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ENTREPRENEURSHIP DECISION MAKING MODEL FOR INVESTMENT ACTIVITY

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ABSTRACT

We studied the interrelations between the enterprise assets and its investment processes and justified the role of intangible assets in the formation of the entrepreneurship strategic assets as their main types, which combine modern technologies, human knowledge, intellectual resources, software and hardware into the unified complexes that are able to ensure the powerful development of the machine-building enterprise and introduction of the innovation in all areas of its functioning and generate profitability of the enterprise. The scientific-methodical approach to formation of strategic assets of the enterprise has been developed. We improved multi criteria model for making managerial decisions, which additionally introduces a target decision criterion that allows for a reasonable compromise between the values of all partial indicators of the model and reasonably choose the optimal option for the formation of strategic assets.

Keywords: Investment Activity, Managerial Decisions, Innovations, Competitive Status, Entrepreneurship Development.

JEL Classifications: I2, F6

INTRODUCTION

In the conditions of the exit of the country economy out of crisis, an important aspect of the economic policy of enterprises is the intensity of investment activity, since it is impossible to ensure sustainable socio-economic development of the state without it. The intensification of investment activity is an important factor in the economic development of the state and the solution of the main social problems. The scopes, structure and efficiency of investment use is a key factor determining the economic performance at the macro and micro levels of the national economy, its competitiveness and prospects for development. The changes in the structure of investments affect the development of various spheres and sectors of the national economy, and volumes of national production and employment. The areas of intensification of investment activity of enterprises and finding ways to increase their investment attractiveness were and remain most urgent.

REVIEW OF PREVIOUS STUDIES

The most characteristic signs of modern positive trends in the development of machine-building enterprises should be:

- Creation of fundamentally new technologies of production of high-tech and high-quality equipment with unique consumer properties for the future world industrial market (Jenner, 2016; Klineciewicz, 2017).
- A high degree of flexibility and adaptability of the enterprise to the dynamic changes of the environment and market conditions (Tetiana et al., 2018:2018a; Hilorme et al., 2018).
- Strengthening and development of mutually beneficial long-term cooperation with customers, suppliers and other partners (Nakashydzė & Gil'orme, 2015; Fabuř & Csabay, 2018).
- High image and perfect reputation of the company in the foreign market (Kerzner, 2018; Chandra, 2017).

So, the successful and efficient operation of a machine-building enterprise and effective use of its assets determine its market value and market activity, which can be measured by the types of markets in which the enterprise is capable to carry out successful business.

METHODOLOGY

The study used the following methods: abstract-logical and analytical-comparative methods (to identify the essence of investment, investment activity, socio-economic efficiency of investment activity, when studying the trends of investment activity in the economy); graphic methods (for the multifaceted and visual presentation of information about the results of the activity of machine-building enterprises and assessment of the level of development of their investment activity); comparative and structural analysis (to determine the dynamic and structural changes in the assets of industry enterprises and sources of their financing); economic and mathematical methods (for the formation of groups of indicators and assessment of the level of investment activity, for the construction of a multi criteria model of managerial decision making); methods of system analysis (in determining the main fields of management of investment activities in mechanical engineering).

The consideration of many factors and components in the process of making managerial decisions is ensured by the application of scientific methodological approaches and mathematical tools for making managerial decisions. For this purpose, we consider the possibility of applying a multi criteria model of managerial decision-making proposed and adapted by scientists to make decisions of this type.

The decision-making on the effectiveness of choosing strategic assets for machine-building enterprises is a relatively new task, which has no previous (actual) data that reflects certain traditional aspects or experience of formation of strategic assets of an enterprise, as well as further effects on the magnitude of their formation and features of future use are also unknown (Lasserre, 2017; Černevičiūtė & Strazdas, 2018).

The ranking, ball scores, direct numerical estimation, and method of pair comparisons can be used as methods for determination of the coefficients of the relative importance of the criteria for choosing strategic assets of machine-building enterprises (Lasserre, 2017). The purpose of building of correlated quantitative scales-the bringing the initial data to a comparable view and taking into account the features of determination of the advantages (target criteria) of the selection options for each criterion-is considered to be traditional.

RESULTS AND DISCUSSION

An important task of the investment activity of the enterprise is the choice of the most effective areas of investment in order to increase its competitive status, increase profitability and ensure the further successful functioning. In the conditions of weak economic development, low purchasing power of legal entities and individuals, and low level of their profitability, enterprises need to give preference to real investments, in particular, to provide optimal choice of certain types of assets as objects of investment.

In turn, the successful market activity of the machine-building enterprise leads to an increase in its capital and increases the value and quality of assets. It should be borne in mind that each type of activity, each type of market and each type of assets of the enterprise have a close relationship (Table 1).

Types of markets	Types of Activities		
	Operational activity	Investment activity	Financial activities
Market of goods and services	The purchase of raw materials, components, goods, sale of products, purchase and sale of services.	Purchase of raw materials and components for innovative projects.	Financial support for purchase of assets and services.
Market of non-current tangible assets and related services	Purchase of spare parts for current repairs and leasing operations.	Modernization of existing equipment, purchase of new equipment and technical equipment; sale of non-current tangible assets that are not used in the enterprise and leasing operations.	Financial support for the acquisition of non-current assets and services related to their introduction.
Market of intangible assets and innovations	Putting into operation of purchased intangible assets and innovative technologies.	Acquisition and updating of modern production technologies, licenses, know-how, information systems and technologies; sale of intangible assets that are not used in the enterprise and leasing operations.	Financial support for the purchase of intangible assets and innovations.
Financial market	Formation of accounts receivable and accounts payable.	Fulfilment of financial investments (transactions with securities).	Depositing funds and obtaining loans.

The domestic market, as well as foreign markets of those enterprises engaged in foreign economic activity, including the purchase of raw materials, components, sales of products, purchase and sale of services act as the market of goods and services for machine-building enterprises.

The market for non-negotiable tangible assets and related services was separately highlighted, since machine-building enterprises have a specific character in the formation of material and technical support of production processes for the production of complex technical products, which primarily determines their ability to introduce innovations and compete in the market.

For today, the modern technologies of the machine-building enterprises, which are represented on the market of intangible assets and innovations, are of great importance.

So, the assets of machine-building enterprises form the basis of their investment activity, activity on the domestic and foreign markets, and promote the introduction of modern technologies into production processes for increase of competitiveness and profitability.

The formation and use of assets of machine-building enterprises as investment objects is connected with the need of enterprises to improve their management, since the rapid pace of development of scientific and technological progress leads to the emergence of new types of assets in resource markets and the filling the essence of various economic categories and concepts that associated with them with a new content.

However, its believed that the immense resources of machine-building enterprises, like any other enterprise, cannot be formed without available resources, and immense resources arise in the process of use, circulation, transformation, various economic transformations of all types of assets of a machine-building enterprise in the course of its operational, financial and investment activities. However, the feature of the strategic assets of machine-building enterprises is their ability to ensure the enterprise, as an economic system, a qualitatively new stage in the development of all its structural elements, and the characteristic features of strategic assets are affordability, cost, efficiency, innovation, and profitability.

The availability of strategic assets of the machine-building enterprise is confirmed by the presence of such in the domestic and foreign markets, as well as the ability of the enterprise to their formation and use. The value of strategic assets reflects their market evaluation, with which they are entered into the enterprise, credited to its balance sheet and determine the cost price of products, works, services in the process of their use, as well as participate in formation of the market value and profitability of the enterprise.

The use of strategic assets, as well as all other objects of investment activity, is also manifested in the obtaining of socio-economic effects by the machine-building enterprise.

The above essence of strategic assets characterized by us evidences that their main types are intangible assets that connect modern technologies, human knowledge, intellectual resources, software and hardware in one complex, capable to provide a powerful development of the machine-building enterprise, introduction of innovations capable to generate profitability of the enterprise in all spheres of its functioning.

Each machine-building enterprise has access to a certain type of assets as its competitors, but strategic assets as objects of investment are different for each enterprise, as it depends on the financial and economic development of the enterprise, specifics of its functioning, level of development of the enterprise management system, features of its investment activity and the general ability to effectively use the strategic assets of the enterprise.

Due to the formation of strategic assets by machine-building enterprises as objects of investment and their use, the processes of accumulation of other types of resources will occur in the enterprises, which will be valuable for their clients and owners, which will be manifested in satisfying the needs of customers and employees of the enterprise, increasing the competitiveness of products; profitability of the enterprise and growth of its image in the market.

The formation of strategic assets of machine-building enterprises involves the consideration of a large number of factors that need to be combined in the process of making managerial decisions to select the optimal option from many possible ones. In such circumstances, the adoption of a reasoned decision requires the definition of a clear goal, complete information on the situation of decision-making, complete information on all possible alternatives and a rational system of ordering benefits by their degree of importance.

The process of managerial decision-making involves the presence of such components as managed variables—a set of factors and conditions that cause the emergence of a particular problem, which can be managed by the subject of the managerial decision-making; unmanaged variables—situations that cannot be managed by the subject of a managerial decision-making, but which can be managed by other persons; limitation on the value of managed and unmanaged variables that collectively determine the range of admissible values of the decision; criterion (or criteria) for assessment of alternative decisions, the criterion can be given by a quantitative model or qualitatively (in terms of individual preferences or in terms of fuzzy logic); decisive rule (or a system of decisive rules)—principles and methods of choosing a decision in result of the application of which one can receive recommendations or recommended decision; alternatives (possible outcomes), depending on both the values of qualitative or quantitative managed and unmanaged variables, and on the choice itself.

The Criterion Model (CM) of decision-making can be represented as follows:

$$KM = \langle T, S, K, X, F, C \rangle \quad (1)$$

Where, T: task of decision-making; S - the set of admissible decision options; K: the set of decision criteria; X: set of scales of evaluation; F: display of the set of admissible decisions in the set of vector estimates; C: target criterion (rule) of decision making.

The set task of decision-making (T) corresponds to the target criterion for making a decision on the formation of strategic assets by machine-building enterprises. The meaningful statement of the problem requires finding the most attractive decision for each machine-building enterprise, taking into account the features of its functioning. The S set represents a set of many decisions, taking into account certain constraints that are considered as possible ways to achieve the goal - the formation of a certain type of strategic assets of the enterprise and a clearly defined amount. The elements of the S set at the decision-making on our production situation are also called admissible decisions, strategies or alternatives. Each decision acquires its definite value (result), which is evaluated according to predetermined criteria K_1, K_2, \dots, K_m .

The results of our study complements the existing study. Strengthening and development of mutually beneficial long-term cooperation with customers, suppliers and other partners (Nakashydze & Gil'orme, 2015); high image and perfect reputation of the company in the foreign market (Kerzner, 2018; Chandra, 2017; Zhylankozova, 2018).

CONCLUSIONS

An improved multi criteria model of managerial decision-making, which further introduces a target decision criterion, which allows to determine and assess the relationship between all the values of the model's indicators and reasonably select the strategic assets as investment objects of the machine-building enterprise. Thus, the use of mathematical tools in the management of investment activities will ensure a reasonable adoption of managerial decisions on the choice of investment objects for further socio-economic development of machine-building enterprises.

We justified the multifunctionality of investment activity, its interrelation with financial, operational and management activity, and proposed a complex estimation of investment activity of the machine-building enterprise with the use of expert assessments and a system of indicators in terms of three components: managerial, production, and financial-and-economic. The results

of the complex assessment serve as an integral part of the information support for managerial decision-making regarding the further development of the investment activity of the enterprise.

RECOMMENDATIONS

In order to solve the outlined scientific problem, it is recommended to calculate the reserve for investment activity as the implementation of deductions using a fixed rate: from net income of the enterprise; from the income received as a result of sale of the property; from the net profit of the enterprise. This will ensure the formation of a reserve for technological upgrading of an enterprise and increase volumes of production.

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