

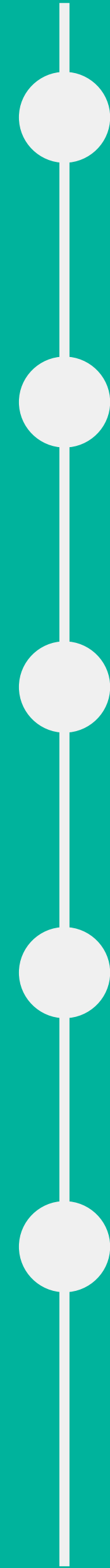
Management of process control in innovative projects

Chapter 2

Justification of expediency of the innovative project

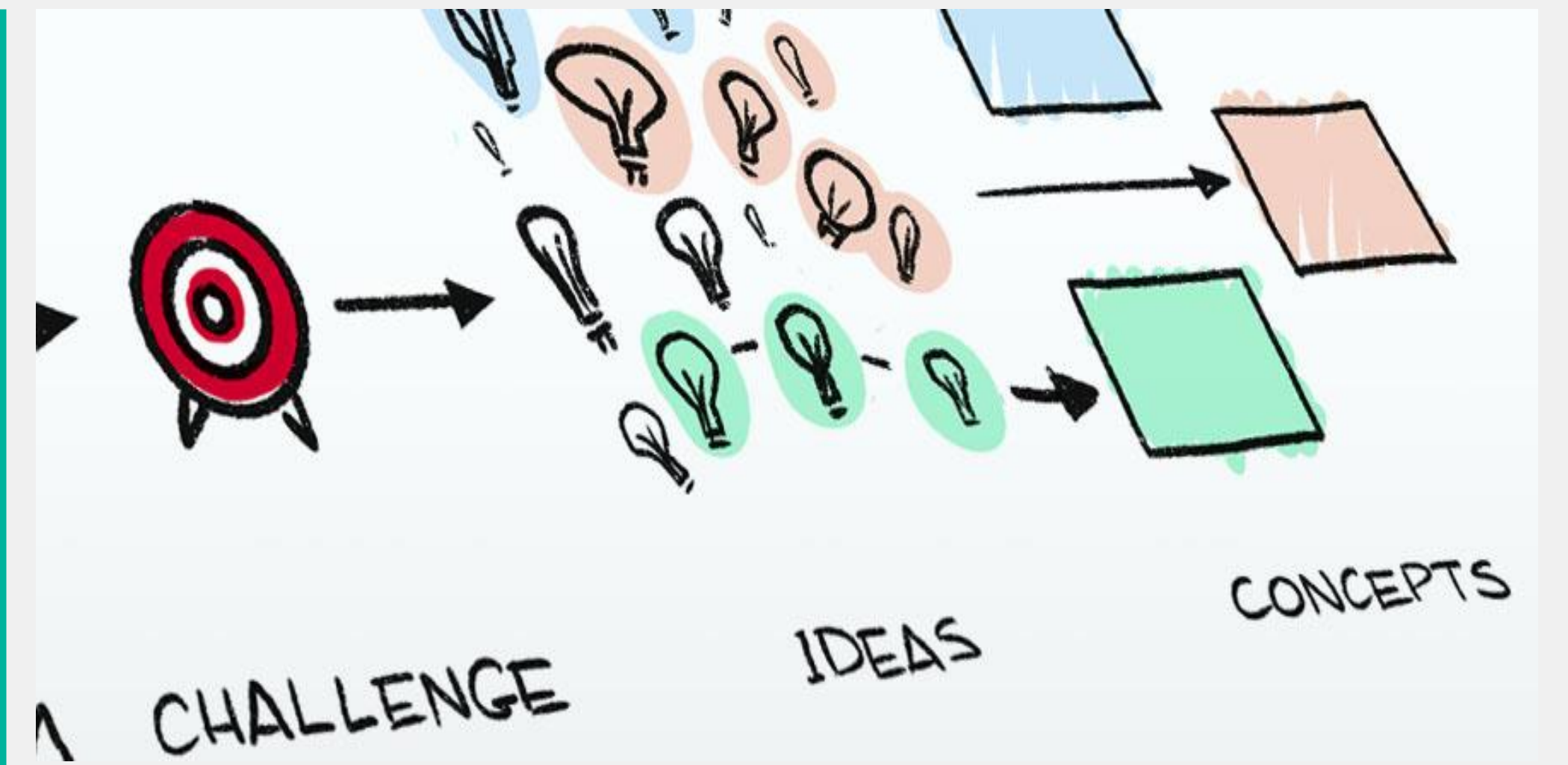
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Lecture content

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- **Development of the project concept**
 - **Business plan**
 - **The concept of an innovative project**
 - **Structure of project analysis**
 - **Expediency of the project**

01

Development of the project concept



Definition 1. Initiation is the process of formally recognizing the need to implement a project.

The main reasons for initiating innovative projects are:

1. Market requirements of high competition.

For example: the creation of a science park at the university, to improve innovation and the opportunity to participate in various research grants.

2. The needs of business entities.

For example: construction of a house that meets the requirements of the European Green Deal on Renewable Energy Sources.

3. Demand of citizens.

For example: authorization of a project for the production of ecological disposable tableware in a community with heavy tourist traffic.

4. Innovative technological development.

For example: authorization of a project to introduce separate collection of solid waste by citizens for processing into renewable energy.

5. Legal requirements.

For example: creating a project to improve the safety of citizens by introducing new devices for recording offenses.

The initiation of the project goes through the following stages:

- identifying the problem to be solved;
- establishing the expected result of the project in the form of a quantitative unit;
- analysis of the reach of the main goal of the project through the prism of reach under the goals of the project;
- deciding on the start or end of an innovation project;
- determining the priority of tasks in the implementation of the innovation project;
- formation of an adequate team and leader of the innovation project;
- launch of an innovative project.

These stages can be implemented both in parallel and sequentially.

As a rule, project participants often underestimate the stage of initiation, and immediately start planning, or simply the implementation of an innovative project.

The importance of initiation is very important, because at this stage the project is substantiated and the achievement of its goals is analyzed. Because, as a rule, innovative projects require the implementation of something new that no one has implemented. In this case, the achievement of the declared goals is very important. Sometimes the project team does not have enough, for example, human resources to achieve one of the sub-goals of the project. And failure to achieve one of the sub-goals may lead to failure to achieve the main goal of the project. Insufficient attention to these steps often leads to the dispersion of the efforts of the entity implementing the project to chaotic initiatives without visible results.



The justification of the project must be described in a document that formally confirms the validity of the project and contains a description:

- the needs of society, business, region, state to meet which the innovation project is focused;
- description of the sold product, object or service.

Such a justification should be made by a manager external to project. At the same time, take into account the levels of hierarchy of the organization, which would be sufficient to meet the needs of the innovation project. Rationale gives the project manager the opportunity to allocate the resources of the entity implementing the project to work on the project.

For example, in contract projects, it serves as a justification for the project.

02

Business plan



The business plan of an innovative project is the main document that presents the project in a concise form and contains its justification, which allows investors to assess the effectiveness of investments.

One of the forms of substantiation of the future innovative project is a business plan. The business plan substantiates all future plans of the new project, analyzes, predicts possible problems that will arise during the project implementation.

The relevance of the business plan depends on the characteristics of the innovation project.

Definition 2. A business plan is a detailed, well-structured document that describes the goals and objectives that need to be solved by the project entity, ways to achieve the goals, technical indicators and economic costs as a result of their achievement.

The business plan includes an assessment of the current situation, strengths, and weaknesses of the project, analysis of the market for innovation and information about consumers of products or services.

The business plan makes it possible to determine the viability of the project in market conditions. It contains a guideline for the development of an innovative project. The business plan is an important tool for obtaining financial support, for example from external institutions: venture capital, business angels, investors, and others.

The business plan is designed for:

- 1) managers - creators of the business plan, for the secondary purpose of gaining the benefits of the planning process;
- 2) business entities for which the project is being developed, in terms of prospects for their development;
- 3) investors - for whom the business plan is a mandatory document confirming the commercial attractiveness of the innovation project.

Thus, the business plan provides an opportunity to understand the essence of the project at the moment; clearly represent the level that the project (the subject of the project) can reach; plan the process of transition from one goal achieved to another. Business planning is a common form of acquainting future investors, partners and other stakeholders with the project in which they are invited to participate.

The composition of the business plan and the degree of its detail obviously depend on the size of the implemented innovation project; its areas of implementation; market size; the presence of indirect competitors.

The composition of the sections of the business plan includes sections that are interpreted depending on the specifics of the innovation project, industry, target direction of the management decision:

1. essence of the project (possibilities of the subject of project realization, summary);
2. subject of project implementation;
3. products / services;
4. markets for products / services;
5. competition (indirect competition);
6. marketing (marketing strategy);
7. the process of production or provision of services;
8. organizational plan;
9. assessment of potential risks of project implementation;
10. financial plan and stages of financing.

Business planning of innovative projects can solve the following tasks:

1. Diversification, re-profiling and reorganization of existing production or service delivery concepts.
2. Preparation of applications of existing and newly created companies (the subject of the project) in order to obtain investment to improve their activities.
3. Creation of new firms, determination of the profile of the future firm and the main directions of innovation and commercial activity.
4. Entering the foreign market to attract more investment.
5. Development of proposals for possible state support for innovative development of firms.

There are different standards of business planning:

1. UNIDO - An international organization whose activities are aimed at creating a strategy for economic development of countries with economies in transition. She suggests presenting a business plan in the following sections:

1. Summary.
2. Description of the company and industry.
3. Description of products or services.
4. Marketing and marketing of products or services.
5. Production plan.
6. Organizational plan.
7. Financial plan.
8. Focus and effectiveness of the project.
9. Risks and guarantees.
10. Additional section.

There are different standards of business planning:

2. KPMG is an international network of companies providing audit, tax and consulting services. Its strategy for presenting business plans has the following structure:

1. Title page.
2. Memorandum of Confidentiality.
3. Summary.
4. Products and services.
5. Market and industry analysis.
6. Target markets.
7. Advertising and promotion strategies.
8. Management.
9. Financial analysis.
10. Appendices.

There are different standards of business planning:

3. The EBRD is the European Bank for Reconstruction and Development, which is an investment mechanism to support market economies in Central Europe and Asia. Proposes to create a business plan according to the following sections:

1. Title page.
2. Memorandum of Confidentiality.
3. Summary.
4. The firm.
5. Project.
6. Financing.
7. Appendices.

The important point is the language of the business plan, it must be clear first of all to the investor, because in most cases he is not a specialist in technology. Therefore, you should not use technical slang or clutter the text with complex scientific sentences and formulas.

Based on the analysis, we offer the following sections of the business plan:

1. Resume, company history, project initiators, main tasks, mission.
2. Characteristics of the company's products or services.
3. Brief description of technologies (scientific and technical developments), production process (services) and the risk of aging.

4. Analysis of market conditions, competitive environment and growth prospects.
5. Marketing analysis and strategy, sales plan.
6. Financial analysis, estimation of money turnover and profit.
7. Top management, owners, organizational structure, professional characteristics, staffing plans.
8. Ways of investing and ways out of the project investors.
9. Risk analysis.

There is no single standard for the size of a business plan, but in practice they prefer short projects of 15-20 pages.

A very important point, which is often underestimated by the founders of the startups is the summary of the business plan. However, for the investor, this preventative section is a kind of indicator that indicates the feasibility of further study of the project. The summary should be no more than two pages long and contain key information about the innovation project.

It should be noted that there is no single standard for drawing up a business plan. First of all, such a plan must meet the requirements of the subject of innovation, the decision of which depends on the implementation of the project.

Definition 3. Development of an innovative project is a specially organized research activity, with elements of forecasting-analytical and technical-economic nature, related to setting goals for project development, development of its concept, planning, and design of relevant documentation.

At the stage of development (pre-investment phase) the following works are performed:

- investment opportunities and promotion of business ideas are determined;
- alternative project options and its preliminary selection are analyzed;
- a project is being prepared to develop a preliminary feasibility study;
- functional studies of the project are conducted;
- the conclusion of the project in the context of the decision on its investment is published.

This implementation of the pre-investment phase allows for a phased verification of the business idea, as well as, very importantly, to evaluate alternative solutions.

As we remember, the reason for an innovative project is an unresolved problem that cannot be solved by implementing normal functional activities. Solving the problem involves the need to apply new, innovative approaches and ideas.

All the problems that cause the emergence of innovative projects can be divided into two groups:

1. related to the strategic activities of the organization and relate to the need to implement developed and approved development strategies. Global (strategic) and operational goals are clearly known here. Such problems are related to finding ways to achieve the operational goal;
2. related to the operational activities of the organization, arise unforeseen. There is no single form of document that would regulate the way the problem is described and how it is related to the strategy of socio-economic system development.

03

The concept of an innovative project



If the innovative idea of the project is of general interest to the owner of the organization, then there is a need to obtain detailed and in-depth information about the future innovative project. Such work is usually performed by the customer's experts. The result of a detailed study is the document "Project Concept".

Definition 4. Project concept - a preliminary plan for the implementation of the business idea of the project, which is provided to potential investors in order to assess the prospects of this business proposal.

Here are the stages of developing a project concept:

I. Formation of the investment plan of the project

The main reasons for the emergence (sources of ideas) of projects are: unmet demand; surplus resources; initiative of entrepreneurs; interests of investors.

After forming a number of alternative project ideas, the expert, in the role of project analyst, must perform a preliminary examination and exclude from further consideration deliberately unacceptable.

Reasons for rejection of the innovation project:

- insufficient demand for products or services, or lack of its innovative component among similar species;
- excessive cost of project resources (not only financial, but also human or environmental);
- Lack of necessary guarantees from the project customer or high risk.

In the process of forming the investment plan of the project should be answered the following questions:

1. purpose and object of investment, place (area) of placement;
2. project products - characteristics and volume of production;
3. payback period;
4. profitability of the project;
5. purpose, capacity, and main characteristics of the investment object;
6. estimated sources and funding scheme.

II. Preliminary elaboration of the goals and objectives of the project

The objectives of the project must be clearly stated. They must meet the characteristics of SMART.

The essence of detailing the purpose of the project using the SMART-method follows from the deciphering of terms that form its name: Specific, Measurable, Agreed Upon, Realistic, Time-related.

Properly detailed with the SMART method, the goal allows you to form a general idea of the innovative project, which helps decision makers and other stakeholders to understand the scope and features of the project. It is also the basis for determining the need for resources and scheduling work.

The objectives of the project must be no less clearly formulated, because only under such conditions is the next step possible - the formation of the main characteristics of the project. Such characteristics include:

- availability of alternative elements of technical solutions;
- demand for project products or services;
- project duration;
- assessment of the level of base, current, and forecast prices for products (services) of the project;
- export prospects;
- complexity of the project;
- initial permit documentation;
- investment climate in the project area;
- cost-benefit ratio of the project.

III. Declaration of intent.

The idea of the project is implemented in the form of a Declaration of Intent, as well as tasks for the development of project justifications for investment in implementation.

In the process of its preparation the following is analyzed: the need for final results, available resources, the impact of the project on the environment, the overall investment climate, the level of quality and cost, etc.

It is considered that the business idea of the project is defined, and the concept is formed if:

1. the main options and alternatives of the project are identified;
2. identified the main problems that may affect the implementation and effectiveness of the project;
3. the choice of options is supported by a preliminary assessment of costs and results;
4. there is reason to believe that the project will receive the necessary funding.

Thus, the initial (pre-investment) phase of an innovation project is of fundamental importance to a potential investor. It is more profitable to invest money in the analysis of an idea and, in case of negative results, to abandon the idea than to start an unknown business, which may be risky.

At this stage, the potential investor should decide on the following issues:

1. investment plan (idea) of the project;
2. goals and objectives of the project;
3. general characteristics of the project;
4. preliminary results of project feasibility;
5. Declaration of Intent.

If the project idea is suitable for implementation, you can start with a more detailed analysis, which is carried out by methods of project analysis.

04

Structure of project analysis



After formulating the business idea of the future innovation project, the question arises whether the subject of the project is able to implement this idea.

To answer this question, it is necessary to analyze the state of the project implementation industry and the competitive advantages of the project within the industry. This analysis is the content of the previous stage of development and analysis of the innovation project. In the practice of innovative project analysis, it is customary to use two criteria: the maturity of the industry and the competitiveness of the project on the market.

According to the second criterion, it is necessary to establish the implementation of the innovation project within the industry to which it belongs.

Definition 5. Project analysis is a type of voluntary examination of the project, the subject of which is the study of the completeness and quality of project decisions, social, economic, financial and social efficiency and commercial viability.

A detailed study of financial and economic efficiency, uncertainties and risks, as well as individual changes in management or policy that may affect the success of the project.

- The project analysis program usually includes the following:
- development of the task (together with the customer to take into account the specifics of the project);
 - receipt of the original project documentation from the customer, formation of registers;
 - express analysis of the current state of the project with documents;
 - analysis of the idea;
 - analysis of the institutional environment;
 - analysis of the completeness of pre-investment research;
 - analysis of legal validity;
 - strategic analysis of changes in the external environment;
 - concept analysis;
 - analysis of the project structure;
 - analysis of project management methodology and project team structure;
 - examination of the composition, content and quality of project documentation;
 - scenario analysis, etc.

Based on the diversity of projects, their analysis is organized according to the general scheme, which includes special sections that assess the commercial, technical, financial, economic and institutional feasibility of the project.

Commercial feasibility analysis

In principle, the essence of marketing analysis is to answer two questions:

1. Will the subject of the innovative project be able to sell the product or service?
2. Will the subject of the innovative project be able to derive a sufficient amount of profit from it, which should justify the investment in the project?

Technical analysis

Tasks of technical analysis of the innovative project are:

- ✓ identification of technologies that are most acceptable in terms of project objectives;
- ✓ analysis of local conditions, including the availability and cost of raw materials, energy, labor;
- ✓ check the availability of potential opportunities for project planning and implementation.

If it is impossible to use your own technology, then the analysis of the possibility of involving technology and equipment of third parties, according to one of the possible schemes:

- joint participation in a project, such as the international scientific consortium Horizon 2020;
- purchase of equipment that implements technological know-how;
- "turn-key" - purchase of equipment, construction of the plant, adjustment of the technological process "turnkey";
- "product-in-hand" - "turn-key" and staff training until the subject of the innovative project develops the required product;
- purchase of various licenses for project implementation or other technical assistance.

Financial analysis

This section of project analysis is the most voluminous and time-consuming.

The general scheme of the financial section of the innovation project is built in the following sequence:

- ✓ if possible, an analysis of the financial condition of the entity implementing the project over a period of time;
- ✓ analysis of the financial condition of the business entity implementing the project during the project preparation period;
- ✓ establishing the amount of investment needs;
- ✓ establishing sources of investment financing and their value;
- ✓ forecast of profits and cash flows in the process of implementing an innovative project;
- ✓ evaluation of the effectiveness of the innovation project.

The most important part of the financial section of the project is its investment part, which includes:

- ❖ determination of investment needs of the business entity implementing the project;
- ❖ identification and search for sources of financing investment needs;
- ❖ assessment of the value of capital raised for the implementation of innovation project;
- ❖ forecast of profits and cash flows from the project, or forecast of social effects;
- ❖ evaluation of project performance indicators.

Economic analysis

Unlike financial analysis, which aims to determine whether a project will be able to increase the capital of the entity implementing the project, economic analysis is to assess the impact of the project's contribution to increasing national welfare.

Institutional analysis

The main task of this section of project analysis is to evaluate the population internal and external factors accompanying the implementation of the innovation project.

The assessment of internal factors is performed by the following three components.

1. Opportunities for production management.
2. Labor resources. The labor resources that are planned to be involved in the project implementation must correspond to the level of technologies used in the project.
3. Organizational structure. The organizational structure adopted by the project implementing entity should not hinder the development of the project, so it is necessary to analyze how the decision-making process takes place and how the division of responsibilities for their implementation is carried out.

Risk analysis

Sometimes in the process of risk analysis are limited to the analysis of scenarios, which can be carried out according to the following scheme:

- selection of the most uncertain parameters of the innovation project;
- analysis of project effectiveness for the limit values of each parameter;
- development of three project scenarios: basic, most pessimistic, most optimistic.

A strategic investor usually draws a conclusion based on the most pessimistic scenario.

Social analysis

The purpose of social analysis is to draw up a project implementation plan that is acceptable to its users. Social analysis focuses on the following issues: sociocultural and demographic characteristics of the population in the region of project implementation (quantitative and social structure); organization of the population in this region, in particular the availability of labor; acceptability of the project for local culture; strategies to ensure the implementation of the necessary commitments to groups and organizations that should benefit from the results of the project or fall under its influence.

05

Expediency of the project

Expediency

It is necessary to carry out ecological and social examination of the future project, as well as to formulate general conclusions.

Ecological expertise allows assessing the impact of the project on the environment in the following areas:

- pollution of the air basin, soils, and reservoirs;
- reduction of biological diversity;
- transportation, use, or disposal of hazardous or toxic waste;
- salinity and wetlands.

Social expertise allows determining the extent of the project's impact on the social environment, the benefits received by residents of the project area, as well as the possible negative impact of the project on the population.

The project can be considered verified and ready for transfer to the stage of detailed development and implementation under the following conditions:

1. selection of alternative project options was carried out, the main advantages and disadvantages were identified;
2. identify the main organizational and policy issues that may affect the fate of the project and identify how they can be addressed;
3. the expected benefits and costs, possible risk and chances of realization are determined;
4. There is full support from both the government and other project participants.

The main document justifying the feasibility and effectiveness of investment in this project is the feasibility study (feasibility study).

Feasibility study is necessary in cases where the idea of the project and the possibility of its implementation is not in doubt.

The structure of the feasibility study consists of the following sections:

1. Information about the initiator of the project.
2. Includes registration and organizational information, description of the market in which the initiator works, indicators of business sustainability, etc.
3. Project description:
 - review of the current state of the market and target audience;
 - main parameters and characteristics of the project, its location;
 - design documentation;
 - data on technical armaments and technologies;
 - scheme of organization of works on the project;
 - list of existing agreements and arrangements.

4. Data on the needs of the project in human resources.
5. Financial calculation of the project, consolidated in the time frame of the project:
 - information on the composition of income and expenses;
 - calculation of the need for fixed and working capital;
 - aggregated indicators of the balance sheet and profitability of the project;
 - calculation of investment needs;
 - indicators of financial capacity of the project.
6. Review of visual risks of the project.
7. Conclusion on the economic efficiency of the project.
8. Confidentiality Agreement.

The development of the feasibility study confirms for the customer, investor, or bank the viability and profitability of the project.

Conclusions

In this lecture, the issues of substantiation of expediency of innovative project are considered. Theoretical bases of project concept development and business plan are described. The business plan of an innovative project is the main document that presents the project in a concise form and contains its justification, which allows investors to assess the effectiveness of investments. After formulating the business idea of the future innovation project, the question arises whether the subject of the project is able to implement this idea. To answer this question, it is necessary to analyze the state of the project implementation industry and the competitive advantages of the project within the industry. It follows that the main document justifying the feasibility and effectiveness of investment in this project is a feasibility study.

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**Thank
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