sphere, it is faced with the need to review the roles and responsibilities of managers and employees. Risk management is perceived as a linear process, not a system (Zubachev, 2018). When implementing risk management in an organization, clear, consistent commitments should be made, since this process is an integral part of management decisions and should not be separated from them.

The success of the implementation and development of risk management in educational institutions directly depends on senior management. The risk management strategy is developed depending on the directions of the enterprise (Khizhnyak, 2017). Realization requires reliable information, therefore it is important to establish its exchange and include the process of collecting information about risks. Exchange of information with external stakeholders will give conclusions in terms of their perception of this risk. The point of view on the values, needs, problems of the organization may differ from internal understanding. This may provide new information that management had not previously suspected.

The determination of the necessary resources, powers and responsibilities should begin with the definition of the activities of processes, functions, services. After this, by determining the relationship between specific processes, activities, projects and activities, processes in the educational institution, it is also necessary to determine the methodology for assessing the importance of risk, as well as the criteria established at the beginning of the process and which will be reviewed on an ongoing basis after. It is also necessary to determine the sources of risk, the area of impact, events, causes and their consequences.

During the implementation of the risk management system, it is necessary to determine:
- types and nature of causes and consequences that may appear, and methods for their measurement;
- a method for determining the possibility (or probability);
- time limits of opportunity and its consequences;
- a method for finding the magnitude of the risk;
- level of acceptable risk;
- the possibility of multiple risks and their combinations.

In order for the work of the risk management system to be successful, it is important to establish effective communications within the team on the separation of powers and responsibilities related to risk management, analysis skills, the ability to accurately measure benefits and costs. There are important differences between modern risk management and “traditional” risk management methods (Mitrofanov et al. 2018).

Firstly, this is the management system itself. The “traditional” approach does not have integrity: management is carried out in any single unit according to the functions performed by it. There is no consistency between units in this matter. The risk management system is characterized by avoiding fragmentation and replacing it with integration. Each employee is involved in the process, and the organization’s management, which refers to risk management as part of everyday work, manages the system itself.
Secondly, it is scale. The “traditional” approach focuses narrowly on a certain segment of risks, for example, financial. The risk management system, on the contrary, covers absolutely all types of educational organization activities.

Thirdly, the frequency of risk management. The “traditional” approach carries out risk management from time to time, while the risk management system works continuously.

The following advantages of risk management can be distinguished in comparison with the “traditional” methods of risk management (Fig. 4):

<table>
<thead>
<tr>
<th>Advantages of risk management in comparison with “traditional” methods of risk management</th>
</tr>
</thead>
<tbody>
<tr>
<td>- increasing the quality of information for making management decisions;</td>
</tr>
<tr>
<td>- elimination of the uncertainty factor in the implementation of educational and research</td>
</tr>
<tr>
<td>activities;</td>
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<tr>
<td>- control over negative impacts, timely implementation of measures to reduce the</td>
</tr>
<tr>
<td>likelihood of their occurrence and negative impact;</td>
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<tr>
<td>- improved planning, which allows timely use of favorable prospects, reduce negative</td>
</tr>
<tr>
<td>impacts;</td>
</tr>
<tr>
<td>- resource saving;</td>
</tr>
<tr>
<td>- improving communication between parties involved in the process;</td>
</tr>
<tr>
<td>- founders support;</td>
</tr>
<tr>
<td>- growth of ratings and business image;</td>
</tr>
<tr>
<td>- control of production processes and investment projects.</td>
</tr>
</tbody>
</table>

Source: authors

Fig. 4. Advantages of risk management in comparison with “traditional” methods of risk management

The implementation of risk management in educational institutions is hindered by the fact that they do not have the necessary regulations and documents of an organizational and administrative nature, which complicates the analysis and control of risks. The head of the organization must prepare all the necessary documents to ensure reporting in a standardized form, as well as recommendations for its preparation. The main regulatory documents of the risk management of the educational organization should include:

- “Declaration of risk management”;
- “Guide to risk management”;
- “Risk Management Program”.

The main barriers that interfere with effective risk assessment in educational institutions are:
- lack of planning: often enough, the head of the organization makes decisions in a hurry, which makes the risk assessment inaccurate and incomplete due to the lack of necessary information and the impracticability of anticipating future problems;
- the use of short planning horizons: the leaders of educational organizations traditionally pay more attention to current planning, during which only existing risks can be identified;
- lack of high-quality (structured and ordered) relevant information;
- lack of qualified personnel, experience and methodological support (equipment and tools of analysis);
- difficulties in accurately assessing opportunities and risks, finding an appropriate balance between them, weighing, for example, financial and other risks;
- discomfort (in some cases due to the need to openly acknowledge the existing risk) when implementing risk management;
- the specifics of the management of educational institutions.

Part of the policy of the educational system, which is determined by a set of regulatory requirements, methods of fulfilling these requirements for members of the educational organization's team, should be the prevention of managerial risks (Sabitova et al., 2018; Plaskova et al., 2017; Salimova et al., 2019; Ilhan et al., 2019; Trofimova et al., 2019; Jarrah, 2019). The goal is to minimize probable losses and losses. Prevention of managerial risk in the activities of a manager, in addition to his awareness of risk management processes, consists in a continuous increase in managerial competencies. That is why the management risk prevention system should be an ongoing process of growth for the manager’s qualifications and combined with diagnostics and forecasting, which ultimately not only minimizes management risks, but also significantly increases the effectiveness of management activities.

4. Discussion

In educational institutions, it is important to consider hygiene conditions and other factors that influence the preservation of health and the development of a harmonious personality (Carothers, 2018; Bittman and Russell, 2016; Solas and Sutton, 2018; Arifin et al., 2019; Kayumova et al., 2019; Prodanova et al., 2019a,b; Singareddy et al., 2019). An educational institution should take care of reducing the intensity of noise, bring color regulation, lighting to normal, review the layout of furniture, etc. It is important to create a favorable psychological climate in the team, you should also monitor the comfort of finding students in an educational institution.

An example of health-saving technologies in education is the "technology of the liberated development of children", which was developed by physiologist V.F. Bazaar, when used, the indicators of child morbidity are reduced, the psychological climate in pedagogical and children's groups is improved, the public is actively involved in work to promote health, etc.

✓ An example of the technology of psychological support of the study group is the methodology of M.Yu. Gromova and N.K. Smirnova, built on the principles of pedagogical psychotherapy and psychology of health (Smirnov, 2009). Its foundations include the active participation of the psychologist in the educational process, the transformation of the psychologist into an important figure in the educational process, which is based on the principles of health conservation.

Conclusion

Thus, the specificity of educational activities makes significant adjustments to the organization of risk management in educational activities. This suggests that of the large number of risk identification, ranking and risk assessment procedures that exist today, not all can be used in the field of education, so they must be
substantially redesigned for the needs of educational organizations. At the same time, those that can be implemented, in most cases, educational institutions use only in certain areas, and then fragmentary.

The weak development of the risk management system in educational organizations, observed today, leads to an inadequate assessment of possible risks in the implementation of educational projects, which negatively affects not only the financial performance of a separate educational organization, but also the development of the entire educational sphere. Ignoring or fragmenting the use of risk management leads to such results that do not correspond to the amount of budget funds spent on improving the conditions for the provision of educational services.

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