

Scope and principles of financial management of industrial enterprises innovative

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Abstract. Effective innovation policy (strategy) of a business entity is formed as system-oriented management software based on a problem-oriented approach. The general objective of innovation is to provide specific opportunities of an economic entity in the long-term period with a maximum detection of internal capacity. Internal capacity - is not only the willingness to meet market requirements in perspective (production consumers), changing economic conditions in the resource markets, state fiscal policy, but also the internal technical and economic potential and management. Innovation policy at the enterprise is determined by the process of foresight of global economic changes, finding and implementing large-scale solutions to ensure the survival of the business and its sustainable development by emphasizing on future success factors identified. It involves combination of technical and investment policies and aims to enroot new technologies and products. Managing innovations solves questions of planning and realization of innovative projects designed to significantly push the quality of business environment forward.

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Introduction

The development of innovation strategy at the enterprise is the prerogative of the higher levels of management. It is based on solving the following tasks: setting strategic goals, evaluation of the company's capabilities and resources, analysis of marketing, science and technology trends, identification of innovative projects and assessment of potential opportunities based on defined criteria [1].

Management of innovation projects can be treated both as the process of making managerial decisions and as the organization system. In the former case innovation project involves a series of interrelated stages while the latter can represent innovations management as a structure which involves the composition and the relationship of controls, regulation of their functions, duties, rights and responsibilities [2].

Considering these aspects, managing an innovative project should be understood as the process of making and implementation of management decisions related to the determination of objectives, organizational structure, planning of actions and monitoring their progress, aimed at implementation of an innovative idea [3].

Main

Innovative project management should be based on a set of scientifically based and field-proven principles. The main principles are:

1. The principle of selective management. Support for projects developed in priority areas of science and technology.

2. The principle of projects target orientation to achieve the ultimate goals. Building bridges between the needs in creating innovation and implementation capabilities.

3. The principle of project management cycle completeness. This principle suggests closed ordering of parts of the project treated as independent systems.

4. The principle of phasing of innovation processes and project management processes. This principle requires the description of a full cycle of each stage of formation and realization of the project.

5. Principle of the hierarchical organization of innovative processes and management processes involves their representation, with varying degrees of detail, an appropriate level of the hierarchy. All levels of activity are consistent with each other, so that downstream level is subject to a higher level, and the states of process (decisions, objectives, outputs and outcomes) at a higher level are required in determining the states of subordinate levels [4].

6. The principle of multivariancy when making management decisions. Innovative processes are strongly influenced by uncertain factors taken into account in the management process. To reduce the degree of uncertainty it is necessary to use multivariate preparation of alternative decisions on the choice of the ultimate goals of the projects, alternative ways of achieving them, of the integrated maintenance of works, cost and duration of works, and inventory resources.

7. Principle of systems, consisting in the development of aggregate measures necessary for the realization of the project (organizational, economic, legislative, administrative, technological etc.), in conjunction with the concept of development of the country as a whole.

8. The principle of comprehensiveness. It is meant that the development of individual tied together elements of the project structure that achieve sub-goals should be in accordance with the general (common) aim of a project.

9. The principle of provision (balance), consisting in the fact that all activities authorized in the project, are provided with various kinds of necessary resources for its implementation: financial, informational, material and labor.

In general the control loop can be represented in two stages: the development of the innovative project management and implementation of innovative projects. In the first stage project objectives and expected outcomes are defined. First stage also assesses the competitiveness and prospects of the project and potential synergies, forms part of a set of activities and tasks of the project, carries out project planning and design of it. It is important at this stage to assess the realizability of the project [5].

In the second stage organizational forms of management are selected. This stage solves problems of measurement, forecast and evaluation of the present situation to achieve operational results, costs, time, resources and finances, analyze and eliminate the causes of deviations from the developed plan, forms a plan of correction. From the theory of control systems point of view the project as an object of management should be monitored and managed. The main characteristics of the project are highlighted, which can help you constantly monitor the progress of the project. Manageability is carried out through mechanisms for the timely impact on the progress of the project in all its basic parameters. Controllability property is closely related to the conditions of uncertainty that accompany almost any innovative project. That is why for handling a wide range of changes in the characteristics of the project it is advisable to use econometric models that take into account the presence of random factors and risk situations. Analysis of these models is carried out with the help of modern information technologies, and the results of their analysis can provide reliable solutions in situations of incomplete information about the nature of control processes.

Each project, regardless of the complexity and volume of work required to implement it passes in its development certain states from idea to completion of the project [6].

Project Management Institute identifies six basic functions of project management.

1. Control of project scope. Subject area of the project (project goals, objectives and work, their volumes together with the required resources) during its "life" is changing and there is a need to manage the project scope (sometimes they say "managing for results", "job or volume control")

2. Quality management. For the project requirements or standards of the results quality by which to assess the success of the project should be established. Determination, control and support of these requirements throughout the "life" of the project requires the implementation of quality management.

3. Time management. Each project is set a period of time and project deadlines. Time is the most important, but the "inflexible" resource, so all the work and interaction of all participants should be carefully planned, controlled and timely action should be taken to eliminate or prevent unwanted deviations from deadlines.

4. Cost Management. Each project has a fixed budget, but not every project is completed within budget. Cost is closely associated with the time, but unlike him, is a flexible resource.

5. Communication management or management information links. To monitor the status of progress of the project, its surroundings and the forecast results must be applied retrospectively information link. Management information links provides a timely response to external and internal disturbances.

6. Risk management. Implementation of the project due to the uncertainty of many elements, the probabilistic nature of the processes, and therefore risks. Level of project risk can be reduced by taking special measures. And specified level of project risk can be achieved with minimal effort. However, this requires a thorough study of the nature of the project and its environment.

Determination of these six functions is justified by the fact that they are defined based on the most important criteria for evaluating such projects as [7]:

1. Technical feasibility (defined by project scope and quality);

2. Competitiveness (defined by quality, time and costs);

3. Labor input (effort spent on the project, as measured by time and cost);

4. Viability (defined subject area, cost, and risk);

5. Effectiveness of the implementation of the project (defined by participating staff, communications, supply system).

In the process of analysis and evaluation of the project the following key aspects of its implementation are taken into account:

1. Technical aspects : technical feasibility of the project and its use of the best available technical alternatives .

2 . Marketing aspects : prospects of the project (adequacy of effective demand for the products of the project).

3 . Financial aspects: the viability of the project in terms of investment , compensation cost for the project , the project's profitability , financial risk , etc.

4 . Economic aspects : economic feasibility , evaluation of the project , the cost of its implementation and operation , economic risks , profitability of the project , the availability of adequate incentives for various project participants.

5 . Organizational aspects : the presence of the responsible for the project as a whole organization , form the performance of its functions for the preparation, operation and management of a project throughout its life cycle .

Successful completion of the project is defined as the achievement of the objectives of the project, not going beyond the limits [8].

Targeting of the project and its complexity is provided by the following:

1. The system of quantitative parameters reflecting the goal of the project;

2. Balance of project resources;

3. Possibility of perforated control from the beginning to the end of the project and achievement of the desired economic effect during its life cycle.

The composition and content of the work on the project can be divided into the following phases:

- Formation of the concept
- Develop a business proposal
- Planning
- Preparation
- Delivery of an object and project completion

Currently, the main type of innovation is the acquisition of scientific and technical products to implement technological innovation, this type of activity include more than 50% of the costs of all spending on innovation of industrial enterprises, since the creation and implementation of their own scientific technology - the process of long-term and difficult to predict [9].

Any project requires the use of project management methodologies. Specialization of the project is decomposed into its structural model on several levels at partial objects and processes. And because the project model may vary in its implementation, it is necessary to systematically manage changes, to control their behavior and impact

on the timing, costs and other characteristics of the project.

Constructing models of the innovation process are developed by Lvov, Grachevoy, Livshits, Pleshchinskiy etc.

The authors identified an optimization model of the current investment project proposed by Pleshchinskiy and consisting in determining capital investment in fixed assets in order to select sources of project financing, alternative technologies, plan logistics enterprises to ensure the effective functioning in market conditions.

The model reflects the interdependence of the existing production structure and production program based on a study of the demand for final products and the supply of resources, as well as the analysis of the production capacity of the enterprise. Limitations of the model are the following:

- The available labor resources and fixed assets;

- The available feedstock (raw materials and materials) ;

- Largest demand for end products ;

- Controlled by the need to maintain market share of manufactured products ;

- To change the production structure (due to changes in fixed assets and human resources) .

- Restrictions , taking into account the elements of the current financing of the project;

- Restrictions , taking into account the funds for the implementation of current investments (including its own fund development loan funds , funds received from the sale of the fixed assets and borrowed funds from other sources;

- Restrictions describing net sales of output :

- By material costs ;

- On labor costs ;

- Depreciation of fixed assets;

- Forming the profit for the current year ;

- Income tax ;

- Personal income tax.

The optimality criterion used by the model author maximizes the net profit from the sale of this investment project. The optimal solution of this model defines the types and number of units of new or additional fixed assets, which are being implemented in accordance with the current investment process and the sources and sizes of raised and borrowed money, the optimum size of investments and net income in the current period in the implementation of the investment project.

Execution of works is provided by the utilization of necessary resources: material, labor, capital. This aim is achieved through effective management of an innovative project that provides a rational allocation of resources, coordination of works

executed sequence and compensated the impact of internal and external environmental factors.

The main objective of the course in an innovative project is to provide the necessary resources and control of these resources.

Innovative project, considered as a process taking place in time, includes the following steps:

- Creating innovative ideas. This is a process of the birth of the innovative ideas and formulating the general (finite) project objectives. At this stage, the ultimate goals (quantitative assessment of volumes, terms, profit margins) of the project and identify ways to achieve them are defined subjects and objects of investment, their forms and sources;

- Development of the project. It is the process of finding solutions to achieve the ultimate goals of the project and the formation of articulating time, resources, and implementing complex tasks and objectives of the project implementation activities. At this stage, carried out a comparative analysis of the various options for achieving project objectives and selection of the most viable (effective) to implement, developed a plan for implementing innovative project to decide on specific organizations for project work (project team) made a competitive selection of potential contractors of the project and contract documents issued;

- Implementation of the project. This is a process towards realization of the goals of the project. At this stage the control of execution schedules and resource consumption, correction of deviations and operational control of the implementation of the project are being held;

- completion of the project. This is the process of putting the project results to the customer and closing contracts (agreements). This completes the life cycle of an innovation project.

Through research of theory and methodology, analysis and evaluation of innovative projects at the present stage the authors identified methods of analysis and evaluation of innovative projects presented in the works of Balabanov, S. Valdaytsev, P. Zavlin, E. Krylov, V. Medinskiy, Ogoleva L. and R. Fathudinov.

In Zavlin studies innovative project is divided into product-themed plan, calendar plan, techno-economic (resource) plan and business plan.

Product and thematic plan of an innovative project represents tallies on resources, timeframes and implementation of complex tasks of R & D, as well as work of their provision for effective implementation of the project objectives.

Effective method for developing product-thematic plan are software-oriented methods, tools - "objectives tree" and "tree work", and the main form - the development of a comprehensive program of the project.

Calendar plan of an innovative project is for the duration and the amount of work, start and end dates of work, themes, Product and thematic plan tasks, reserves of time and amount of resources required for the project. Calendar calculations are aimed at regulation of coherent and consistent progress based on their sequence and appropriate relationship to each topic (task) Topical Plan and implementing individual organizations (detailed schedules), as well as for the whole project (combined optimal calendar plan).

Techno-economic plan (or resource) is a resource supply plan of an innovation project (logistics, mining, information, money) and determine the composition and the need for resources, delivery time and potential suppliers and contractors. In the process of resource planning to develop and carry trades contracting, concluded agreements (contracts) for delivery. A resource supply contract is a fundamental document regulating the timing, amount and terms of delivery resources. One special kind of resources is cash (finance). Costs planning should be carried out in such a way that they can meet the financing needs for the entire time of the project.

Business plan of an innovative project allows evaluating and justifying the feasibility of the project in terms of competition. Business plan is a short policy document that gives an idea about the objectives, methods and expected outcomes of the innovation project. The value of it is that it enables us to determine the viability of the project in terms of competition contains criteria landmark of the project development and is an important instrument of financial support from outside investors.

In studies by Krylov the following steps for creating and implementing an innovative project are emphasized: selection and preliminary study of innovative ideas, research investment opportunities of the enterprise; feasibility study of the project, implementation of the project.

According to research presented above, as well as other research scientists and economists technique analysis and evaluation of innovative projects is presented in the form of the following sections:

- Analysis of the situation in the industry;
- Market analysis products of the project;
- A marketing plan;
- Production plan;
- The main technical and technological solutions;
- Providing resources;
- Assessment of impact on the environment;
- Plan of production and sales.
- Implementation Plan of the project.
- The expected impact of the project [10].

Situational analysis in the industry.

Describes the purpose of the future project in the context of the existing state of affairs in the industry. Provides information:

- Analysis of the current state of the industry, the need and the volume of production in the region and (or) Russia, the significance of the projected production for economic and social development of enterprises, industries, countries and (or) in the region;
- Potential competitors (name and address of the main producers);
- Potential consumers of the product innovation project;
- Information on the latest developments.

Market analysis of product production.

Presents issues:

- Characteristics of a potential customer ;
- Characteristics of competitors with their strengths and weaknesses ;
- Evaluation of the competitiveness of products of the project;
- Patent situation - products protection in the country of the licensee , in the domestic and export markets , the opportunity for competitors to produce relevant products without patent infringement ;
- The size and features of the project and product market forecast of its development;
- A retrospective analysis of the dynamics of consumption and production project for the whole market;
- Forecast demand for the products of the project, the nature of demand for the products: even or seasonal;
- Estimate of the share of the enterprise market.

Marketing plan. The rationale for the choice of policy in the field of marketing is provided at this stage, which is done on the basis of forecast market conditions, demand studies, taking into account the price level, inflation and the state of business activity. In this case the following information is disclosed:

- Competitive strategy, what possible actions of competitors to be feared;
- Pricing and promotional policies;
- Marketing system with an indication of firms involved in the implementation;
- Opportunities to promote sales, including foreign markets;
- Program sales (who and how many can be sold);
- Justification of the costs of product sales;
- Determination of the cost of advertising;
- Costs and revenues in the case of after-sales service, including the costs associated with the need to conduct scientific research or training post-investment studies for production and sales.

Production plan. The substantiation of the technical feasibility and realizability of the innovative project argued selection of the production process, characterized by technical and technological parameters of the project according to the approved design and estimate documentation, planned progress of the project and production volumes.

Location of the innovation object. Issues covered:

- Basic requirements for location (site, track) of the object;
- Analysis of options for placement of the object and rationale for the chosen location , taking into account social, economic and environmental situation in the region, the availability of raw materials, market products, transport, communications , utilities and other industrial and social infrastructure , as well as the region's needs for additional working places;
- A brief description of the selected object placement options, the basic criteria for its optimal.

Rationale of the selected options for placement must contain cartographic and other materials, including a scheme situational plan with the placement facility construction and indication of places its attachment to engineering networks and communications and the scheme of master plan of the object.

Main technical and technological solutions.

This section:

- Provides the rationale for the chosen technical and technological solutions for primary and secondary production based on an assessment of possible options for their implementation at the level of technical and economic efficiency, technical security, resource consumption per unit of production, as well as risk and probability of emergency situations;
- Describes the sources and the order of acquisition of technology, brief description of the technology requirements for the main process equipment, the implementation of which provides technological and environmental safety of the enterprise;
- Gives rationale for the choice made nomenclature and composition of the main technological equipment, analyzes the possible purchase options - leasing, renting, buying;
- Rationalizes the choice of suppliers;
- Determines the need for auxiliary machines and mechanisms in the course of the project, a description of available, planned to attract missing (works, rent, lease, purchase);
- Considers industrial and technological structure of the enterprise with the full description of the production process on the main, and the incidental by-products of the project, including the disclosure of

questions on recycling, safe disposal and storage of waste, are schematic drawings of processes, process planning for housing (workshops) with indicating the placement of equipment and vehicles, pattern of traffic flows.

Provision of resources. The section should include:

- Definition of the business needs raw materials, water, fuel, energy, semi-finished products, components and other resources based on the established program sales project adopted technologies and equipment;

- Analysis and justification of possible sources and conditions of resources, quality requirements and methods for the preparation of raw materials;

- Calculation of yearly costs for raw materials enterprises;

- Analysis of staffing and project management; substantiation requirements of the labor force categories of workers (workers, engineers and employees) and the need for training and retraining;

- Requirements for the qualification of employees, alternative options to meet the needs of the labor force and justification of the costs associated with staffing IP.

Assessment the impact on the environment.

Performed in accordance with the regulations and other acts regulating environmental activities.

Plan of production and sales. Determines the volume and nomenclature of primary production and by-products of the project, as well as product sales broken down by markets (internal and external) based on the project needs and planned production capacity

Implementation Plan of the project. Section involves the development schedule of the project, which reflects all the stages and types of work referred to IP with the indication of time and costs of the implementation. Types of work are planned in accordance with the stages of the project. The costs of work are broken down by types of cost.

The expected impact of the project. Positive economic impacts of the project can be expressed in increasing profits, reducing costs and / or prevention of potential losses due to lack of investment.

If the amount of economic benefit for the year is less than the sum of investment requirements, the assessment of the economic efficiency of investment should be carried out by calculating the cash flows expressed in current prices and performance with regard to the factors of time, risk and uncertainty. To evaluate the effectiveness of the project in view of the

risk factors and uncertainties analyzes information on possible deviations from project values.

Conclusion

Management of innovations of industrial enterprises is primarily the search for the most efficient options for putting into use financial, human and material resources in accordance with the potential of its strategic development. Thus, there arises the problem in the development of aggregate indicators characterizing the choice of the innovative project with the necessary resources for this. Using this innovative project rationale, must be taken into account, not only the production capacity, an investment and market opportunities of industrial enterprises must be taken into account, but also macro environment in which the business operates.

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