

PROJECT RISK MANAGEMENT

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Abstract

In modern conditions, an increasing number of organizations are implementing a project management method, in which each unique business process is considered as a separate project that has phases of initiation, preparation, implementation and completion. Each project generates certain financial flows and at the same time provokes the risks associated with them. The technology of risk management in the project has certain specifics, which determines the relevance of its comprehensive study.

Keywords: risk, risk management, project risks, project management, project risk management

I. Introduction

Risk is one of the characteristics of the political, social and economic life of any society, and it is present in all aspects of the existence of a commercial organization operating in a market environment. The Civil Code of the Russian Federation defines entrepreneurial activity as risky and associated with regular profit. Researcher A.N. Fomichev believes that risk is the danger of loss of profit, income or property associated with changes in economic conditions and the emergence of certain external obstacles [2].

The concept of risk is inextricably linked with the concept of uncertainty - a state in which there is a lack of information about the prospects for the organization's activities and the conditions accompanying this activity. American economist F.H. Knight in his works defines risk as a situation when an economic operation leads to different results that can be calculated by their probabilities, and uncertainty as a situation in which it is not possible to calculate the probability distribution [1].

An important task of the organization is a well-established risk management process, which includes a number of activities aimed at monitoring and analyzing the risks that arise in the course of the financial and economic activities of the organization. Risk management is designed to reduce them to a value at which they cannot threaten the effective functioning of the organization. In the risk management system, strategy and tactics are distinguished: strategic management is aimed at identifying mechanisms to reduce risks, and tactical management includes the implementation of methods for implementing the chosen strategy.

The level of risk largely depends on the type of project (Figure 1).

The presence of dependence between the listed types of projects and the level of risk of their implementation is associated with an uncertain market reaction to various categories of investments. Obviously, the probability of negative consequences of investing in proven goods

and services is much lower than the risks associated with bringing innovative products to the market.

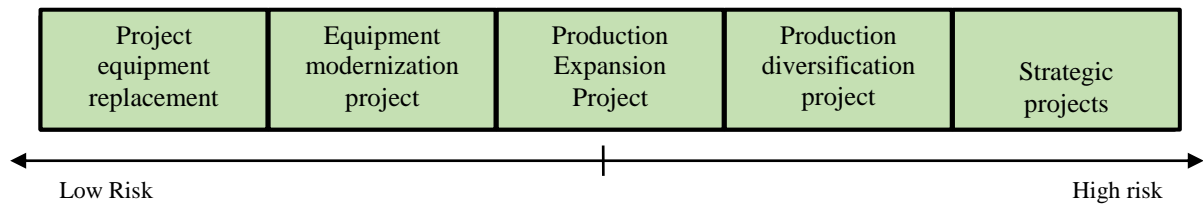


Figure 1: Relationship between types of projects and their level of risk

II. Methods

When analyzing the appropriateness of costs, the theory is adopted, according to which the increased consumption of resources during the implementation of the project can be caused by the following factors:

- initial error in the calculation of the cost of the project or its individual components;
- modification of the current conditions of project activities;
- insufficient performance of equipment that does not meet the requirements of the project;
- an increase in the cost of the project due to inflation or changes in tax legislation.

The analysis allows you to consider these factors in detail and make a list of possible cost increases for each of the options for an innovative project.

The analogy method consists in studying the available data on similar projects and studying the influence of negative factors on them in order to identify potential risks in the implementation of a new innovative project. Information about projects can be obtained from the reliability ratings of companies published by Western insurance companies. The ratings reflect such positions as the level of demand for different types of products, the cost of raw materials, fuel and other resources. Domestic databases have also appeared that analyze innovative projects based on a survey of managers, analysis and study of printed sources.

The complexity of the method lies in the competent choice of an analogue, while there are no exact criteria that would make it possible to establish the similarity of the project. There are also difficulties with the formulation of analysis factors that allow taking into account all options for the development of the situation. The reason is that the complexities that arise in the implementation of projects can overlap and the effect is the result of a complex interaction. No less difficult is the assessment of the degree of accuracy of applying the risks of another project to the one under consideration. There are no methodological developments in this area that allow to take into account the details and logic in risk assessment. Thus, the analogy method is more suitable for describing possible adverse situations than for obtaining an assessment of the risk of an innovative project.

III. Results

The method of expert assessments consists in the analysis of project risks with the involvement of qualified project specialists. As part of this methodology, experts are provided with questionnaires containing a list of factors that may have a negative impact on project activities. Expert evaluation is based on the Delphi method, methods of pairwise comparison, scoring, ranking, and others.

The statistical method is based on the analysis of changes in the analyzed indicators for a

selected period of time. At the same time, it is assumed that the established regularity will be observed in the future.

The method of sensitivity analysis considers the risk of the project as the level of sensitivity of its final indicators to changes in the conditions of the project. The conditions include such factors as the amount of taxes, the level of prices in the industry, the amount of costs and others that affect the functioning of the organization. The final performance indicators of the project implementation are investment analysis indicators (NPV, IRR, PI, payback period), as well as annual levels of net profit and profitability.

The sustainability test method is based on the creation of several scenarios for the implementation of the project: under optimal, probable and risky conditions. All scenarios are analyzed according to the following parameters: the size of the expected profit and costs, the efficiency index for individual investors, the region and the country as a whole. The project is considered potentially effective if NPV is positive in one of the scenarios.

The scenario method involves the analysis by experts of all potential conditions for the implementation of the project in the form of scenarios. Each scenario takes into account the level of costs and performance criteria. Based on the information received, the success indicators of the innovative project are calculated.

The simulation modeling method is a numerical method based on the determination of specific indicators using multiple runs carried out by a machine method using special computer programs. When generating a set of factors, each scenario receives its own NPV value, and the result of the study is the probability distribution of the possible outcomes of the project.

Another way to evaluate a project is to adjust the discount rate. The discount rate is the interest rate required to convert the expected return into a total present value. When adjusting the discount rate, the risk adjustment is included in the discount rate in advance.

To assess project risks, such a universal tool as a risk map can also be used, which allows you to assess risks by their degree of criticality. All of the listed methods of project risk assessment are designed to make the right choice in favor of the most effective scenario.

The project risk management process is based on four basic principles. The first principle is the awareness of making a risky decision. This principle means accepting the existence of risks, working on their analysis and developing measures to reduce and neutralize risks. The second principle is the correlation of the level of risks of economic activity with the size of the expected profitability. This principle means that decisions should not be made, the costs of implementation of which may be higher than the expected profit. The third principle is reasonable economy. The cost of activities should not exceed the potential adverse effects. The fourth principle is taking into account the time factor and its influence on the nature of financial and business operations.

Let us consider the spectrum of the listed risk management methods in more detail. Risk avoidance is a universal way, which consists in refusing to use borrowed capital, investing current assets, cooperation with a specific partner, as well as other business transactions. This method allows you to completely eliminate financial losses, but at the same time, its application does not allow you to receive additional income. Avoidance of all types of risks leads to a loss of efficiency in the use of equity capital and slow growth of economic indicators and, ultimately, to the bankruptcy of the company.

It is also possible to reduce project risks by partially transferring them to a third party: the relevant contracts are concluded with partners or an insurance company. At the same time, in exchange for appropriate financing, part of the risks is transferred to partners, for the neutralization of which they have the appropriate tools. So, for example, to reduce the risks of settlements with debtors, such a tool as factoring is used - a type of trade and commission operation, combined with financing of the client's working capital against the assignment of a monetary claim. In modern practice, factoring with the right of recourse and factoring without the right of recourse are distinguished. Recourse factoring assumes that the factor acquires from the

seller the right to the entire amount of the debt, but if it is impossible to collect it, the bank will demand it from the client. With non-recourse factoring, the risk of non-payment is fully borne by the bank, and the cost of this service increases significantly. Insurance allows you to avoid the risks associated with various force majeure circumstances - loss of property as a result of theft, fire, traffic accidents.

The project risk localization method is used if it is possible to identify specific risk sources with sufficient accuracy. Thus, to manage the risks of innovative projects, separate venture enterprises can be created that accumulate project resources received from the parent company and investors. Also, the project can be developed and executed within the framework of a special unit within the corporation. At the same time, internal standards for the allocation of financial, material and human resources within the framework of the project are used.

IV. Discussion

An effective method of risk management is their diversification, that is, the distribution of risks by investing in various projects. The company can diversify its products, investments, securities, portfolio of loans and deposits. Diversification can be carried out both on the scale of all activities and individual projects, which allows you to neutralize the consequences of management errors and underestimation of the negative consequences of individual management decisions. This tool is of the greatest importance for neutralizing technical, technological, marketing, financial and complex risks, while diversification is completely ineffective against political, legal, inflationary and tax risks that affect all areas of the organization.

Risk compensation in the project belongs to the category of proactive management methods of influence, which are designed to create optimal conditions that exclude the occurrence of causes and risk factors. Thus, marketing analysis allows you to accurately determine the needs of the market, monitoring the economic and legal environment allows you to avoid mistakes when concluding contracts, effective strategic planning, forecasting and budgeting make it possible to ensure the predictability of financial indicators of project activities. Self-insurance creates a reserve to finance unforeseen costs.

The choice of risk management methods in the project involves the use of both stereotypical and original solutions containing economically sound recommendations and measures aimed at reducing the initial level of risk to an acceptable level.

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