

# Hard Investment Projects

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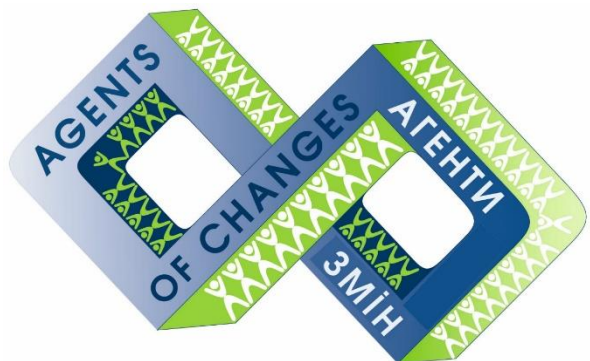
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## Project and Educational Centre for Innovation Development and Investment Promotion in the Region

Project and Educational Center "Agents of Changes" of Vasyl Stefanyk Precarpathian National University will work to increase the level of innovation and competitiveness of the region's economy.

«Agents of Changes» will provide specific information and educational assistance on investment project management. A minimum program – prepare for each UTC at least one specialist who could work on the grant. This would allow the community to have significant resources and development each year.

Teachers and students of Vasyl Stefanyk Precarpathian National University will become good partners for local governments in implementing strategies for the development of united territorial communities, the implementation of ideas, the implementation of grants and projects for improving the living conditions for residents of the region.



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# Contents

- Investment project: essence, content, cycle.
- Project idea: search and evaluation.
- Preliminary research during project development.
- Choice of the project idea and the first project documents
- Development of a business plan and design estimates.
- Analysis and evaluation of an investment project, productivity indicators.
- Investment and operational phases of an investment project.



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# Investments and investment project

**Investment** - is a long-term investing of state or private capital (domestic or foreign) in enterprises of various industries, socio-economic programs, entrepreneurial and innovative projects to generate revenue.

**Investment project** - is a systematically limited and complete set of measures, documents and works, the financial result of which is profit (income), the material result - new or reconstructed fixed assets (complexes of objects), or the acquisition and use of financial instruments or intangible assets with subsequent receipt income or social impact.



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# Project Classification

There are different types of projects:

- soft projects;
- hard projects (investment);
- individual mobility projects (research projects).

**Hard projects** provide for the capital construction of certain objects, both industrial and infrastructural.

**Respectively, the cost of such a project and the amount of funding are significant.**

Hard investments also include **innovative projects**.



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# Infrastructure

**Infrastructure** – is a complex of constructions and activities that provide the creation of necessary conditions for the effective functioning of material production, free traffic of all kinds of goods and resources (productive infrastructure), as well as the normal life of the territory population (social infrastructure).

Production infrastructure includes **transport, communications, electricity, credit and financial institutions, specialized business services.**

Social infrastructure is represented by **catering establishments, health care, preschool institutions, educational establishments, housing and communal services, recreation organizations, physical education and sport.**



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# Forms of an Investment Project

An investment project exists in forms of:

a) **zero draft** - which involves the creation of a new production or an infrastructure object;

б) **reconstruction** - implementation of advanced technologies without changing the company profile or reconstruction of the existing infrastructure object;

в) **rehabilitation** of an active object.



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# Investment Project Content

An investment project includes activities on:

- ✓ **design,**
- ✓ **construction,**
- ✓ **acquisition of technology and equipment,**
- ✓ **professional training etc.**

An investment project – it is not only a system of organizational and legal and accounting documents necessary for the implementation of any actions, but also activities that envisage their implementation to achieve specific goals.



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# Investment Project Components

In any case, each project must contain the following components:

- **project materials** (feasibility study, construction project, business plan, etc.);
- **participants and activities** ( state, communal and private institutions: investors, financial institutions, contractors, equipment suppliers, wholesale product buyers, etc.);
- **organizational and economic mechanism of project implementation** (interaction of participants), which includes regulatory documents for project implementation, conditions for investment financing, obligations and interrelations of participants, project results distribution features, project implementation management system, etc .;
- **organizational, operational and time frames.**



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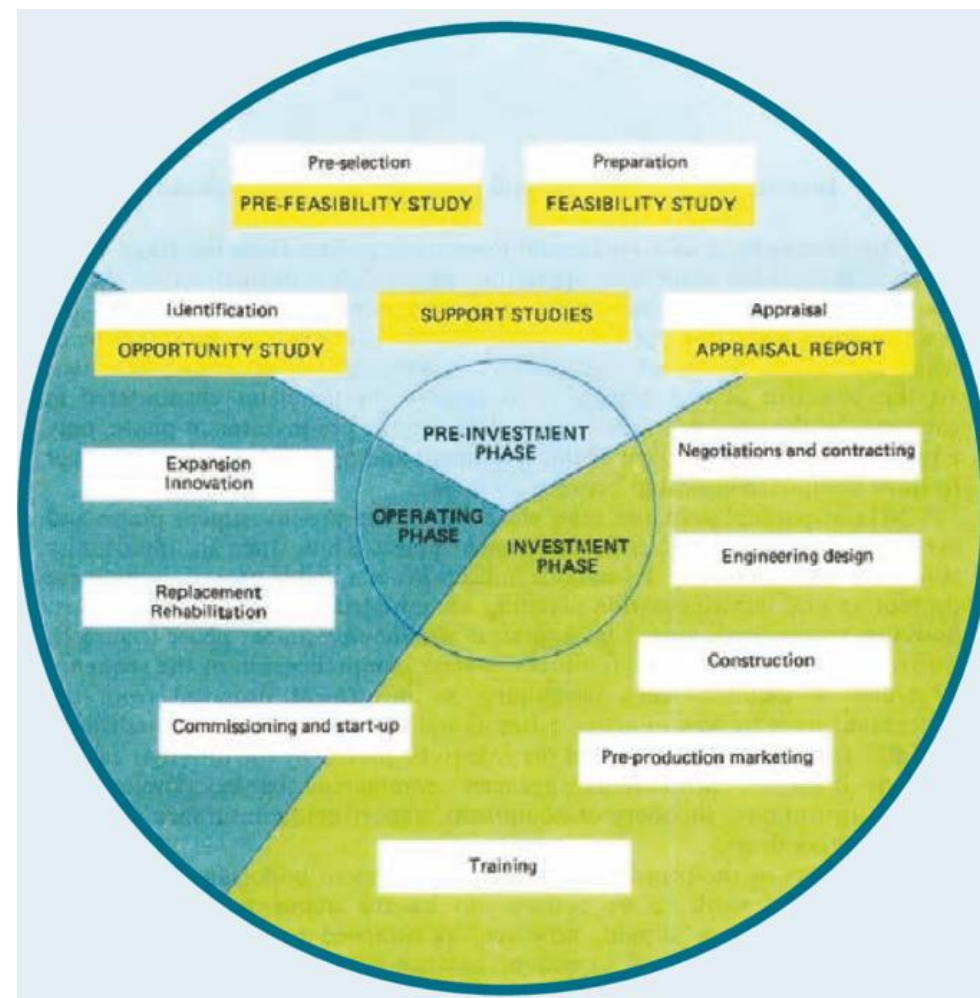
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# Investment Project Cycle

The development and implementation of an investment project from the idea itself to production forms an investment project cycle or an investment cycle that covers three phases:

- ***pre-investment*** (preliminary studies before the final investment decision);
- ***investment*** (projection, contracting, construction);
- ***production*** (stage of operation newly created object).

Each of these phases is divided into **stages** with particular goals and methods.



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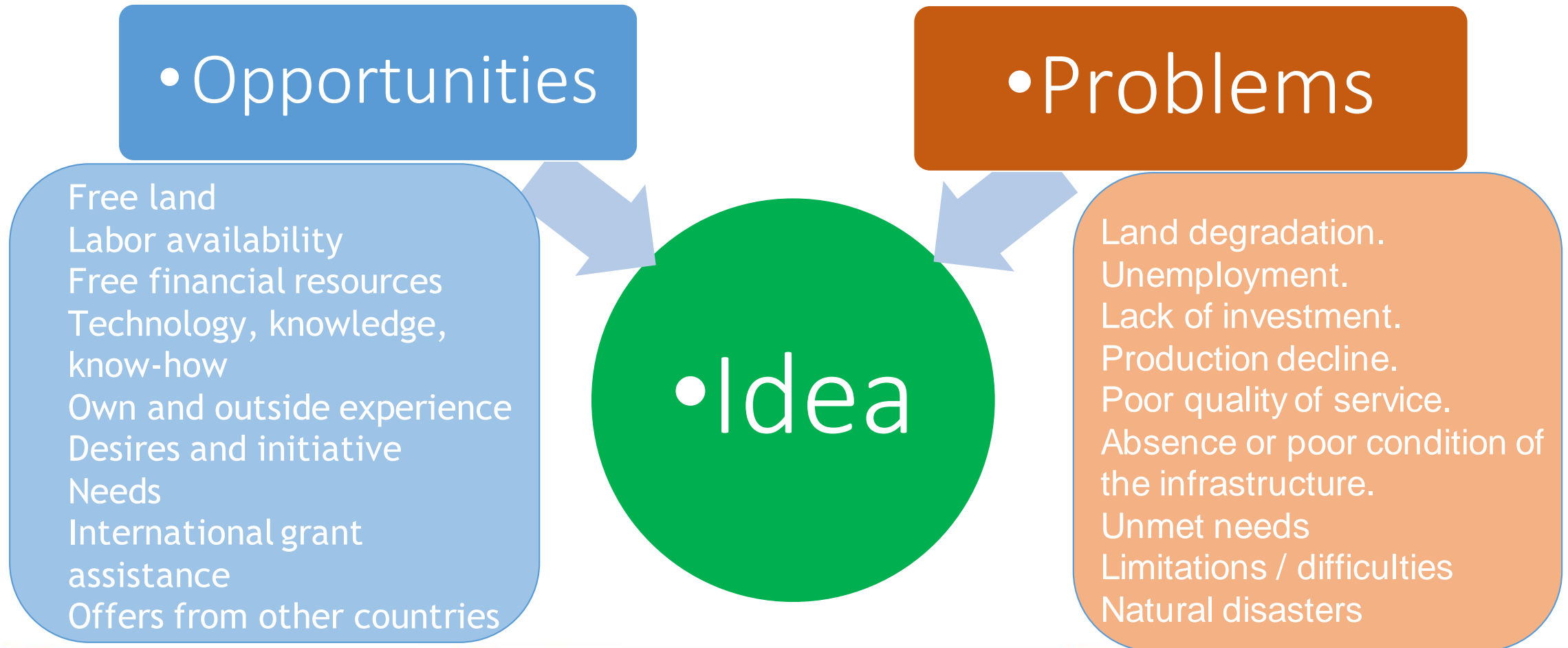


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# Emergence of a Project Idea



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# Searching for Project Opportunities

Investigations on the search, analysis and evaluation of investment ideas may be conducted in three directions:

- **Research of the regions** (opportunities identification in this region – domestic demand, cross-border nature, recreational industry, IT, education, culture, etc.).
- **Industrial research** (identifying opportunities in a particular industry - new technologies, innovations, developments, etc.).
- **Research of natural resources**, agricultural or industrial products (identification of the opportunities based on the use of the aforementioned types of resources - agricultural and industrial land, forests, pastures, reservoirs, water drinking and healing springs, mountains, etc.).



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# Project concept development involves the following main works:

- ∅ substantiation of project objectives based on market and production capacity analysis;
- ∅ preliminary estimate of capital costs of a project and working capital forecast;
- ∅ oestimate of project duration;
- ∅ forecast capital increase after project implementation;
- ∅ determination of sources and amount of funding;
- ∅ determination of key project characteristics etc.



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# Market research for a project

- **Market.**
- ***Consumers, users, competitors, suppliers, counter-agents***
- ***Competitive advantages, pricing policy, marketing strategy.***



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# Previous Research

The calculation of the production volume and sales of future products, the cost of its production and sale, determination of investment volumes and development of marketing strategy are carried out.

Alternative options for the implementation of the investment project are projected. The choice of a rational project option should be made by comparing the selected alternatives in terms of their relative cost and profitability and analyzing the technical, environmental, financial, social and organizational aspects of the project in varying degrees of detail. Their effectiveness and the degree of risk are evaluated.



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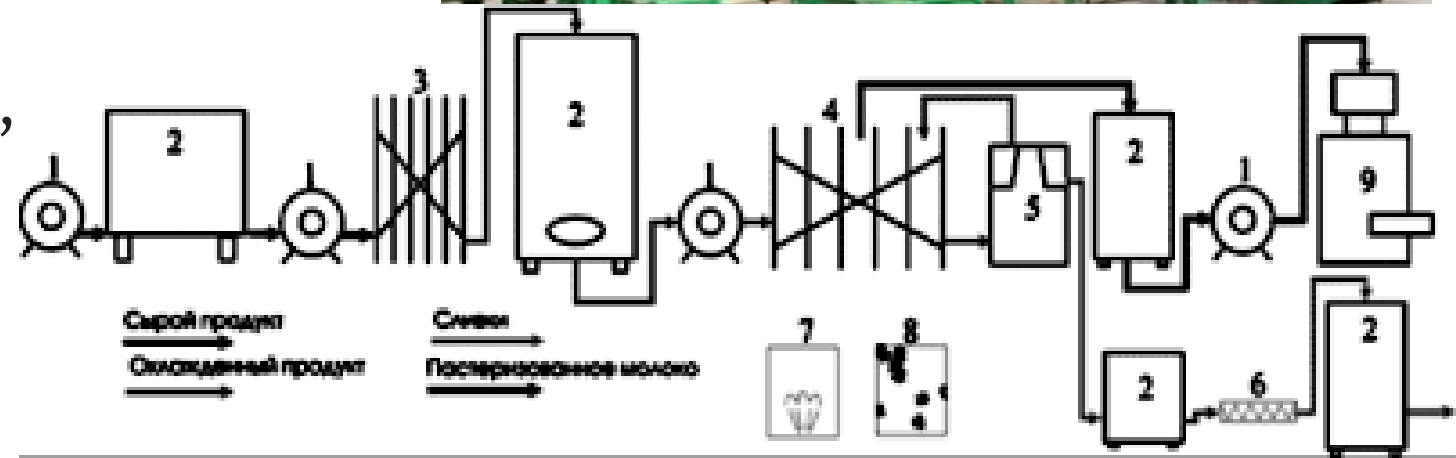
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# Previous Research: the Choice of Technology

The research on the **choice of technology** and equipment capable of ensuring the production of competitive products is carried out simultaneously with the **market research**.

At this stage, the proposals of the equipment suppliers are **analyzed**, the information on the technical characteristics, cost and terms of delivery of production equipment and technologies is summarized.



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# Pre-Investment Phase

**Therefore, in the first stage,** an extensive assessment of the most important technical and economic parameters is carried out, which will allow to identify the feasibility of developing a specific investment project and to approximately assess its economic viability.

In the case of positive results, the second stage of feasibility study involves an extended, detailed assessment of the investment project's effectiveness in specific calculations and figures. The final result of this work should be the Preliminary Information Memorandum.



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# Criteria for Idea Reject

- ☐ **insufficient demand** for the proposed product, resulting from the project implementation, or lack of significant benefits for the product;
- ☐ **high cost of the project** compared to expected revenues;
- ☐ **lack of commitment** on the part of the organization or the people who will benefit from the project;
- ☐ lack of **political support**;
- ☐ **technology** not suitable for project implementation;
- ☐ **excessive scale** of the project, which does not correspond to organizational and management capacities;
- ☐ **excessive risk** of the project;
- ☐ **high cost** of raw materials and significant **costs** of skilled labor.



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# Substantiation of the Project Proposal

When making a project, all accepted assumptions, options selected should be **described and explained** which will make the project more understandable for participants, especially investors.

In case of the project rejection because of its non-viability, it is necessary to **thoroughly describe the reasons** but not just statement of this fact.



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# Feasibility study as an integral part of a business plan

***Feasibility study of the project.*** The investment project requires justification of the technical and economic feasibility, volume and timing of the investments. ***The technical justification*** is to identify the competitive advantages of an innovative product over competing products, the prospects of these benefits, the possibility of product development. It should be shown that the functional quality is significantly higher, that increase of benefits is possible, that consumers will be satisfied.

***The economic justification*** is to evaluate the commercial effectiveness of participation in the project.



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# Preliminary Information Memorandum.

**Preliminary Information Memorandum** is used in negotiations with the investor. This document should reflect the following aspects of an investment project:

- ✓ general information about the investment project;
- ✓ assessment of marketing factors;
- ✓ definition of a production program;
- ✓ choice of technology, production and technological equipment;
- ✓ choice of production location;
- ✓ availability of resources;
- ✓ environmental assessment of the project;
- ✓ selection of designers, contractors and suppliers of equipment, raw materials, buyers of products etc;
- ✓ institutional aspects of the project;
- ✓ financial and economic project evaluation;
- ✓ sensitivity analysis;
- ✓ project risk assessment.



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# Examination of a Project

**Examination of a project** means its evaluation by interested or independent organizations on formal and informal criteria. The task of the examination is **to check the rationality of the project**, to determine the feasibility of its implementation. It is at this stage that the final decision is made to approve or reject a project.

The examination is usually performed by the following components:

- Commercial;
- Financial;
- Technical;
- Social;
- Ecological;
- Economical.
- Institutional;



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# A Business Plan

**A business plan** is a standard document that substantiates the concept of a real investment project and outlines its technical, economic, financial and social characteristics.

It describes the main aspects of a future project, analyzes all the problems that a project may encounter, and identifies ways to solve them. **It captures what, when and to whom it is to be done**, so that the expectations for the effectiveness of the project are justified.



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Based on the Standards of United Nations Industrial Development Organization (UNIDO), a business plan should consist of the following sections:

1. Title page;
2. Memorandum of confidentiality;
3. Resume;
4. Description of the entity and its sphere of activity;
5. General information, including compliance with the tasks and priorities identified by the Program of Activity of the Cabinet of Ministers of Ukraine;
6. Product description;
7. Marketing and product sales;
8. Production plan;
9. Organizational plan;
10. Financial plan;
11. Evaluation of the effectiveness of the investment project implementation;
12. Risks;
13. Annex.



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# Business Plan Requirements:

- ◇ **Clear document structure.** International requirements have made certain requirements for mandatory sections on specific aspects of an investment project.
- ◇ **Reliability of information and** validity of economic indicators. All indicators must be carefully verified with the documents from which they were obtained. Documentary evidence, calculations and justification are necessary for all economic indicators.
- ◇ **Visibility of the submitted material.** A business plan must contain diagrams, tables, graphs, diagrams etc. This should make it easier to understand the most difficult moments of the document.
- ◇ **The quality of the presentation** of the material, as well as errors and corrections.
- ◇ **The scope of a business plan.** It is considered the optimal volume of 40-50 pages, but everything depends on your project.



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# Design and Estimate Documentation

**At the stage of detailed design**, the functional scheme and the physical plan of the object are being developed, the investment and operating costs are determined. The main component of designing is the choice of appropriate technology, as well as the planning of the acquisition and development of this technology and relevant know-how.

**At this stage, major design work is carried out which involves a careful layout of the construction sites, equipment and manufacturing processes, as well as the flow of materials and connections between the various production stages.**

This stage consists of:

- construction planning (start-up and debugging);
- calendar planning of construction works;
- financing plan;
- preparation of construction documentation.

The composition and content of estimate documentation for the construction of structures is developed in accordance with state standards and specified by customers and designers.



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# IT Support

The complexity of the business plan process, the need for changes, adjustments, the development of alternatives, scenarios for the development of the project and its sensitivity to changes in the market requires the use of information and computer technologies of financial planning and investment control.

Nowadays a number of programs of this kind are presented and successfully used in the information technology market of Ukraine: MICROSOFT PROJECT, TIME LIME, PRIMA VERA, COMFAR, PROJECT EXPERT, ALT-INVECT, etc.



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# Investment Project Analysis

They evaluate the effectiveness of an investment project, first of all, by comparing the costs of the project with the results of its implementation. Given this, the project analysis contains:

- ✓ **Commercial analysis** (marketing) is analysis of the market for products and services.
- ✓ **Technical analysis** is the task of determining the most effective technique/technology for a particular project.
- ✓ **Institutional analysis** - the assessment of the organizational, legal, administrative, political environment of the project and its adaptation to this environment, as well as the adaptation of the organizational structure.
- ✓ **Social (socio-cultural) analysis** is a study of the impact of outcomes on the lives of local people.
- ✓ **Budget analysis** - takes into account the financial implications of the project implementation for the state / local budget.
- ✓ **Environmental analysis** - that is the identification and expert evaluation of the damage that may be caused by this project to the environment and suggestions for ways of mitigating or preventing this damage.
- ✓ **Financial and economic analysis** is a comparison of the costs and benefits of the project. Economic analysis evaluates the profitability of the whole society (country) and financial - from the position of the firm and its creditors.



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# Investment Project Effectiveness Evaluation

Investment projects performance indicators are divided into three groups:

- **budget performance indicators** that reflect the financial implications of the project for budgets on all levels;
- **indicators of social (national economic) efficiency** that take into account the consequences of the implementation of the investment project for society as a whole, including both direct revenues and costs of the project and external results - revenues and costs in related sectors of the economy, environmental, social and other non-economic consequences;
- **indicators of the project commercial effectiveness** (financial and economic evaluation) which take into account the financial consequences of the project implementation for its direct participants.



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# Budget Project Efficiency

The main indicator is the budgetary impact ( $B_i$ ) which is defined as the excess of revenues of the respective budget ( $D$ ) over expenditure ( $E$ ) due to the project implementation:

$$B_i = D_t - B_t$$

Integrated Budget Effect (BE) is calculated as the sum of discounted annual budget effects, or as an excess of integral budget revenues over similar budget flows:

$$B_{int} = \sum_{t=1}^T \frac{D_t - B_t}{(1 + r)^t}$$

$r$  - discount rate;

$T$  - the period of time over which the integrated

budget effect is calculated, years.

On the basis of indicators of annual budgetary effects, additional indicators of the effectiveness of the business plan (projects) are determined, in particular, the share of financial participation (FP) of the state (region) in the implementation of the business plan (projects).



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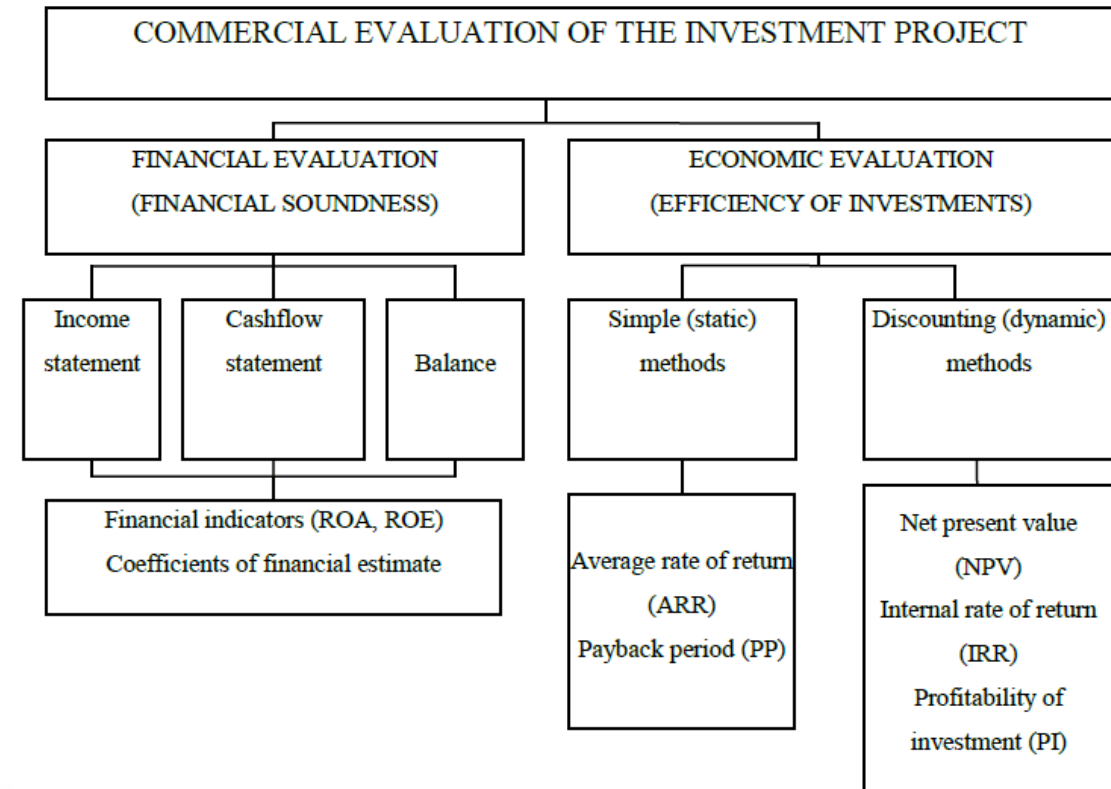


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# Indicators of commercial evaluation of project effectiveness

Indicators of commercial evaluation of project effectiveness are divided into:

- indicators of financial valuation (financial capacity) - analysis of profitability, financial stability, liquidity and business activity;
- indicators of economic evaluation (investment efficiency) - estimate the payback of the project.



Indicators of economic evaluation of investment performance by methods are divided into two groups:

1. **static (traditional) methods** that incorporate metrics based on accounting and reporting
2. **dynamic methods** that take into account changes in the cost of money over time.



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# Sources of Investment Project Financing

- ☐ Own private resources
- ☐ Budget funds, including SRDF
- ☐ Foreign investments
- ☐ Public-private partnership, including ESCO contracts.
- ☐ Credit Resources of Banks and International Organizations (EBRD)
- ☐ Grant Funds (PL-BY-UA, NEFCO, USAID, etc).
- ☐ Sharing
- ☐ Venture capital
- ☐ Joint financing (total cost, Crowdfund, Crowdinvest)



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# Investment Phase

During the investment phase:

- ✓ establishment of legal, financial, organizational base for the project implementation;
- ✓ technology acquisition and transfer;
- ✓ land acquisition, construction work and installation of equipment;
- ✓ production marketing as well as ensuring the supply and formation of the company administration;
- ✓ staff recruitment and training;
- ✓ commissioning and start-up of enterprises.



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# Operating Phase

**Operating phase** is the latest in the project cycle where the investor receives results from the invested capital. It starts with the commissioning of the facility and involves the production adjustment and the start of planned capacity, repair and replacement / modernization of equipment, etc.

At this stage, the **final evaluation** of the project is performed according to the performance indicators and their comparison with the forecast data.

Here the **project cycle can be repeated** as new projects are undertaken to reconstruct, upgrade or expand the activity of the facility.



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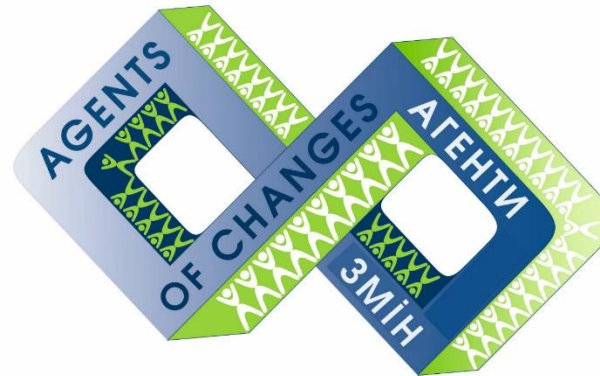
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