

SWOT analysis as a strategic tool for developing the quality management system of an educational organization

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Abstract. The article discusses the need to implement effective risk management tools in the quality management system of an educational organization, due to the increasing requirements of the external environment, increasing competition, and the globalization of the educational space. The main focus is on SWOT analysis as one of the reliable and effective tools for qualitative analysis of the organization's strengths and weaknesses, opportunities and threats. The article highlights the features of using SWOT analysis in the process of risk management of an educational organization.

1 Introduction

The current stage of development of the management system in the field of education is characterized by the consequences of internationalization and globalization of the educational space, increased competition, increasing instability and uncertainty of the external environment, for which it is necessary to create adequate diagnostic procedures for risk situations, management methods and tools, and create new requirements for the qualification of personnel. To do this, risk management tools are increasingly used, which is an integral part of strategic management in an educational organization, and allows to determine possible deviations from the planned results of activities and predict the onset of risk events in time.

Recently, it has become obvious that new methods and technologies of risk management in educational organizations should be used instead of the old ones, which have already lost their strength and effectiveness. In this regard, educational organizations tend to focus on the needs and requirements of stakeholders, diagnose risk events at an early stage, and provide for the impact of negative consequences of risk situations at the stage of planning educational activities.

Risk management should be carried out at various levels – this will allow to best control risks and take preventive measures. Thus, risk management should be an integrated system, not an independent one.

Integrated risk management is a new concept of risk management, which is a structured and consistent approach characterized by pooling resources in order to reduce uncertainties in relation to a changing set of risks through the integration of a risk management system and a system of operational and strategic management [1].

The main features of an integrated approach to risk management in an educational organization are:

1. Continuity of the risk management process.
2. Coverage of all types of activities - the entire set of risks of an educational organization and possible measures for their management are considered.

3. Risk management is considered as a separate structural element integrated into the overall management system.

4. Coordination by senior management and active use of motivation tools for personnel involved in risk management.

5. Using a variety of methods and tools to identify and assess risks, as well as opportunities that arise during the implementation of a risk event in order to influence them to enhance the expected positive effect or minimize negative consequences.

2 Main part

To identify risks and opportunities of an educational organisation, their ratings and further define actions for dealing with them, it mainly uses the analysis of various documentation and numerous methods and tools for collecting information (some of them are brainstorming, Delphi method, expert survey, analogy method, and SWOT analysis). Then the risk assessment is performed, and we compare the results of the risk analysis with the established criteria to determine whether the risk and its probability are acceptable or reasonable. This contributes to making a decision about the impact on risk.

Risk assessment should be performed at least once a year. The probability of risk can be determined on a 5-point scale (Table 1).

The acceptable limit in BSU is the average probability of risk. Risks below the acceptable limit may be accepted without a risk management plan. Otherwise, risk management actions are developed and should be documented.

The next step after the risk assessment is to analyse the factors for the probability of risks, their impact, proximity and expected price of the risk event [2].

Quantitative and qualitative methods can be used in assessing the identified risks.

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Quantitative risk assessment consists in determining the numerical values corresponding to general and individual risks and ranking them by the degree of influence. Quantitative analysis allows to calculate the numerical values of the possibility of occurrence of risk events and their consequences, during its conduct, permits to made quantitative assessment of the degree of risk events and to identify the level of risk possible in a particular situation.

Qualitative risk assessment involves identifying the interdependence between the causes and risk factors, and assessing the conditions for their occurrence. It means determining the sources and causes of risk; forming stages and works in which the risk appears; identifying all possible risks; calculating profit and loss when making a risk decision. The qualitative analysis is based on the conclusions of experts (risk managers), as a result of which the subjectivity of such assessments reduces the validity of the results obtained. An additional increase in the reliability of the analysis results can be achieved by quantitative structuring of the estimated factors.

One of the most effective expert methods of qualitative risk analysis is SWOT analysis - an approach based on comparing the opposite qualities of the evaluated object. The results of SWOT analysis are formalized in the form of a table containing four sections and allowing you to clearly contrast the strengths and weaknesses of the organization, its opportunities and threats.

Based on the structural analysis, further research is conducted, including ranking of the identified factors and pairwise combination of strengths and weaknesses of the educational organization, its opportunities and threats. All this is reflected in the compilation of four lists: 1) opportunities built on the strengths of the project; 2) strengths that can be reduced by the possibility of threats; 3) weaknesses that do not allow you to use the capabilities of the organization; 4) project weaknesses that make the organization vulnerable to threats. Then measures are developed to overcome the most serious weaknesses and counter the most powerful threats [3].

3 Results and discussion

The following table (Table II) shows the results of the SWOT analysis of BSU as of 01.01.2020, taking into account the specifics of educational activities, which were worked out by the quality commissioners of BSU. After identification of threats, their assessment and analysis, the stage of choosing the method of exposure to risks comes, which is carried out mainly in two ways: reduction and preservation. Reducing risk implies reducing either the extent of possible damage or the likelihood of adverse events. There are three main ways to reduce risk.

1. Rejection of risk (avoidance of an event associated with risk, refusal of any operations/investments that carry an unacceptable risk for the educational organization, and therefore refusal of profit).

2. Reduction of risk (reservation, limitation, distribution, minimization).

3. Transfer of risk (insurance, hedging, and distribution). It is important to note that this method is rarely used by educational organizations. Risk transfer

measures mean transferring responsibility for it to third parties while maintaining the existing level of risk.

Keeping the risk at the existing level, which means creating special reserve funds that will contain funds to compensate for losses in the event of adverse events, is also rarely used in the practice of Russian universities.

Risk management is determined by the effectiveness of the interaction process between all stakeholders in risk management. Risk management is carried out both in the internal and external educational environment, which confirms the need to interact with internal and external participants in this process.

Risk management in higher education requires a clear distribution of powers and responsibilities that are necessary for making management decisions. In order to ensure full risk management, it is important first of all to establish effective interaction within the educational organization. Risk management is the responsibility of the top management. Its prerogative is to distribute responsibility and authority among the relevant employees. Decisions made in the risk management process must meet the requirements of Russian legislation and quality objectives. It is important to establish an optimal balance between the level of risk responsibility and the ability to control this risk [4].

The risk management process in the quality management system of BSU can be represented as follows.

The quality management center summarizes information about risks, opportunities and defining actions for handling them in the processes of production and service delivery, procurement management and annually includes it in the draft report on the analysis of the quality management system by management.

Table 1. Scale evaluation of risk events probability

Assessment of risk probability		Interpretation
Point	Quality	
1	Very low	The risk will not appear. The probability of a risk event occurring no more than 1 time in 5 years.
2	Low	The risk is not likely to appear. The probability of a risk event occurring 1 time in 4 years.
3	Average	There is a possibility that risk may or may not be appear. The probability of a risk event occurring 1 time in 3 years.
4	High	The risk is likely to appear. The risk event is likely to occur in the next two years.
5	Very high	There is a high probability of risk. The risk event is likely to occur in the next year

Table 2. Results of SWOT analysis for BSU on 01.01.2020

Factors	S - Strengths	W-Weaknesses	O-Opportunities	T-Threats
Educational activity	A wide range of competitive training areas and specialties of higher education, secondary vocational education and additional vocational education. Availability of licenses and accreditation of educational programs. Functioning of the system of independent assessment of the quality of education. Modern educational space. Design, development and implementation of educational programs that meet the requirements of professional standards/self-established standards.	Low demand for individual unique educational programs.	Opening new areas of training to meet the needs of the market. Expanding the forms of work with underperforming students. Development of combined and mixed education. Implementation of project activities. International cooperation development.	High competition in the market for educational services. Demographic crisis in the country. Reducing the acceptance control numbers.
Scientific and innovative activities and products	Lack of foreign and domestic analogues for certain types of scientific and technical products. Availability of scientific and innovative infrastructure, including small innovative enterprises. Victories in competitions for grants for research and development. Uniqueness of research and development results.	Wear and tear of scientific laboratory equipment.	Development of scientific design taking into account the requirements of enterprises and organizations in the real sector of the economy. Formation of mobile scientific groups on sub-processes of scientific and innovative activity. Increase in patents. Opening of innovative projects taking into account the needs of industry.	Risk of insufficient financing of innovative projects. Stricter conditions for competitions for the implementation of scientific projects. Passive demand for scientific and technical products.
Price policy	Flexible system of payment forms, co-financing, availability of discounts.	Restrictions on setting tuition fees.	Individual approach to co-financing the cost of training in certain areas of training.	Increasing the cost of educational services. Falling solvency of the population. Dumping policy of competitors.
Employment, implementation of scientific and innovative products	Availability of long-term contracts for cooperation with basic enterprises and organizations. Experience in implementing complex projects of high-tech production.	Insufficient transfer of scientific and technical products.	Development of the target training system. Participation of students in the WorldSkills professional skills championship	The lack of enterprises interest for young employees. The risk of organizations refusing to sign contracts for targeted training.
Promotion of educational services, scientific and innovative products	The presence of a specialized division that organizes the acceptance campaign. A variety of forms of career guidance and advertising materials. Positive image of the University in the organizations of the	Limited advertising budget.	Development of corporate radio and television, official website.	The lack of demand for patents by the enterprises.

Factors	S - Strengths	W-Weaknesses	O-Opportunities	T-Threats
	region. Publications in print media. Broadcasts of events.			
Personnel, their potential, qualifications, interests	Highly qualified teaching staff. The system of competitive selection of teachers and researchers. System of training of scientific personnel and personnel reserve. Certification of teachers. Introduction of a rating system. Incentives for research supervisors, postgraduates, doctoral students and applicants.	Insufficient level of practical training of scientific and pedagogical workers. Increasing the average age of the teaching staff. Aging of frames.	Staff optimization. Development of social programs. Housing construction in order to attract and retain qualified personnel.	Outflow of young scientists.
Consumers	Monitoring of consumer satisfaction in the field of educational services. Organization of preparatory courses. Cooperation agreement. Availability of a database of companies and organizations interested in specialists.	Requirements for practical experience of graduates.	The development of contractual relations with the potential customers. Development of the system of basic departments.	Risk of dissatisfaction with the needs and expectations of consumers.
Providers	Interaction with suppliers on a long-term contractual basis.	Low level of school preparation "on entry".	Organization of preparatory courses, including on a distance basis. Expanding the target admission.	Reducing the quality of educational services in schools.
Partners	Exchange of information. Involvement in research and development. Developed partnerships with industrial enterprises, organizations and institutions in the country and region. Engaging in joint implementation of socially significant projects and programs, attracting investment.	Insufficient use of opportunities from the partnership	Joint analysis of partnership development opportunities, involvement of partners in the joint development of the University's strategy. Evaluating, recognizing and rewarding partners' efforts and achievements.	The risk of reducing the number of joint projects being implemented.
Competitors	Unique in the city scientific, educational and innovative University with multi-level training. Practice-oriented educational institution. The development of key partnerships.	High cost of training in certain areas of training.	Co-financing the cost of training.	Dumping policy of competitors.
Educational technologies and processes	Availability of basic departments. High-quality educational and methodological support. Accessible practice of students at the leading enterprises of the country. Organization of foreign practices and internships. Application	Insufficient number of online courses.	The expansion of online courses. Updating the educational and material base.	Widespread use of distance learning technologies by competitors.

Factors	S - Strengths	W-Weaknesses	O-Opportunities	T-Threats
	of information technologies in the educational process. High level of availability of computer equipment and information resources.			
Financial condition	Various sources of funding (from the Federal budget, grants; educational services on a commercial basis; research and development under contracts). The transparency of the budget.	Large property complex.	Development of the financial risk management system.	Reduction of budget and extra-budgetary funding.
Management organization	Involvement of staff in management through collegial bodies (councils, commissions, meetings). Transparency of management decision-making: the annual report of the Rector and the senior administration on the activities before the conference of the workforce. Availability of a quality management system and development of internal audit. Leadership of managers.	Lack of approved standards and regulations for the functioning of individual processes.	Using project management methods. Development of a quality management system and formation of a lean production system.	The complexity of risks and opportunities managing in a turbulent economy
Organizational culture	Unity of goals of the University and its employees. The system of initiative support and assistance to subordinates from the Rector's office. Reward system.	Fragmentary level of compliance with business etiquette by individual employees and students.	Support for a business atmosphere and a healthy social climate. Support for personal initiatives and free expression of opinion. Development of corporate values.	The risk of reducing the level of culture in society.

Actions to manage and identify risks and opportunities in the form of events are reflected in the University's development strategy, in the road maps of target programs, in the work plans of the University and its structural divisions, in lists of instructions from the rector and academic Council, and so on.

The heads of structural divisions together with the quality commissioners during planning, at least once a year, determine which of the factors identified in the SWOT analysis are the most important and can have a significant impact on the ability of the division to provide educational services that meet the requirements of consumers and applicable legal and regulatory requirements. Actions to deal with the assessed risks and opportunities in the form of measures aimed at minimizing risks and maximizing available opportunities are included in the quality assurance plan of the relevant process in order to prevent or reduce the undesirable impact of risks, eliminate the reasons for preventing their

recurrence, use existing opportunities to ensure continuous improvement of the University's quality management system in general and its structural divisions in particular.

The assessment of actions to handle risks and opportunities effectiveness is carried out at the end of the academic year by making a record of the risk probability assessment by the head of the process in the structural divisions after the introduction of risk management measures in the "Completed" column of the quality assurance plan on a five-point scale: "1", "2", "3", "4", "5". If a risk event still occurred and had a negative impact on the activities of the educational organization, the risk event receives the status of "problem". Such problems are recorded in a special register. Educational organizations that implement lean manufacturing tools use visual boards with information about problem management. These visual boards usually contain a brief description of the problem, the owner of the problem, the place and time of its occurrence, the severity of the

problem, the necessary actions and deadlines for solving it, the status of actions and the status of the problem [5].

The effectiveness of processes in relation to risks and opportunities is reflected in: reports on the analysis of the quality management system by management at the level of both structural divisions and the University as a whole; in the report on the results of self-examination of BSU in the framework of collecting information when Monitoring the effectiveness of higher education institutions.

4 Conclusions

Thus, we can conclude that the operating environment of educational organizations is currently characterized by accelerated changes, globalization, instability, and constantly increasing requirements for the quality of services, which requires the use of effective strategic tools and risk management methods.

The success of identifying risks and opportunities in the implementation of risk management depends on the use of various approaches to risk assessment and analysis, one of which is SWOT analysis. In the process of risk management, participation and interaction of all

employees of the educational organization is of great importance, which requires a high level of communication development at the University and a high organizational culture. Identification of risks and opportunities should become an integral part of the quality management system of educational organizations and contribute to their continuous improvement and dynamic development.

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