

**Volume 22, Special Issue 1****Print ISSN: 1098-8394;  
Online ISSN: 1528-2651**

# **ASSESSMENT OF THE RISKS OF ENTREPRENEURSHIP AS A PREREQUISITE FOR THE IMPLEMENTATION OF INNOVATION PROJECTS**

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## **ABSTRACT**

*It was determined that at selection of one of the most acceptable innovation projects, the enterprise should pay attention to the project risks of entrepreneurship, which reflects its compliance with the tasks set of both participants. In order to minimize those types of risks that are critical for the enterprise, the list of recommendations was proposed, which are aimed to reduce their negative impact on the implementation of the innovation projects of the enterprise and increase of its investment potential. It was proposed to use methods of reduction of investment risks when implementing projects at machine manufacturing enterprises, among which the following basic ones were determined: avoiding of the risk of entrepreneurship, reduction of its level, imposing of the risk on the investor or its transfer to the third party. Each method of reduction of investment risks at implementation of projects at the enterprise with the determination of their content, advantages and disadvantages is formed as the risk management toolkit.*

**Keywords:** Innovation Project, Risk of Entrepreneurship, Measure Effectiveness, Integral Indicator, Diversification.

**JEL Classifications:** I2, F6

## **INTRODUCTION**

With the increase of the globalizing processes for the industrial enterprises it is critically important to ensure qualitative changes aimed at the updating of the product assortment, financing of the scientific-and-technical works, modernization of the technical-and-technological basis, which ensure the overcoming of the economic lag in order to occupy the competitive positions at the global market. In these conditions, the increase of the efficiency of machine-building enterprises operating in one of the leading branches of the national economy becomes of particular importance.

In the current economic conditions, the priority task for all the enterprises of the machine-building industry is to increase the efficiency of the implementation of innovative

products, which ensures the maintenance and further development of own positions at the market for the effective work in the future.

## LITERATURE SURVEY

Today, machine-building enterprises are not able to compete on the world market and attract foreign investment in full scale (Hilorme et al., 2018). The problems that restrain the attraction of foreign investment in mechanical engineering enterprises include the instability of a number of factors of the economic environment, which have a negative impact on the financial result of the enterprise (Conforto & Amaral, 2016). That is why, when choosing one of the most suitable innovative projects, the managerial staff of the enterprise and investor should pay attention to, in particular, two main components—the effectiveness and riskiness of projects, which reflects their compliance with the goals of both parties (Chapman et al., 2016; Aalbers et al., 2016). The choice of an alternative project option depends, first of all, on how assessment of the investment attractiveness of the projects is substantiated and accurate (Alkhuraiji et al., 2016; Davies & Brady, 2016).

## METHODS

In this study, we used the following methods, methodological techniques and tools: we used abstract-logical methods for the development of economic categories associated with the determination of theoretical knowledge, essence of the investment potential and innovative project at enterprises; for the study of the eulogy of the views on the informational potential of the enterprise, we used quantified historical methods; for systematization of types of innovative projects, we used methods of classification; for the analysis of in-kind activity and estimation of investment potential of enterprises in the field of machine-building, we used the methods of statistical and comparative analysis; to ensure the integrity of the business environment and to address the risks of inaccuracies, we used the methods of survey and expert analysis that may arise at the enterprise when implementing innovative projects.

In assessing investment risks, it is appropriate to analyze the previous innovation projects of the machine-building enterprise. Such an analysis allows us to identify exactly those factors that caused in the past the occurrence of adverse events or led to risky outcomes.

Next it is necessary to identify all the dangerous internal and external factors that may endanger or jeopardize the implementation of innovative projects of the machine-building enterprises or cause the occurrence of negative events. Although the enterprise cannot eliminate all the dangerous factors, but they should be identified and, if possible, neutralized.

Taking into account that the same factors in some cases may have different effects on the market or from minor ones to become decisive, in such circumstances it is too difficult to carry out factor analysis.

## RESULTS AND DISCUSSION

The high level of risk in investment activity of the machine-building enterprises is explained by the fact that investment decisions, on the one hand, require significant investment, and, on the other hand, not all innovative projects bring the desired economic effect to the enterprise. The effectiveness of innovative projects of machine-building enterprises can also be

assessed from the point of view of influence of the risks on them. So, in particular, it is possible to consider general approaches to the structuring of the risks of the innovation projects.

Note that the higher the degree of risk of an innovation project, the less likely a machine-building enterprise to get the planned profit from the project, and the less attractive this project for the investor will be, taking into account the investor's attitude towards risk. Therefore, from selected alternative innovation projects that are able to generate equal income, the investor will choose the one in which the degree of risk will be lower (Tetiana et al., 2018).

Measures that are most commonly used to reduce investment risks when implementing projects at machine-building enterprises include: avoiding of the risk, reduction of its level, imposing of the risk on the investor or its transfer to the third party.

Thus, we distinguish the most important measures for the management of investment risks.

Avoidance of the risk is a refusal of a project associated with a high risk. The result of the use of such a method is the interruption of the production of certain types of products, rejection of the scope of activities in the event of such risks, and the choice of a new one, where such risks are absent. This method of responding to risks is effective when there is a high probability of occurrence of losses.

Risk reduction-the application of measures that reduce the size of the loss or the likelihood of occurrence of adverse events. The use of this method is effective when large amounts of possible losses are expected. The most common methods for risk reduction include: the preparation of innovative projects of high quality with guarantee of profit; diversification of risk; implementation of various measures to prevent risks, etc.

Imposing of the risk on the investor is only possible if it is confident that it will be able to recover the probable loss of capital from its own funds. The use of this method is justified in cases where the frequency of losses is low and the amount of potential losses is insignificant. The methods of using such a strategy should include the self-insurance, creation of venture companies or the use of economic forecasts and monitoring.

The use of each method requires compliance with certain conditions (in particular, the need for additional time), which may be inappropriate for an investor. A comparative description of ways to reduce investment risk is proposed in the following table (Table 1).

<b>Method name</b>	<b>Method content</b>	<b>Advantages</b>	<b>Disadvantages</b>
Hedging	The method of insurance against the occurrence of adverse events in the future	Helps to keep profits at a fixed level	Refusal to receive excess profits
Limitation	Setting of marginal investment amounts	Reduction of losses to the optimal level	It has influence on certain types of risks, in particular, production and technology risks slow down the process of obtaining possible profits.

Diversification	Distribution of investments between different objects that are not interconnected.	The absence of additional financial expenses; limitation of the risk associated with ownership of one asset (type of activity, supplier, etc.)	The establishment of an equilibrium between risk and profit, which is a burdensome process; the possibility of improper selection of objects; extra time consumption
Insurance	Protection of property rights of both physical and legal persons in case of need for insurance at the expense of the insurance fund	The most common method that does not require extra time.	Excess financial expenses directed on payment of insurance premiums
Acquisition of excess information	Acquisition of information in order to prevent and reduce the risk factors	Risk reduction by reducing uncertainty	Additional spending of funds aimed at purchasing information that is probabilistic

So, the assessment of investment risks in the implementation of innovative projects will lead to its minimization to the allowable level, within which the enterprise can carry out its activities without the threat to its functioning.

In order to minimize investment risks, it is necessary to carry out appropriate research measures: time, financial costs and organizational efforts, etc. The investment risk assessment is an integral part of the mechanism for increasing the investment potential of machine-building enterprises.

In addition, in order to minimize investment risks, special attention should be paid to the following subsystems that influence the increase of the investment potential of an enterprise: staff management; strategic planning; tactical planning that can include development and selection of innovation projects of the enterprise; operational management; management of the technical and technical support, and sales of products.

The minimization of investment risks should be achieved through the introduction of risk management systems, the activities of which shall be being carried out at all stages of the enterprise management, and the result of it is the support the permissible level of risk of the innovation project (Tetiana et al., 2018a).

As a result it was found that the significant impact on the calculation of the innovation project at the machine-building enterprises can be from the risks, which we propose to classify as follows:

Institutional and legal risks (risk of increase of taxes and duties; risk of the investor's property nationalization in the country-recipient, which reduces the possibility of investment of funds in innovative projects by the investor, the risk of changes in exchange rates, inflation, risk of changes in legislative and normative-and-legal acts on matters of investment of the country-recipient; the risk of a change in the general political and economic situation in the country).

Marketing risks (risk of failure in goods promotion; risk of non-correctness or absence of the information needed about the market situation; risk of occurrence of new competitors at the market; risk of increase of expenses for market penetration; risk of non-correct determination of the price and quantities of goods at the market).

Financial risks (risk of non-fulfilment of obligations for implementation of the innovation project; risk of insolvency of the enterprise; risk of unforeseen expenses and decrease in the income of the enterprise; risk of non-profitability of the products made; risk of non-correct

assessment of enterprise assets; risk of increase of the interest rate and unprofitable conditions of crediting; risk of unexpected demand to return of the funds borrowed).

Intellectual-staff risks (the risk of difficulties with recruiting of the qualified man power; the risk of staff turnover and the reduction of their efficiency; the risk associated with the informational security and the protection of the commercial secret; the risk of the effective motivation of the staff).

Production-and-technological risks (risk of problems related to the organization of the production process; risk of the absence of the reserve of the technology capacities; risk of the low level of the technological production; risk of the emergency at the enterprise and damage to the equipment; risk of the obsolescence or low level of quality of the technology purchased).

Information risks (the risk of obsolete or missing computer equipment, the risk of insufficient reliability of software, risk of obsolescence of IT-technology, risk of the lack of necessary automation systems).

So, the integral factor of investment risk is the function of the group of factors:

$$R_i = f(R_1, R_2, R_3, R_4, R_5, R_6) \quad (1)$$

Where R1: Set of factors of institutional and legal risks, R2: Set of factors of the marketing risks, R3: Set of factors of financial risks, R4: Set of factors of the intellectual-and-staff risks, R5: Set of factors of production-and-technological risks, R6: Set of factors of information risks.

It was determined that at selection of one of the most acceptable innovation projects, the enterprise should pay attention to the project risks, which reflects its compliance with the tasks set of both participants.

At the level of operational evaluation, the decisions are made to prevent or compensate for losses when implementing an innovation project, i.e. ongoing control over the implementation of measures to prevent or reduce the negative impact of investment risks, as well as factors that can increase them. In case of deviations from the plan, an adjustment should be made. The effectiveness of such a measure shall be determined by the quality of its implementation and the sensitivity to negative factors in the process of implementation of an innovation project.

In a situation where the use of methods to minimize the risk is impossible or did not produce the desired result, the innovation project should be abandoned.

After identification of all the major risks that an enterprise may encounter when implementing an innovation project, it is worthwhile to assess the probability of occurrence of each such risk. Since the risk assessment is carried out mainly in the absence of a complete response to objective information, and given the fact that it has a significant influence on the subjective opinion of the experts, we propose the results obtained from the risk assessment not to understand as the absolute true estimates of probable inputs, but only to divide them in those that are more important (those that need to be taken into account and the use of means of influence on them) and those that are unimportant (those that should be taken into account, but not take immediate measures to prevent their negative impact). In such a situation, it is possible to use an expert method.

The results of our study complements the existing study. The choice of an alternative project option depends, first of all, on how assessment of the investment attractiveness of the projects is substantiated and accurate (Alkhuraiji et al., 2016; Hasanudin et al., 2019; Shuyan & Fabuš, 2019).

## CONCLUSIONS

As the results of the previous investigations, it was revealed that the following types of risks are likely to have an adverse effect on the calculation of the innovation project at the machine-building enterprises: financial, marketing, intellectual, technical, informational and institutional-legal.

It was proposed to use methods of reduction of investment risks when implementing projects at machine manufacturing enterprises, among which the following basic ones were determined: avoiding of the risk, reduction of its level, imposing of the risk on the investor or its transfer to the third party.

To analyze, evaluate and control the level of investment potential of enterprises in the integrated system, a subsystem of monitoring of processes of increasing investment potential, through which the company can trace the indicators of the level of investment potential via the feedback channels and implement innovative projects to increase them.

## RECOMMENDATIONS

Using the suggested recommendations, it is possible to increase the investment potential of the machine-building enterprise as a whole, and to ensure the effective implementation of innovative projects, in particular. This result can be achieved by: a clear determination of the sources of investment risks and their possible impact; timely monitoring of the state of the macro and micro environment of the implementation of the innovation project; clear control over the risk management process; the availability of the resources needed to ensure quickness, and sufficient timeline for project implementation.

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