

MINISTRY OF EDUCATION AND SCIENCE OF UKRAINE

NATIONAL TECHNICAL UNIVERSITY
"KHARKIV POLYTECHNIC INSTITUTE"

METHODICAL INSTRUCTIONS

to perform practical work
from the course
PROJECT MANAGEMENT IN MARKETING

for full-time students of the specialty
075 "Marketing"

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Entry

The term "project" is not new for the domestic economy. It was customary to understand a project as a documented plan of a building (structure). In the English-language economic literature, this concept is usually referred to as "design". The transition to market relations has brought many new terms and concepts to economic life. The term "project" has also received a broader interpretation and its meaning has come closer to the English "project", which covers the entire process – from the emergence of an idea, its development, implementation to obtaining a result.

Marketing projects have the following features:

- 1) the goal is to obtain a specific end result or product;
- 2) set start and end dates – the start date of the project and its completion;
- 3) identified resources – labor, financial, equipment and information.

Projects may vary in scope, content, and forms. Like any universal means, project management methods are designed primarily for some indirect, "normal" project.

Each specific marketing project is distinguished by four main factors (classification features):

- the scale (size) of the project;
- implementation period;
- quality;
- Limited resources.

Each project, regardless of its complexity and the amount of work required for its implementation, goes through several stages in its development: from the "project does not exist yet" to the stage when "the project no longer exists".

The beginning of the project means:

- the moment of origin of the project idea;
- the beginning of the project or the beginning of investing in its implementation.

The completion of the project can be:

- completion of work on its implementation, i.e. commissioning of the project;
- transfer of personnel working on the project to another job;
- achievement of relevant results by the project;
- completion of project financing;
- commencement of work on making major changes that were not foreseen;
- decommissioning of project facilities (liquidation).

Marketing projects can be classified:

- 1) by level (project, program, system);
- 2) by scale (small, medium, megaproject);

3) by complexity (simple, organizational-complex, technical-complex, resource-complex, complex-complex);

4) by terms of implementation (short-term, medium, mega-project);

5) according to the requirements for quality and means of provision (defect-free, modular, standard);

6) according to the requirements for limited resources of a set of projects (multi-project, mono-project);

7) by the nature of the project, the level of participants (international, domestic);

8) by the nature of the target task of the project (anti-crisis, marketing, educational, reform/restructuring, innovative, extraordinary);

9) by the main reason for starting the project (opportunities, emergency, need for structural and functional transformations, reorganization, restructuring, reengineering).

The period of time between the moment the project idea appears and the moment of its liquidation is the life cycle of the project (project cycle). The project life cycle is the starting point for researching the problems of financing project work and making appropriate decisions.

The states that a project goes through are called phases (stages, stages) of the project.

Project management is the art of managing and coordinating human and material resources throughout the project life cycle by applying a system of modern management methods and techniques to achieve the results defined in the project in terms of the composition and scope of work, cost, time, quality and satisfaction of project participants.

Project management involves three main activities:

1. Planning:

- determination of the desired results of the project;
- development of a work schedule;
- calculation of the amount of resources required.

2. Organization (distribution of roles and responsibilities).

3. Management:

- redistribution of jobs and assignments;
- management of work and control of results;
- solving emerging problems;
- exchange of information with interested parties.

The guidelines provide material for 16 practical classes. *Practical lesson 1–2*
**RANKING OF INVESTMENT PROJECTS ACCORDING TO VARIOUS
CRITERIA. THE LIFE CYCLE OF A MARKETING PROJECT**

Task 1. Classify the following projects according to various criteria:

- creation of a drywall factory in the Kharkiv region together with a partner from Poland;
- development of the gas environment in the Kharkiv region and export of gas;
- construction of a new terminal in the port of Odessa;
- transition to a twelve-point system in secondary schools;
- opening an advertising agency.
- creation of a joint venture for the production of office furniture;
- research of the fertilizer market for the purpose of their production, production and use in agriculture;
- construction of a nuclear power plant;
- development of a gas field in the Poltava region and export of gas;
- transition to a two-level system of education in higher educational institutions of Ukraine;
- economic development of the regions of Ukraine.

Task 2. An analysis of the organizational structure of the enterprise, which is being created within the framework of the exploration project of the Zaporizhzhya Titanium and Magnesium Plant, the shares of which you were supposed to purchase, showed that the principle of unity in terms of goals has been violated: the management of the plant does not have a clearly formulated goal of the project. There are five options for goals:

- a) organization of industrial production of polycrystalline silicon to meet the needs of domestic and foreign consumers;
- b) meeting the needs for silicon and its compounds for microelectronics, high-power electrical engineering and solar energy in different countries of the world;
- c) receipt of USD 5.2 million; profit annually from the sale of polysilicon;
- d) production of 250 tons of polysilicon per year;
- e) use of the plant's production facilities to ensure the employment of personnel.

Need: Choose a goal, clarify and structure it so that different project participants understand what results they will get if the project is implemented.

Task 3. A project for the construction of a sports club near a residential area is being considered. Based on your own constraints and possible assumptions about this project, identify and describe:

- the purpose of the project;
- its main features;
- possible economically dependent projects (mutually exclusive, conditional, substituting, synergistic);
- independent projects;
- external and internal environment (with a justification of the influence of the environment on the project and vice versa – the latter on the elements of the system);
- project participants with the definition of their interests and functions in the preparation and implementation of the project.

Task 4. A project for the construction of a residential complex in a large city is being considered. Based on your own assumptions about the specifics of this project, identify and justify: types of work specific to the pre-investment, investment and operational phases of this project; features of the life cycle of this project; preliminary duration and cost of pre-design work. Build a project lifecycle diagram.

Task 5. You're a manager. You are faced with the task of developing a presentation of a new marketing project for future investors. You need to make a brief descriptive description of the project, decide on the work that will be necessary for the implementation of this project, as well as draw up its overall project estimate. (As an auxiliary tool, it is possible to use Table. 2.1)

Table 2.1 –The content of the phases, stages and stages of the investment project

Phase	Stage	Stages	The content of the work performed
1	2	3	4
Pre-investment	Pre-identification	Evaluation of potential investment opportunities	<p>Selection of information on the investment opportunity of potential investors based on the analysis:</p> <ul style="list-style-type: none"> • potential demand for certain types of goods; • natural resources of the country; • industrial policy of the country; • national priorities of various sectors of the economy; • export opportunities; • availability of labor, material and financial resources; • favorable legal environment and investment environment. <p><i>Goal:</i> Identify new investment</p>

			opportunities
	Identification	Macro Analysis	<p>Analysis of the macro environment in the context of:</p> <ul style="list-style-type: none"> • resources – assessment of opportunities related to the use of resources or products; • industries – assessment of the capabilities of a particular sector of the economy; • regions – assessment of the capabilities of a particular region of the country. <p><i>Goal:</i> to develop an investment proposal and collect information for potential investors</p>

Continuation of Table. 2.1

1	2	3	4
		Microanalysis	<p>Diagnostics of the state and investment attractiveness of individual entities from the standpoint of:</p> <ul style="list-style-type: none"> • development prospects; • volumes and prospects of product sales; • efficiency of the use of assets, their liquidity; • the state of solvency and financial stability. <p><i>Objective:</i> to formulate the preliminary goals of individual investment proposals</p>
	Preparation	Preliminary assessment	<p>Evaluation of the investment proposal according to the following indicators:</p> <ul style="list-style-type: none"> • commercial feasibility of the project; • technical feasibility of the project; • institutional admissibility; • assessment of risk and uncertainty of the external environment; • evaluation of project

			<p>alternatives;</p> <ul style="list-style-type: none"> • environmental acceptability; • financial rationality of investment. <p><i>Objective:</i> to select the most attractive investment proposals for further research</p>
		More research	<p>They are held in the following areas:</p> <ul style="list-style-type: none"> • study of the market for the project's products (demand, stability in the market and price; the possibility of increasing demand); • evaluation of specific raw materials and material resources in terms of availability and price advantages; • selection of technologies that can be used; • determination of the scope of the project, capital and operating costs;

Continuation of Table. 2.1

1	2	3	4
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			<ul style="list-style-type: none"> • development of a program to overcome the negative environmental impact on the environment; • identification of sources of funding; • Clarification of the time frame of the project
	Development & Expertise	Detailed analysis	<p>It is carried out according to the following components:</p> <ul style="list-style-type: none"> • marketing analysis; • technical analysis; • institutional analysis; • quantitative analysis; • environmental analysis; • social analysis; • financial analysis; • Economic analysis. <p><i>Purpose:</i> to give a detailed assessment of existing projects, to choose the most effective one, to develop proposals for financing</p>
		Examination	Evaluation of the project according to formal and informal criteria of interested or independent organizations.

			<i>Purpose:</i> to check the rationality of the project, to draw conclusions on the feasibility of its implementation. At this stage, the investment project is either accepted or rejected
	Pre-design	Pre-design	It consists of the following stages: <ul style="list-style-type: none"> • final selection of the scheme for the purchase of technology and equipment; • construction planning (start-up and commissioning); • scheduling of construction works; • financing schedule; • Preparation of construction documentation

Continuation of Table. 2.1

1	2	3	4
Investment-on	Preparation and conduct of	Preparation and conduct of	It consists of the following stages: <ul style="list-style-type: none"> • preparation of tender documentation;

	tenders	tenders	<ul style="list-style-type: none"> • announcement of bidding; • evaluation of proposals; • conclusion of contracts for construction, installation, supply, etc.
	Construction	Engineering and technical design	<p>It includes the following stages:</p> <ul style="list-style-type: none"> • site preparation; • final selection of technology and equipment; • drawing up a schedule for the construction of the building; • preparation of route and technological maps, large-scale drawings and schemes
		Construction of the designed facility	<p>Includes the following stages:</p> <ul style="list-style-type: none"> • preparation of the site for development; • construction of buildings and other civil construction works; • Supply and installation of equipment
		Production Marketing	<p>Includes the following stages:</p> <ul style="list-style-type: none"> • analysis of the market's readiness for the appearance of the project's product; • determination of measures that contribute to the implementation of an effective sales policy, the organization of the promotion of goods to the market; • determination of the critical level of supply of this product; • creation of a system of sales promotion methods (advertising, price incentives for buyers, sellers and intermediaries)
		Recruitment and training of staff	<p>Provides:</p> <ul style="list-style-type: none"> • formation of a system of recruitment criteria; • organization and conduct of recruitment on a competitive basis; • retraining and training of personnel

Continuation of Table. 2.1

1	2	3	4
	Commissioning	Commissioning of the facility	It consists of the following stages: <ul style="list-style-type: none"> • pre-operational inspections; • test runs; • operational tests; • making a decision on the commissioning of the facility
Operational	Production operation	Project Monitoring	It includes the following stages: <ul style="list-style-type: none"> • control over the cost structure; • rationalization of current production and marketing costs; • tracking profit dynamics. <p><i>Objective:</i> to determine how the results of the project correspond to the set goals</p>
	Replacement & Renewal	Rehabilitation Studies	Include: <ul style="list-style-type: none"> • technical and technological inspections; • investing or withdrawing capital investments; • additional staff training; • introduction of predictive maintenance and quality control; • improvement of financial and organizational management
	Expansion of production and additional introduction of innovations	Expansion & Innovation	Include: <ul style="list-style-type: none"> • improvement of technology; • increasing the capacity of the entire production; • introduction of a new shift work schedule; • increasing the production capacity of the weakest links in the production chain
	Final evaluation of the project	Retrospective analysis	It includes the following stages: <ul style="list-style-type: none"> • identification of success factors or reasons for the failure of the project; • evaluation of the effectiveness of the use of resources to achieve the set project goals

Task 6. Organize the following types of work into phases, stages, and stages of the project life cycle:

1. Monitoring the implementation of the project.
2. Identification of alternative ways to achieve the project goal and their evaluation.

3. Discussion of lending conditions.
4. Collection of information on the national development plan, state policy, priorities in various sectors of the economy.
5. Project Completion Report.
6. Conclusion of contracts for construction, installation and commissioning works.
7. Determination of the existing level of production, import of project products and demand.
8. Announcement of bidding.
9. Assessment of the environmental feasibility of the project.
10. Commissioning of the facility.
11. Clarification of the time frame of the project.
12. Scheduling of construction works.
13. Assessment of the institutional admissibility of the investment proposal.
14. Production of goods and their sale.
15. Selection of possible technologies used.
16. Evaluation of the feasibility of the project from a technical, commercial, economic, financial and organizational point of view.
17. Diagnostics of the object to be invested.
18. Definition of specific project objectives.
19. Obtaining permission to purchase or lease land.
20. Evaluation of the feasibility of the project.
21. Defining the scope of the project.
22. Preparation of construction documentation.
23. Recruitment and training of personnel.
24. Distribution of the first output.
25. Assessment of the potential opportunities of the region and its investment climate.

Tests

1. The project is:
 - a) long-term financial investment plan;
 - b) business plan;
 - c) action program for the use of financial resources;
 - d) tasks with certain initial data and planned results (goals) that determine the method of its solution;
 - e) the idea (task, problem) and the necessary means of its implementation
 - e) in order to achieve the desired economic, technical, technological, or organizational result.
2. The main features of the project do not include:
 - a) change of state to achieve the goal of the project;
 - b) time constraints;
 - c) limited resources;
 - d) complexity;
 - e) uniqueness.
3. Defining the purpose of the project does not include:
 - a) determination of the results of activities for a certain period;
 - b) limited project resources;
 - c) quantification of the project;
 - d) proving that the results can be achieved;
 - e) determining the conditions under which the results of the project can be achieved.
4. Certain specific projects of a clearly defined orientation and scale, involving certain simplifications of design and implementation, formation of a project team, etc., are called:
 - a) mono-projects (or simple ones);
 - b) multi-projects;

c) megaprojects.

5. Project management is:

a) the art of coordinating human and material resources throughout the project life cycle;

b) a set of measures aimed at the implementation of the project for the purpose of making a profit;

c) the process of managing the team, project resources using special methods and techniques in order to successfully achieve the goal.

6. The stages of the project management life cycle do not include:

a) Inception;

b) growth;

c) maturity;

d) evaluation of the project;

e) completion of the project.

7. At the stage of the project's inception, the following is carried out:

a) Planning and control;

b) risk management;

c) management of the organizational structure;

d) project analysis by aspects;

e) assessment of the status of the project.

8. A project management system in which the project manager does not bear any financial responsibility for decision-making, is responsible for coordinating and managing the development and implementation of the project, does not enter into contractual relations with other project participants, is called:

a) downtime;

b) extended.

9. The main criteria for the adoption of the draft law are:

- a) technical and technological feasibility of its implementation;
- b) long-term viability; c) economic efficiency;
- d) organizational and administrative support;
- e) all answers are correct.

10. The function that provides financial control through the accumulation, analysis and reporting of project expenditures is called:

- a) volume management;
- b) quality management;
- c) time management;
- d) contract management and project support;
- e) Cost management.

11. The life cycle of the project is:

- a) the time from the first cost to the last benefit of the project;
- b) the time from the idea of the project to the start of its investment;
- c) the time of approval of the project mission.

12. The project life cycle consists of the following phases:

- a) pre-investment and operational;
- b) pre-investment, investment and operational;
- c) pre-investment, investment and final.

13. Determination of investment opportunities of the project refers to:

- a) pre-investment phase;
- b) investment phase;
- c) operational phase.

14. The conclusions on the project and the decision on its investment refer to:

- a) pre-investment phase;
- b) investment phase;
- c) operational phase.

15. Establishing the legal, financial and organizational framework for the implementation of the project refers to:

- a) pre-investment phase of the project;
- b) the investment phase of the project;
- c) the operational phase of the project.

16. The acquisition and transfer of project technology refers to:

- a) pre-investment phase;
- b) investment phase;
- c) operational phase.

17. Acquisition of land is referred to:

- a) pre-investment phase of the project;
- b) the investment phase of the project;
- c) the operational phase of the project.

18. Construction works include:

- a) pre-investment phase of the project;
- b) the investment phase of the project;
- c) the operational phase of the project.

19. Installation of equipment refers to:

- a) pre-investment phase of the project;
- b) the investment phase of the project;
- c) the operational phase of the project.

20. Recruitment and training of personnel refer to:

- a) pre-investment phase of the project;
- b) the investment phase of the project;
- c) the operational phase of the project.

Security questions

- 1) Explain the meaning of the concept of "project".
- 2) What are the main features of the project?
- 3) What are the features of the project as a system?
- 4) Give different definitions of the project and give a comparative description of them. Which definition do you think is the most comprehensive?
- 5) Reveal the essence of the investment project. Are all projects investment?
- 6) Describe the main features of the project.
- 7) Define the purpose of the project.
- 8) Justify the need to apply the project classification and describe the main areas of project classification.
- 9) What is the project environment? How does the environment affect the implementation of the project?
- 10) Identify and characterize the environmental factors that directly affect the project.
- 11) Describe the main participants in the project.
- 12) What, in your opinion, is the main purpose of defining the life cycle of a project?
- 13) What are the approaches to dividing the life cycle into phases and stages? What are the criteria for this separation?
- 14) Are there any peculiarities of the life cycle of national, regional and local projects?
- 15) Justify the need to carry out pre-investment work using the iterative method.
- 16) What types and types of analysis are used in different phases, stages, stages of an investment project?
- 17) What factors affect the cost of pre-project studies?
- 18) Is the content of work in the operational phase different for different types of projects?

- 19) What, in your opinion, is the main purpose of defining the life cycle of a project?
- 20) What are the approaches to dividing the life cycle into phases and stages? What are the criteria for this separation?
- 21) Are there any peculiarities of the life cycle of national, regional and local projects?
- 22) Justify the need to carry out pre-investment work using the iterative method.
- 23) What types and types of analysis are used in different phases, stages, stages of an investment project?
- 24) What factors affect the cost of pre-project studies?

Practical lesson No 3-4

EVALUATION OF PERFORMANCE INDICATORS OF INVESTMENT MARKETING PROJECTS

The goal is to master the methodology of project evaluation using standard financial and informal decision-making criteria.

Task 1. Known cash flows from the two investment projects shown in Table 3.1.

The projects will be financed by equity, the return on equity of which is 15%. Investment projects are mutually exclusive.

Table 3.1 – Output

Year	Investment project A (thousand Y.E)	Investment project B (thousand Y.E)
0	-2100	-2100
1	844	950
2	935	851
3	1055	1033

Need:

1. Calculate *NPV* and *IRR* for two projects.
2. Analyze which of the two projects is more attractive according to certain indicators.
3. Build a financial profile for project A and show its payback period.

Indication. To calculate the net present value (*NPV*), it is necessary to discount the cash flows of the project. It should be noted that the value of the present value interest factor for year 0 is 1.0. The financial profile of the project should be built on an

accrual basis. Compiled in this way, it allows you to illustrate the payback period of the project, the value of its net present value, which reflects the feasibility of making a design decision.

Task 2. The company needs a device to dispose of used paper. Appliance A costs Y.E 2,500 with annual operating costs of Y.E 200. Its service life is five years. Appliance B costs 1440 Y.E with annual operating costs of 220 Y.E. Its service life is three years. The discount rate is 10%.

Need:

1. Calculate the equivalent annual cost (*EAC*) for both appliances.
2. Determine which device is more expedient to purchase.

Task 3. Two mutually exclusive projects with cash flows listed in Table 3.2 (thousand Y.E) are considered:

Table 3.2 – Initial data

Indicators	Years					
	0	1	2	3	4	5
Project A						
Costs	-50	-50	-50	0	0	0
Benefits	-	550	550	500	500	500
Project B						
Costs	-100	-200	0	0	0	0
Benefits	-	700	510	510	510	510

The discount rate is 20%.

Need:

1. Calculate net present value (*NPV*) and benefit-cost ratio (*B/C*) for projects.
2. Determine the feasibility of each project.

Note: To simplify the calculation of the present value of cash flows from the first to the fifth years of project implementation, it is advisable to use the financial tables of the percentage factor of the present value of the annuity.

Task 4. The company is considering replacing old equipment with new, more productive equipment. Capital expenditures for the purchase of new equipment are Y.E 25 thousand. Y.E. Given that the equipment will be decommissioned in five years, the company will receive a tax rebate of 10% of the investment. The old equipment, which was bought six years ago at a price equivalent to 18 thousand rubles. Y.E, has a service life of 10 years and can be sold now for 8 thousand rubles. Y.E. Using new equipment, The company intends to reach an annual sales volume of 20 thousand tons. Y.E (at the prices of the year of equipment change) with the volume of gross costs of 13 thousand Y.E. Y.E. The company's income tax rate is 30%.

Need:

1. Determine the amount of initial investment for the project.
2. Evaluate the feasibility of the project using the net present value (*NPV*) criterion if the expected inflation rate is 10% and the real discount rate is 12 %.
3. Build a financial profile of the project.

Indication. Recall that in order to determine the additional operating cash flow, it is necessary to adhere to the following algorithm: an increase in net profit plus a change in the amount of depreciation deductions for renovation that occurred as a result of the replacement of equipment.

Task 5. The company solves the problem of heat supply. There are two options. The first one requires investment costs in the amount of 15 thousand rubles. Y.E and provides for annual operating costs in the amount of 4 thousand Y.E. Y.E. Another option is to increase the previous investment by 5 thousand rubles. Y.E, which will reduce current costs to 2.5 thousand Y.E. Y.E per year. The implementation of the project is possible at the expense of investing own funds and it is expected that that the return on capital will be at least 5%.

It is necessary to choose the most attractive solution to the problem if the expected inflation rate is 12%, and the project life is four years under the first option and five years under the second.

Indication. Since the projects are mutually exclusive, it is advisable to decide on the choice of one or another option on the basis of the net present value criterion. However, the service life of projects is not the same. Therefore, the final decision will be

made on the basis of a comparison of the equivalent annual costs for each option for solving the problem of heat supply, for the determination of which it is necessary to calculate the value of the present cost of costs for each project per one year of its implementation, For which you should use the percentage factor of the present value of the annuity. To account for inflation, it is advisable to adjust the annual operating costs and the return on capital to a given rate of inflation. This procedure changes the value of the intermediate values of the cash flow, but does not affect the final value of NPV.

Target 6. The company expects to invest Y.E 36 million in the modernization of equipment at a time. Two options are being considered:

in three years, Y.E 52 million may be received;

after one year – Y.E 41 million

Choose the most suitable investment project.

Task7. The company can invest no more than Y.E 24 million annually. In addition, all income from commissioned investment projects can be invested. Three independent projects are considered, the initial data from which are given in Table 3.3.

Table 3.3 – Output

Project	Years			PI
	0th	1st	2nd	
1	24	29	11	1,62
2	18	8	34	2,15
3	6	9	9	2,54

The price of capital is 12%.

Calculate the NPV indicator and evaluate the eligibility of projects based on it. Analyse combinations of possible alternatives for the adoption of projects 1, 2 or 3 and assess the possibility of adopting project 4 in combination with project 1.

Target 8. An investor is considering two projects for the purpose of investment – A and B, which are characterized by the data given in Table 3.4 (thousand Y.E).

Table 3.4 – Output

Investment	Project A	Project B
		980000
	Earnings by year	
1st	290000	230000
2nd	335000	410000
3rd	350000	556000
4th	370000	560000

The bank interest rate is 12% per annum.

Evaluate projects A and B using the Net Present Value and Profitability Index.

Target 9. Let's say today you decide to put 1000 Y.E in your bank account. at 10% per annum. You need to: determine how much money you will receive in five years; calculate how much money you will receive if compound interest at an annual rate of 10% is calculated quarterly.

Target 10. The advertising agency signed a three-year contract for 1000 thousand rubles. Y.E. Bonus in the amount of 100 thousand rubles. Y.E is paid in cash immediately. The agency should receive 200 thous. Y.E of income for the work done at the end of the first year, 300 thous. Y.E. – next year and 400 thous. Y.E. – at the end of the last year. It is necessary to: analyze whether this contract is really worth 1000 thousand rubles. Y.E, if the discount rate is 10%; determine the present value of this contract.

Target 11. Calculate the present value of money from the data in Table 3.5:

Table 3.5 – Output

Future value, Y.E	Number of years	Interest rate, %
500	7	13
1000	13	6
15000	23	4
800100	4	31

Target 12. From the data in Table 3.6, calculate the future value of money.

Table 3.6 – Initial data

Present value, Y.E	Number of years	Interest rate, %
100	13	13
2500	8	8
74400	5	10
167332	9	1

Task 13. Let's assume that the cost of studying in college in five years, when your child enters this educational institution, will be 10000 Y.E. Now you have 5000 Y.E that you can invest. You need to determine what rate of return on investment suits you for the next five years to accumulate the necessary amount for your studies.

Security questions

1. How does money change its value over time?
2. What is the difference between discounting and compounding processes?
3. In which cases is it necessary to use the percentage factors of present value, and in which cases – of future value?
4. How does the present value change if compound interest is calculated several times a year?
5. What are the principles underlying the evaluation of the effectiveness of design solutions?
6. What methods of evaluating the effectiveness of investments are you familiar with?
7. Describe the methodology for calculating the main financial indicators for the selection of projects.
8. Identify the advantages and disadvantages of different financial indicators for evaluating investment performance.

Practical lesson 5

THE MAIN FORMS OF THE ORGANIZATIONAL STRUCTURE OF A MARKETING PROJECT

The purpose is to get acquainted with the organizational structure of the project, to consider the peculiarities of choosing the organizational structure of the enterprise that implements the project, and the functional responsibilities of the project participants.

Task 1. As you know, the principle of the control range in the form of a mathematical formula was expressed by the scientist Graikunas. It says: the possible number of job connections is $n\{2^{n-1} + (n-1)\}$ where n is the number of subordinates. It is known that with the number of job connections exceeding 1000, the group becomes unmanageable. Determine the largest number of subordinates that one boss can have.

Task 2. Below is a diagram of the decision-making authority in the investment department of one U.S. company (Table 5.1). The head of the investment department is subordinate to the general manager – the president of the company. Staff managers have special powers in specific matters related to the activities of the company as a whole.

Table 5.1 – Decision-making authority

Decision-making area	Head of Investment Department	Staff Manager	President	Board of Directors
1. Capital investments: according to the approved budget	Authorized to deal with all issues	The chief accountant checks the compliance of budget expenditures	Decides on individual expenses in excess of \$10,000.	Approves all expenditures in excess of \$10,000.
2. Not budgeted		The Secretary – Treasurer approves items and amounts of expenditure for approval by the Board of Directors	Approves all expenses in excess of \$1000.	Approves all expenditures in excess of \$5000.
2. Real estate for sale	Authorized to handle all issues	All powers are vested in the chief accountant and the secretary - treasurer	Decides if the amount exceeds \$5000.	Decides if the amount exceeds

				\$100,000.
3. License Acquisition and Patent Agreements	Authorized to handle all issues	The Secretary – Treasurer approves items and amounts of expenditure for approval by the Board of Directors	Authorized to handle all issues	Decides if the amount exceeds \$50,000.

Find the wrong application of the principles of the organization structure in this company.

Task 3. The organization process requires a number of sequential steps to be followed, but not in that order. Put them in sequence:

- a) grouping of activities with a view to the most efficient use of available material and human resources;
- b) development of plans and directions of work;
- c) mutual coordination of groups through official relations and information support system;
- d) setting the goals of the enterprise;
- e) identification and classification of activities necessary for the implementation of plans and directions of work;
- f) giving the head of each group the powers necessary for its productive work.

Task 4. Independent work.

Option 1

Build and characterize the scheme of the organizational structure of project management, provided that:

- the organizational structure is created for the one-time implementation of projects within the boundaries of one organization.

Option 2

Build and characterize the scheme of the organizational structure of project management, provided that:

- the organization systematically implements one or more projects.

Option 3

Build and characterize the scheme of the organizational structure of project management, provided that:

- The activities of the organization consist entirely of project management activities.

Option 4

Build and characterize the scheme of the organizational structure of project management, provided that:

- The project involves two organizations that are equivalent in terms of project management.

Option 5

Build and characterize the scheme of the organizational structure of project management, provided that:

- project management is implemented by the customer.

Option 6

Build and characterize the scheme of the organizational structure of project management, provided that:

- Project management is carried out by the general contractor.

Option 7

Build and characterize the scheme of the organizational structure of project management, provided that:

- project management is carried out by a specialized management company.

Tests:

1. The organizational structure of project management is:
 - a) A set of interrelated management bodies located at different levels of the system;
 - b) the share of the project team involved in the management;
 - c) the unit directly or indirectly responsible for the outcome of the project;
 - d) an organization whose employees are directly involved in the implementation of design work.
2. The organizational structure of project management is understood as:
 - a) a set of interdependent management bodies located at different levels of the system;
 - b) organization of interaction and relationships between project participants.
3. The organizational form of project management means:
 - a) organization of interaction and relationships between project participants;
 - b) a set of interdependent management bodies located at different levels of the system.
4. According to the functional structure:

a) management is carried out by the line manager through groups of subordinate functional managers, each of whom manages certain units within the assigned functions;

b) relationships are based on direct vertical links "manager – subordinate", in order to solve specific problems, temporary project groups are created, which are headed by project managers;

c) To solve a specific problem, a special working group is created at the enterprise, which is dissolved after the implementation of the project.

5. Matrix Management Structure:

a) the relationship is based on direct vertical relations "manager – subordinate". In order to solve specific problems, temporary project groups are created, which are headed by project managers;

b) to solve a specific problem, a special working group is created at the enterprise, which is dissolved after the implementation of the project;

c) management is carried out by the line manager through a group of subordinate functional managers, each of whom manages certain departments within the assigned functions.

6. According to the project management structure:

a) to solve a specific problem, a special working group is created at the enterprise, which is dissolved after the implementation of the project;

b) the relationship is based on direct vertical links "manager – subordinate". In order to solve specific problems, temporary project groups are created, which are headed by project managers;

c) management is carried out by the line manager through a group of subordinate functional managers, each of whom manages certain departments within the assigned functions.

7. Organizational structure of the project:

a) typical for all projects;

b) depends on the customer;

c) depends on the scale, type, type of project;

d) typical of the subject area.

8. Mechanistic organizational management structures are:

- a) matrix;
- b) functional;
- c) project;
- d) all answers are correct.

9. There are the following types of "complex" schemes of organizational structures of project management:

- a) "dual";
- b) "highlighted";
- c) "management is the function of the customer";
- d) "management is the function of the general contractor";
- e) "General Project Management";
- f) "project management";
- g) "Management is a function of the management company".

10. Horizontal organizational structures of project management are:

- a) matrix;
- b) functional;
- c) project.

Practical lesson 6

STRUCTURING MARKETING PROJECTS

The goal is to acquire the skills of drawing up a work plan and an estimate of the project.

When studying this topic, it should be noted that the stage of development of design and estimate documentation occupies an important place in the implementation of the project idea. This stage includes bidding (tenders) for the development of design and estimate documentation, site selection, development of a working draft (or project and working documentation), examination.

Design work in the new conditions must be carried out in the following sequence:

- selection of designers and conclusion of a contract based on the results of the contract;
- planning of design and estimate works and services;
- promotion and approval of design and estimate documentation.

The main method of investment projects should be long-term lending, which is carried out on certain principles of project financing. The main principles of project financing include: the project itself should serve as a source of loan repayment; the cash flows generated by the project are the basis for making a decision on its financing and reflect the project's ability to repay debt; The distribution of project risks should be implemented evenly among the main project participants.

The cost of the project should be determined on the basis of an estimate that reflects the level of necessary costs for the project and serves as the basis for its financing, as well as control and analysis of the cost of funds for the project.

The project budget, developed on the basis of the estimate, reflects the project's financial needs over time and is the basis for the formation of the project financing structure.

Control over the expenditure of funds for the project allows you to timely identify their shortage or surplus of funds, take appropriate measures in case of deviations from the planned budget and helps to reduce erroneous costs.

Significant functions during the implementation of the project are performed by the project manager: knowing and controlling the process of developing design and estimate documentation, he helps to avoid complications in the implementation of the plan.

Situational Exercise

Order of work

1. To consider examples of drawing up a work plan and project estimate, see Tables 6.1 and 6.2.
2. Prepare a work plan and estimate for an individual project.

Table 6.1 – Project Work Plan

Specify the steps of the project that are necessary to achieve the objectives set. Each step should have the following data:

Steps to complete tasks	Activities	Start Date	End Date	Purpose of the activity	Methods
1	2	3	4	5	6
<i>TASK I</i>					
Step I	Selection of a qualified team for the implementation of the project	1 month	1 month	Provide the program with qualified specialists	Method of expert assessments
Step II	Creation of organizing committees in 30 schools and 2 lyceums	1 month	1 month	Prepare the Constituent Assembly of the School Parliaments	Organizational work
<i>TASK II</i>					
Step I	Organization and holding of the constituent assembly of the School Parliaments	2 months	2 months	Elect the governing bodies of the School Parliaments and elect delegates to the constituent assembly of the "City School Parliament" (MSP)	Organizational work
Step II	Organization of the work of School Parliaments and their functioning	2 months	12 months	Stimulating the development of school	Organizational work, group classes, discussions

				self-government	
<i>OBJECTIVES III</i>					
Step I	Creation of the organizing committee for the constituent assembly of the Zhytomyr MSP	3 months	3 months	To prepare the constituent assembly of the Zhytomyr MSP	Organizational work
Step II	Organization and holding of the constituent assembly of the MSR, election of governing bodies, creation of committees and determination of activities	3 months	3 months	To create such a body of student self-government that would involve a significant part of school youth in active social activities	Organizational work
Step III	Organization of the work of committees and development of school self-government	3 months	12 months	Creating the necessary conditions in schools for the self-realization of students' potential	Organizational work

Continuation of Table. 6.1

1	2	3	4	5	6
<i>TASK IV</i>					
Step I	Creation of a school for young parliamentarians	3 months	3 months	Fostering public consciousness among students, involving them in active social life	Trainings, round tables, discussions, education
Step II	Conducting training for activists of School Parliaments	3 months	12 months	To acquaint students with the main directions of state-building activity and with the possibilities of practical application of the acquired knowledge	Organizational work
Step III	Organization of meetings, round tables, seminars, trainings with the involvement of foreign specialists	3 months	12 months	Exchange of experience and popularization of the ideas of parliamentarism	Organizational work
<i>TASK V</i>					
Step I	On the basis of the Communication and Information Committee, the creation of a center for students	3 months	3 months	Gaining experience working with representatives of the media	Dissemination of information through the media
Step II	Production of printed products	4 months	12 months	Develop your own newsletter, brochures, booklets and other printed materials	Organizational work
Step III	Conducting sociological research	3 months	12 months	Studying the opinion of schoolchildren on the effectiveness of the functioning of School Parliaments	Organizational work
<i>TASK VI</i>					

Step I	Preparation of a monthly program on Lux radio	3 months	12 months	Coverage of current problems of school youth	Organizational and creative work
Step II	Preparation of videos for regional television	3 months	12 months	Coverage of the work of the Zhytomyr "City School Parliament"	Organizational work

Continuation of Table. 6.1

<i>TASK VII</i>					
1	2	3	4	5	6
Step I	On the basis of the Committee for the Protection of the Rights and Interests of Students, the creation of the Legal Aid Center	3 months	3 months	Organization of legal aid	Group and individual consultations
Step II	Organization of the Center's work, conducting legal consultations with the help of qualified specialists of the Foundation	3 months	12 months	Advocate for students	Organizational work, training, discussions
<i>TASK VIII</i>					
Step I	Distribution of printed materials of the MSR among students of district centers	4 months	12 months	Initiate the establishment of School Parliaments in district centers	Organizational work
Step II	Invitation of activists of district schools to seminars	5 months	12 months	Transfer of experience to activists of district	Organizational work, training,

	and trainings in Zhytomyr			schools	round tables
Step III	Organization of field trainings in district centers by the Foundation's specialists and MSR leaders	6 months	12 months	Establishment of Organizing Committees for the Organization of School Parliaments in District Schools	Organizational work

Table 6.2 – Project Estimate

№	Category	Calculation of costs by category	Required amount (from CAP)	Your NGO Contribution	Donor contribution (for corporate grant)	Total Cost of the Category
1	2	3	4	5	6	7
I	Staffing table (salary)					
		Just:	++			
II	Consultants					
		Just:				
III	Trip					
	- Ticket prices					
	- Per diem					
	- hotel					
		Just:				
IV	Other Direct Costs					
	- Rentals					
	- Utility bills					
	- telephone, fax, mail					
	- e-mail, Internet					
	- Stationery					
	- Reproduction/Printing					
		Just:				
V	Equipment					
		Just:				
VI	Other Expenses					
	Subcontracts					
	Trainings					
		Just:				
		<i>JUST:</i>				

THE TOTAL COST OF THE PROJECT IS: \$ _____

AMOUNT REQUESTED: \$ _____

Practical lesson 7

FORMATION OF A MARKETING PROJECT TEAM

The goal is to get acquainted with the work of the project team, to consider the peculiarities of choosing the composition of the project team and its effective work.

Task. Teamwork training

Brainstorm the situation according to its description.

Description of the situation.

You are a member of a group that organized an expedition to the caves of a remote part of Ireland. 6 people take part in the expedition. Your group has just received an urgent message that the expedition has been blocked at the caves and . The water level rises rapidly, and it looks like all 6 members of the group will be engulfed in water in 2 hours. A rescue team has been called, but it will take about one hour for them to reach the cave and start rescue operations. Within an hour, they will be able to save no more than three people. According to the terms of the insurance contract, in such a situation, your group must decide on the order of rescue of the group members. The only information you have is brief biographical information for each of the six team members.

1. Yaryna is a scientist who recently received an award. He leads a group of twenty people who develop the latest methodologies for the treatment of heart disease. Recently, they have developed drugs that will revolutionize science and reduce deaths from heart disease by eighty percent. Most of the information received regarding the production of medicines is not documented, as Yaryna rarely keeps detailed records. Only she knows the key formula, and if that formula is lost, it will push drug production back to eight or ten years. Now Yaryna is depressed, so it is difficult to work with her. Six people from her team have already left it because of her. The remaining twenty don't like working with her.

2. Roman is a former naval officer who made a quick career in the Navy, but was forced to leave the service due to problems with drunkenness. He is a professional scuba diver and has survival skills, as well as experience working with people in extreme conditions.

3. Kiko is an eighteen-year-old girl. Her father is a wealthy industrialist who has houses in Tokyo and California. She has no siblings, her friends live in the UK, where she attends a privileged school. She recently received a scholarship from the School of the Arts in New York City.

4. Luka is a sixty-year-old pensioner, a former surgeon. His wife is dead and he has a daughter. During his illustrious career, he has saved many lives with his

surgeries. He retired five years ago due to a serious heart attack. For the past five years, he has established a medical aid fund for refugees in Africa.

5. Andriy is a twenty-one-year-old 5th-year student of the Faculty of Law of one of the universities in Ukraine. With his achievements in the field of academic jurisprudence and activity in the field of student self-government, he gained a reputation as the hope of the university.

6. Martha is thirty-nine years old. Manager of a private Lviv company employing sixty people. She is a widow and lives with her mother and three children under the age of 10. Martha's income is the family's only means of subsistence. The company sent her on an expedition to improve her management skills.

Your party has 30 minutes to rescue 6 members of the expedition. You have to solve the following tasks:

- identify the leader of your team;
- appoint a person in the team responsible for drawing up a protocol for discussing problems;
- to develop criteria for establishing the priority of rescuing people;
- come to a group decision to determine the order of rescue of people;
- select a person to present the team's solution, which will highlight:
- rescue criteria;
- the rescue order approved by the group;
- evaluation of the group's work.

Practical lesson 8

PROJECT PLANNING AND CONTROL

The goal is to familiarize students with project planning and its use in project management.

Task 1. Build a structural diagram of work by life cycle and by results for the project "Creation of a recreation center in a pine forest".

Task 2. The project of the student scientific conference is designed for three days (plenary and sectional meetings) and provides for the invitation of students from other universities of Ukraine, the publication of a collection of scientific papers, a cultural program and a buffet.

1. Define a list of activities and resources for project planning (develop tables of resources and project activities).

2. Make a plan in stages.

3. Calculate the project budget.

Task 3. Determine whether the financing conditions of the project are acceptable based on the data in Table 8.1.

Financing conditions:

Our firm's own funds are invested in the form of tangible assets – \$2550 thousand, intangible assets – \$500 thousand, cash from accumulated profit – \$50 thousand. Total capital expenditures – \$10100 thousand.

Table 8.1– Capital expenditures of the project

Article	Year 1 yew. USD.	Year 2 yew. USD.	3rd year thous. USD.
Due Diligence and Preparatory Work	50	300	
1. Purchase of land, preparation and development of a land plot	100		
2. Construction, buildings and structures	750	460	140
3. Machinery & Equipment	1900	5000	
3.1. of which road transport, furniture, household electronic, optical, Electromechanical devices and tools	1000		
4. Environmental protection			
5. Technology	500		
6. Overhead	170	310	420
Total Capital Expenditures	3470	6070	560

Note. A foreign investor will invest \$5000 thousand in the second year for the purchase of equipment.

Loan from a Ukrainian bank in the amount of 2000 thous. USD. for 5 years at 12% per annum with interest payment annually from the second year of the project and repayment of the loan in the 6th year (an additional 7% is paid in the year of repayment of the loan).

Dividends on invested own funds are provided at the rate of 15% annually on all invested capital with payment from the 3rd year. A foreign investor who invests \$5000 thousand., a return on investment is offered from the 4th year.

Task 4. Projects have the same costs, Outcomes and lifecycle times. The discount rate is 10 %. It is necessary to determine, in accordance with the variant of the task, the most appropriate project in terms of NPV (determine using a modified technique) and according to the IP profitability index. The data for the calculation are given in the tables 8.2 and 8.3.

Table 8.2 – Data for calculation

Variant Number	Projects		
1	1	2	3
2	1	2	4
3	1	2	5
4	3	4	6
5	1	3	5
6	1	4	6

7	2	3	4
8	2	4	5
9	3	4	5
10	1	4	6

Table 8.3 – Characteristics of projects for task options

Year of project existence, t	Costs, thous. Y.E.	Cash receipts, thous. Y.E.
1	2	3
1st project		
1	20	0
2	30	50
3	25	55
4	0	35
Project 2		
1	20	10
2	25	40
3	30	60
4	0	30
3rd project		
1	50	50
2	15	40
3	10	40
4	0	10
Project 4		
1	60	20
2	15	30
3	0	50
4	0	40
5th project		
1	70	35
2	5	55
3	0	40
4	0	10
Project 6		
1	60	10
2	5	50
3	5	50
4	5	30

Test

1. The stage of developing a project implementation plan is considered completed

When:

a) a comprehensive (consolidated, main, general) calendar plan has been drawn up;

b) a list of milestones has been compiled;
c) a statement of resource requirements has been compiled;
d) a list of organizational and technological measures for the implementation of the project has been compiled.

2. Project planning involves:

a) planning stages for project quality control, risk planning;
b) planning of works, their duration and interconnections;
c) planning of project objectives and outcomes, communications and contracts;
d) all options together.

3. Deviations between planned and actual indicators at the stage

Project implementation:

a) never occur;
b) always occur;
c) occur in the case of an unsuccessfully chosen organizational form of the project;
d) occur in force majeure circumstances.

4. To determine the full cost of the project, it is necessary to take into account:

a) the most important resources;
b) all resources used in the project;
c) all current and projected resources used in the project;
d) all of the above options.

5. Planning activities cover the following stages of the project cycle:

a) development of the project concept;
b) selection of strategic decisions for the project;
c) conclusion of contracts;
d) performance of works;
e) completion of the project;
f) all answers are correct.

Security questions

1. What is Project Planning?
2. What is the main purpose of project planning?
3. Which planning processes are basic and which are auxiliary?
4. What are some common scheduling mistakes you know?
5. What is the difference between conceptual, strategic, and detailed planning?

Practical lesson 9

EXPERT EVALUATION OF THE PROJECT AND ASSESSMENT OF ITS ECONOMIC EFFICIENCY

The goal is to carry out a preliminary comparative analysis of projects through peer review. Determination of the main indicators of economic efficiency of investment options.

Order of work

1. Familiarize yourself with the situation for analysis.
2. You are included in the team of experts. Complete Table 12.7 based on your knowledge and experience.
3. Draw conclusions on the work.

Situation to analyze

The analysis of investment opportunities for project consideration can be carried out according to the following scenario.

After completing the analysis of the results of the work of JV "Budservice" for 2021, it turned out that there is an opportunity to direct part of the available funds to the investment sphere. It was determined that JV "Budservice" can make investments that do not exceed the amount equivalent to 6.5 million dollars. It was decided to explore the possibilities of investment activities. At the first stage, six options were analyzed.

As a result of the work on the collection of preliminary information, the following characteristics of each of the six possible projects were obtained.

1st version of the project. Joint stock participation in the development of an oil and gas field in the Poltava region.

The general characteristics of the deposit are shown in Table 9.1.

Table 9.1 – Initial data

Capacity of the deposit (production of commercial gas), billion m ³	Capital expenditures, million ecu	Estimated lifespan of cost-effective development, years	Planned date of introduction
382,6	69,513	21	Year 2019

2nd version of the project. Joint participation in the project for the construction of a business center in Kharkiv.

The general characteristics of a business center are shown in Table 9.2.

Table 9.2 – Initial data

Area, m2	Volume, m3	Number of floors	Estimated cost, USD million
260500	782000	52	120

The timing of the commissioning of the facility has not been determined.

3rd version of the project. House-building plant in Kyiv. The general characteristics of a house-building plant are given in Table 9.3

Table 9.3 – Output

Power	Construction area, m2	Estimated cost, USD million	Planned date of introduction
50 thous. m of housing per year	4000	4,2	Year 2016

The next three options are related to the proposal to participate in the reconstruction of the house located at 24 Myru Street, which came from the municipality of Kyiv. This offer was due to the significant experience of Kyivprombud JSC in works of this kind, as well as the reputation of a financially stable and reliable company.

4th version of the project. Reconstruction of the house with the subsequent placement of a business center in it. Table 9.4 shows the main technical characteristics of the object.

Table 9.4 – Output

Name	Area, m2	Volume, m3	Number of floors	Number of apartments
Shops	865	3500	1	–
Offices	12500	48500	8	–
Living Quarters	4200	17500	6	24
Underground car park	4460	15300	1	–
CTP	300	2000	1	–

The service premises include workshops for artists, occupying 618 m2.

The estimated cost of reconstruction is \$6 million. It is assumed that upon completion of construction, the business center will be owned by Kyivprombud JSC, which will generate income and cover the annual costs associated with its operation.

The annual estimated revenue from the operation of the business center is \$3.18 million (including VAT).

Annual Estimated Operating Costs: \$1.19 million.

5th version of the project. Reconstruction of the house for a hotel. The main technical characteristics of the object are given in Table 9.5. The hotel is 4 stars.

Table 9.5 – Output

Name	Area, m2	Volume, m3	Number of floors	Number of apartments
Hotel Rooms	16700	66000	8	105
Offices	865	3500	1	–
Underground car park	4460	15300	1	–
CTP	300	2000	1	–

The estimated cost of reconstruction is 6.5 million ecu.

It is assumed that upon completion of construction, the hotel will be owned by JSC "Kyivprombud", which will provide income and cover the annual costs associated with its operation.

Annual estimated income from hotel operation: ECU 5.5 million (including VAT).

Annual estimated operating costs: 15 million ecu.

Version 6 of the project. Reconstruction of the building into a residential building. It is planned to sell a residential building without its further operation by Kyivprombud JSC.

The main technical characteristics of the object are given in Table 9.6

Table 9.6 – Initial data

Name	Area, m2	Volume, m3	Number of floors	Number of apartments
Residential apartments and other premises	17565	69500	8	100
Underground car park	4460	15300	1	–
CTP	300	2000	1	–

The construction cost is \$5.5 million. The estimated one-time income is \$11.57 million.

It was recognized that the information collected was sufficient for a preliminary comparative analysis of projects through the peer review procedure.

First of all, the involved group of experts had to determine the factors (criteria) by which the projects should be evaluated. As a result of heated debates, the experts agreed that a comparative analysis of the six criteria listed below would be sufficient to determine the unacceptable ones for JV "Budservice".

These criteria are:

- 1 – demand for products (services);
- 2 – general investment climate (as one of the characteristics of economic risk);
- 3 – export opportunities (the possibility of selling project products under the VKV);

4 – total investment needs for the project (as one of the characteristics of financial risk);

5 – the deadline for the completion of the construction phase (as one of the characteristics of the payback of the project);

6 – assessment of the technical and economic complexity of the project (as one of the characteristics of the overall risk of the project).

After defining the criteria, the experts ranked them in descending order and evaluated each project in terms of each criterion. As a result, Table 9.7 was completed.

As a result of the discussion of the results of the expert evaluation at the shareholders' meeting, it was decided to refuse further consideration of the first three options due to the above reasons.

Table 9.7 – Expert evaluation of projects

Criterion Number	Indicator	Project number						Integral evaluation of the project					
		1	2	3	4	5	6	1	2	3	4	5	6
1	2	3	4	5	6	7	8	9=2x3	10=2x4	11=2x5	12=2x6	13=2x7	14=2x8
1	0,3	90	50	30	90	80	90						
6	0,25	20	50	70	60	65	80						
2	0,2	60	70	70	70	70	70						
4	0,12	25	20	30	70	75	80						
5	0,08	40	20	30	80	80	85						
3	0,05	90	80	0	80	75	60						
Together	1												

This decision made it possible to reduce the amount of necessary information at this stage and, consequently, reduce the cost of its acquisition and analysis. Further work on the collection and analysis of information made it possible to obtain additional initial data, given in Tables 9.8 – 9.10.

For greater clarity of the example and simplification of calculations, the timing of project implementation is conditionally limited to 2036.

Table 9.8– Initial data

Name of the object	Capital investments by years of construction, %		
	2021	2022	2023
Business center, 6 million	14	42	44
Hotel 6.5 million	12	46	42
Residential building 5.5 million	10	50	40

Table 9.9 – Output

Name of the object	Annual Operating Costs					
	Business expenses	Utilities	Depreciation of the house	Insurance	advertisement	Other Expenses

						es
Business Center	192	267	383	200	98	50
Hotel	68	810	383	430	120	90

Table 9.10 – Output

Name	Annual income from the operation of the facility					
	Lease of premises					Operation of hotel rooms
	Under Stores	Residential Apartments	Service premises	Artists' workshops	Underground Parking	
Business Center	26	807	1782	60	298	-
Hotel	—	—	—	—	—	3900

Due to the great complexity of making a forecast of annual operating costs and income from the operation of the facility, it is conditionally accepted that they do not change, the initial data are taken on the basis of the study of analogue projects in Kyiv.

In the calculations, such simplification is possible because:

- 1) the impact of cash flows decreases significantly with an increase in the discount period;
- 2) It is known that the flows of annual benefits and costs of the project stabilize at some level from a certain point in time;
- 3) The purpose of the calculation is to compare the options with each other, and not to determine the indicators for the entire period of project implementation.

When analyzing the economic efficiency of the project options, the following taxes were taken into account:

- on profit – 18%;
- value-added – 20%;
- Special. tax – 1.5%.

Projects have a medium degree of risk. For such projects, on the basis of previous experience in JV "Budservice", a discount rate of 10% is adopted.

The company's analyst was tasked with determining the main indicators for each of the three remaining options.

Option 1. Business Center

Option 2. Hotel

Option 3. Residential building.

The solution of this problem is summarized in Table 9.11.

Table 9.11–Calculation of indicators of economic efficiency of investment options

Y e a r s	Investment Activity Costs by Options			Operating Income by Variants			Value Added Tax and Special Tax by Variants			Operating expenses (excluding taxes) by variants			Income tax			The difference between inflows and outflows from investment activities		
	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
2021																		
2022																		
2023																		
2024																		
2025																		
2026																		
-2020																		
2026																		

Security questions:

1. What criteria did you think had the greatest impact on the results of the peer review?
2. Which option do you think should be left for funding after a comparative performance analysis?

3. Do you think the result would change if the estimated duration of the project was increased?

Practical lesson 10

PLANNING THE RESOURCES AND COSTS OF MARKETING PROJECTS

The goal is to master project evaluation techniques through cost-benefit and opportunity cost assessments.

Task 1. Today, there are 100 thousand rubles in your bank account. Y.E, on which the bank accrues 10% per annum (once a year). How much can you withdraw from your account annually so that these 100 thousand? Did Y.E have enough for you for 5 years, all other things being equal?

Task 2. Determine which 1000 Y.E loan option you will choose:

- a) with a monthly payment of Y.E 92 during the year;
- b) with a monthly payment of Y.E 36 for three years.

Task 3. Find in the table the value of the currency in the 5th year of the project at a discount rate of 12%; in the 10th year at a discount rate of 20%; in the 3rd year at a discount rate of 16%?

Task 4. The investor has the opportunity to use Y.E 2 million in two alternative ways:

- a) put money in the bank for three years at 80% per annum;
- b) invest the amount in an investment project, the income from which will be received annually for three years (the first year – Y.E 600 thousand, the second – Y.E 900 thousand, the third – Y.E 900 thousand). The real discount rate is 40%, the expected inflation rate is 10% in the first year, 15% in the second year, and 20% in the third year. All payments are made at the beginning of the year, and revenue is accounted for at the end of the year.

Compare the proposed investment options and choose the most profitable one.

Task 5. The inflation rate is projected for the year at 20%, the interest rate on loans is 16%. You took a loan for a year in the amount of 10 thousand rubles. Y.E. Will you gain or lose from inflation and to what extent?

Target 6. Suppose a firm has a nine-year project. How will the firm's benefits change if it implements the project and if it abandons it? Without the project, the firm's benefits, calculated as income, amount to Y.E 80 million, and expenses to Y.E 60 million. If the project is implemented, revenues will increase to Y.E 110 million, and expenses will increase to Y.E 85 million.

Target 7. You have 10 thous. Y.E and want to use them effectively throughout the year. They can be used:

- for the purchase of shares of another joint-stock company (25% of the invested capital);
- for the purchase of 5 thous. tons of goods to sell for Y.E 2.4 per ton;
- for the purchase of an office of 30 sq. m. m. for further lease at 80 Y.E per 1 sq. m. m.;
- as a deposit to an account in a commercial bank (22% per annum). You have chosen the least risky option – you have bought an office.

What is the opportunity cost of the project?

Target 8. Let's say you want to buy a new car. Its total cost includes all additional costs 10085 Y.E. When selling your old car and adding cash, you can pay 2085 Y.E. You have the option to choose where to borrow the rest of the amount:

a) one bank can provide you with a loan for 36 months secured by property with a monthly payment of 18%;

b) the second bank can provide you with a loan for 24 months with a monthly payment of 14%;

c) A third bank can provide you with a loan for a period of 48 months with a monthly payment of 27%.

Which bank will you choose?

Target 9. *The company* is considering the possibility of purchasing new equipment at a price of 180 thousand rubles. Y.E due to the sale of old equipment at a price of 120 thousand Y.E. Y.E, purchased 2 years ago for 100 thousand Y.E. Y.E. The company receives an investment tax credit in the amount of 10% of the investment amount. Determine the additional cash flow from replacing old equipment with new equipment.

Target 10. Calculate traditional cash flow, net flow, operating cash flow, cash flow, cash flow from the following data:

The company creates an enterprise for the implementation of the project. The total amount of expenses is Y.E 1 million, of which Y.E 50 thousand. Y.E has already been used for the development of the project. Contribution to the authorized capital: fixed assets – 250 thousand Y.E; Y.E, cash from the sale of shares – 500 thousand Y.E. Y.E, long-term bonds – 200 thous. Y.E. A long-term loan of the bank for 300 thousand rubles was attracted. Y.E, for which the equipment was purchased. The current costs of the project without depreciation are Y.E 400 thousand. Y.E, depreciation – 5% of the cost of equipment. Funds were received from the sale of

goods for 550 thousand rubles. Y.E. Interest on the loan in the amount of 16% was paid. Dividends from the sale of shares in the amount of 7% were paid.

Target 11. The company is considering replacing the old equipment with new ones. Capital expenditures for the purchase of new equipment – 25 thousand Y.E. Y.E. Given that the equipment will be written off in 5 years, the company will receive a tax discount of 10% of the investment. Old equipment, which was bought 6 years ago at a price equivalent to 18 thousand rubles. Y.E, has a service life of 10 years and can be sold now for 8 thousand rubles. Y.E. Using new equipment, The company intends to reach an annual sales volume of 20 thousand tons. Y.E (at the prices of the year of equipment change) with gross annual expenditures of 13 thousand Y.E. Y.E. Evaluate the feasibility of the project if the expected inflation rate is 10% and the real discount rate is 12%. The company's income tax rate is 30%.

Target 12. Calculate the total project cash flow for three years according to Table 10.1. Initial investments in equipment amounted to 90 thousand rubles. Y.E, in the growth of working capital – 20 thous. Y.E (90% of them are planned to be returned at the end of the project cycle).

Table 10.1 – Output

Indicator	Amount, Y.E
Sales revenue	200 000
Variable Costs	125 000
Fixed costs	12 000
Depreciation	30 000
Earnings before interest and taxes	33 000
Corporate Income Tax	11 220
Net profit	21 780

Target 13. Analyze the project of mastering the production of scooters, if the planned cash flows are distributed over time as follows (Table 10.2).

Table 10.2 – Output

Indicator	Years					
	0th	1st	2nd	3rd	4th	5th
Costs, thous. Y.E	10	800	400	200	100	100
Benefits, thous. Y.E	–	–	100	300	600	1100

The project is implemented at an interest rate of 10% per annum. Will your investment decision change if it increases to 15%? Find the marginal value of the

interest rate, above which the project becomes unprofitable (graphical and analytical methods).

Target 14. Analyze two alternative investment projects (initial data in Table 10.3) in terms of NPV, if the interest rate is 15% per annum for both projects. Project A envisages investment costs in the amount of Y.E 250 thousand, project B – Y.E 500 thousand. Y.E. Choose the best option, comment on the results.

Table 10.3 – Net cash flows by projects, thous. Y.E

Project	Year					
	1st	2nd	3rd	4th	5th	6th
And	50	80	100	100	150	200
Into	100	300	400	200	–	–

Practical lesson 11

BREAK-EVEN ANALYSIS OF THE PROJECT

The goal is to master the methods of assessing the break-even of a marketing project; to teach students the correct application of the methodology for evaluating an investment project.

To work on tasks, it is recommended to use the following formulas:

$$C \cdot Ov = ZVop \cdot Ov + PV + P,$$

where C is the price of a unit of production; OV – volume of production of project products; ZVOP – variable costs for the production of a unit of project products; DC – fixed costs for the production of a unit of project products; P – profit before tax

$$TB = PV / (C - SZV),$$

where TB is the break-even point for one type of product (physical volume); DC – fixed costs; C is the price of a unit of production; SZV – Average Variable Costs

- accounting approach: $Ov = (SW + P) / (C - ZVOP),$
- project approach: $Ov = (PV + GPP) / (C - ZVOP),$

where Ov is the break-even volume of production; PGO – Operating Monetary Teak.

Task 1. The bicycle plant sells 300 "Children's" bicycles per month at a price of 2500 Y.E per product. Variable costs for the manufacture of one product are 260 Y.E, fixed costs for the period are 32000 Y.E. Determine the break-even point of production.

Task 2. *The company produces a product, the* variable cost per unit of which is 26 Y.E, and sells it at a price of 32 Y.E. The fixed costs of the company are equal to 64 thousand rubles. Y.E. Identify: a) the volume of goods that will provide the company with break-even; b) how the volume of production will change if the company plans to receive 10 thousand tons? Y.E of profit (net).

Task 3. The life cycle of the project, which is planned for implementation, is 5 years. Its total cost is Y.E 300,000, while the salvage value is 0. The required rate of return is 12, income tax is 30. The projected sales volume of products is 400 units per year. The price of a unit of production is 3100 Y.E, variable costs per unit of production – 2000 Y.E, fixed costs – 250,000 Y.E per year. The project provides for straight-line depreciation until the salvage value is reached.

Determine the break-even point of the project using different approaches – accounting, financial, cash.

The payback period of an investment project can be determined by the formula:

- with a uniform flow of income throughout the entire payback period of investments and

, while ,

- when income is unevenly distributed over the years of implementation of the investment project throughout the payback period,

where – payback period of the investment project, years; – net receipts (in the form of profit) in the first year of the investment project with a uniform receipt of income for the entire payback period, Y.E; – the total amount of costs for the implementation of the investment project, including the costs of research and development work, Y.E; – net receipts (net profit) in the first year, Y.E; – economically justified payback period of investments, determined by the management of the company or investor, years; – depreciation deductions for the full restoration of fixed assets per year of implementation of the investment project with a uniform receipt for the entire payback period, Y.E; – depreciation deductions for full restoration in the i-th year, Y.E;

Net profit is determined by the formula:

,

where is the profit in the first year of the investment project with a uniform receipt of income, Y.E; – income tax rate in fractions of a unit.

Task 1. Calculate the payback period with uniform cash flows. The management of the company decided to purchase equipment to replace the existing one. The initial costs (capital investments) for the purchase and installation of equipment will amount to 10000 thousand Y.E. The company's income is expected

to be 3000 thousand rubles. Y.E per year. The company's management considers the cost of purchasing equipment justified if it pays off within six years. Profit for each year out of six years of equipment operation will be equal to 2000 thousand tons. Y.E, depreciation – 1000 thous. Y.E. The income tax rate is 30% or 0.3. It is necessary to determine what is the payback period of the equipment, is it expedient, based on the economically justified service life, to purchase this equipment?

Task 2. Calculate the payback period for uneven cash flows. The company's management wants to purchase a new packaging machine. The car costs 90000 Y.E. The cost of installing the machine will be 4000 Y.E. Revenue, profit, and depreciation by year are shown in Table 11.1.

Table 11.1 – Distribution of Revenue, Profit and Depreciation Derived from the Purchase of a New Packaging Machine

Years	Income	Profit	Depreciation
1	20000	12000	8000
2	25000	17000	8000
3	30000	22000	8000
4	35000	27000	8000
5	35000	27000	8000

The economically justified payback period of the company is assumed to be equal to five years. Income tax is 30%. It is necessary to calculate: payback period of investments; the feasibility of purchasing a car, based on an economically justified payback period for investments. Let's use the formulas and summarize all the calculations in Table 11.2.

According to the table, the acquisition costs will pay off in the fifth year of its operation. Then you need to determine how long it will take in the fifth year of operation of the machine before the one-time cost of installing it pays off. We calculate using the formula

where 12 is the number of months in a year; – the amount of net profit and depreciation in the year in which the cost of purchasing and installing the machine will pay off, Y.E; – the number of months in the corresponding year of operation, during which the cost of purchasing and installing the machine will be fully recouped; – the amount of net profit and depreciation for the economically justified service life of the machine, except for the last year, Y.E; – one-time costs for the purchase and installation of the machine, Y.E.

Table 11.2 – Income, depreciation and amortization received from the purchase of a new machine

Years	Income D	Depreciation A	Profit P _h	Tax on profit	Amount P _h and A	Balance At the end year (+/-)
And	1	2	3	4	5	6
0 - Purchase and installation of the machine	-	-	-	-	-	-94000
1	30000	8000	12000	3600	16400	-77600
2	25000	8000	17000	5100	19900	-77600
3	30000	8000	22000	6600	23400	-34300
4	35000	8000	27000	8100	26900	-7400
5	35000	18000	27000	8100	26900	-19500
Just	145000	40000	105000	31500	113500	-19500

Practical lesson 12

TOPIC: RISK MANAGEMENT IN THE PROJECT

The goal is to get acquainted with the methodology for comparing the sustainability of several projects.

Suggestions for Teaching

When studying this topic, it is necessary to determine that this is an integral part of project management, which addresses the issues of identification, analysis and development of the risk response in the project. It has the following components, sequence, and features:

- risk identification – determining which risks may affect the project and documenting the characteristics of each;
- Quantitative Risk Assessment – An assessment of risk and risky interactions to determine a range of possible impacts on the project.
- development of the risk response – identification of projects to strengthen the enabling opportunities and responses to the threat;
- Risk response control – responding to changes in risk during project implementation.

When studying the topic, it is necessary to pay attention to the fact that the following types of uncertainty and investment risks are the most significant:

- risk associated with the instability of economic legislation and the current economic situation, investment conditions and use of profits;
- uncertainty of the political situation, the risk of unfavorable socio-political changes in the country or in the region;
- fluctuations in market conditions, prices, exchange rates;
- production and technological risk (accidents, equipment failure, manufacturing defects, etc.);
- uncertainty of goals, interests and behavior of participants;
- incompleteness or inaccuracy of information on the financial condition and business reputation of participating enterprises (possibility of non-payment, bankruptcy, disruption of contractual obligations).

With regard to construction companies, the most significant risks are:

- errors in design and estimate documentation;
- qualifications-specialists;
- natural political circumstances;
- low quality (materials, components, technological processes, products);
- termination of the contract.

Particular attention should be paid to the organization of risk analysis work.

It is recommended to perform these works in the following sequence:

- formation of a qualified team of experts;
- preparation of a special list of questions and meeting with experts;
- selection of risk analysis techniques;
- identification of risk factors and their significance;
- development of a model of the mechanism of risk action;
- determination of the relationship between individual risks and the cumulative effect of their action;
- distribution of risks between project participants;
- consideration of the results of the risk analysis (in the form of a report);
- development of a risk management model.

Risk management takes place at all phases of the project life cycle with the help of monitoring, control and necessary corrective actions.

Situational Exercise

Order of work

1. Consider the situation for analysis.

2. Answer the questions.
3. Identify and quantify risks in a specific example.

Based on the results of the work, the following conclusions were made:

- the option of reconstructing a house into a business center is the most preferable;
- there is significant uncertainty, primarily related to a possible change in the projected values of the project's revenue stream;
- It is necessary to conduct a comparative analysis of the sensitivity of projects to changes in prices for their products.

To solve this problem, the indicator of net discounted income was adopted as a criterion for the effectiveness of the project. The sensitivity of the project was determined by the relative change in NPV with a change in the annual revenue stream. For this purpose, the annual revenue stream of each project varied from -20% to +20% of the base (control points: -20%, -10%, 0%, +10%, +20%). The "new" values of the NPV and their change relative to the initial NPV calculated in the process of analyzing the situation were determined.

As a result, Table 12.1 was completed

$$1n=740,973 \quad 2n=812,480 \quad 3n=404,030$$

Table 12.1 – Calculation of project indicators

Change in revenue stream (relative to forecast)	Net discounted profit, thous. Dollars			Change in Net Discounted profit, %		
	"Business Center" option	"Hotel" option	Variant "Residential Building"	Variant "Business Center"	variant "Hotel"	variant "Residential Building"
-20 %	-1497,17	-2362,99	-930,55	-324 %	-619%	-1539%
-15 %	-955, 59	-1672,53	-712,10	-243 %	-465%	-1154%
-10 %	-414,00	-962 ,06	-493,66	-162 %	-310%	-769%
-5 %	-127,58	-261, 63	-275,22	-81 %	-155%	-385%
0	669,17	458,83	-56,78	0 %	0%	- 0%
5 %	1210,75	1169, 28	161,87	81 %	155%	385%
10 %	1752,33	1879,74	380,11	162 %	310%	769%
15 %	2293,92	2590,19	598,55	243 %	465%	1154%
20 %	2835,50	3300,65	816,99	324 %	619%	1539%

The analysis showed that the project of reconstruction of the building into a business center, which was preferred at this stage, turned out to be the least sensitive to changes in product prices.

Security questions

1. Do you think it was enough to limit yourself to the procedure described above when determining the sensitivity of the project?

2. What risk analysis methods do you think project analytics would need to apply?

3. Do you think the "margin of safety" of this project is sufficient in terms of the uncertainty associated with its implementation?

4. What risk mitigation measures could you suggest to improve project reliability?

Practical lesson 13

PROJECT QUALITY MANAGEMENT

The purpose is to study the principles of project goal formation.

Suggestions for Teaching

With the transition of the CIS countries to a market economy, almost all producers of goods and services in these countries faced this problem: more and more often their consumers prefer foreign products, as a rule, of leading companies in their industry, to their even cheaper ones. Many domestic manufacturers are threatened with bankruptcy caused by the lack of competitiveness of products.

What is the importance of project management and how can the new system help?

It turns out, in many ways, first of all, that ensuring the required level of quality is an organizational and economic problem, and the project manager turned out to be just the figure who, armed with a project management methodology, is able to bring the necessary order to the complex and therefore often chaotic world of the environment and the environment of the project.

The task of quality assurance at the required level "permeates" the entire life cycle of the project, each phase has its own specific methods for solving this problem, and therefore the purpose of this topic is to reveal the methods of organizing defect-free processes based on the methodology of process management.

The main element of this methodology is the modern concept of quality management with its seven basic principles, specifically:

- quality is an integral part of the process as a whole;
- Quality is what the consumer says, not the manufacturer;
- responsibility for quality should be targeted;
- new technologists are needed to really improve quality;
- it is possible to improve the quality only through the efforts of all employees of the enterprise;

- control the interference process more effectively than the result (products);

- The quality policy should be part of the general policy of the enterprise.

These principles are the basis for the most popular method of system quality management today.

Taking into account and analyzing costs also has a significant effect, according to which the essence of the project manager's work is to compare the current level of quality with the planned one, as well as the standards of the international organization for standardization ISO 9001 and EN 2901, which should ensure quality in the design, development, production, installation and maintenance, foreign certification system, which aims to give the manufacturer of the relevant products a license to use a special type of stamp (mark compliance).

But, regardless of who is entrusted with the activities of the Quality Program, the responsibility for ensuring the quality of the obstacle rests with the project manager.

Theoretical information

The goals of the organization are based on the following principles.

The principle of unity of purpose. The structure of an organization is effective if it helps everyone contribute to the achievement of the goals of the enterprise.

The application of the principle of unity of purpose implies the presence of clearly formulated goals of the enterprise. If the goal is to make a profit over a period of time, then the organizational structure that facilitates this is consistent with the principle of unity of purpose. Whatever the main or derivative goals, the structure of the organization and its activities should be evaluated by their effectiveness in achieving the goals.

Example. The shareholders' meeting approved the financial plan of the investment project, which provides for the receipt of a net profit of Y.E 20 billion during the first year of the project, of which Y.E 5 billion is expected to be spent on incentives for the company's staff in kind (apartments, cars). To achieve this result, the head of each department received his own task: the production department – to ensure a certain level of costs, the marketing department – sales volume and price level, finance department – attracting a loan and repayment of interest, etc. Only if each head of the department and his employees follow the relevant instructions, the company will achieve its goal.

The principle of efficiency. An organization is effective if it is built in a way that contributes to the achievement of the enterprise's goals with minimal undesirable consequences or costs.

The principle of efficiency includes indicators of financial and material costs, as well as concepts such as individual and group satisfaction. An effective organizational structure for an employee is a structure that does not allow losses or mistakes and ensures job satisfaction, has clear lines of subordination and distribution of responsibility, allows you to participate in solving problems, gives confidence in the future, provides a certain status and opportunities for career growth, and provides a prestigious level of salary.

Example. The board of directors of the joint-stock company has developed a project strategy, which is to improve the ratio between equity and debt. At the end of the first year of the project, shareholders must provide 25% of the required capital, at the end of the second – 35%, at the end of the third – 40%. The effectiveness of the project will be evaluated according to this criterion. The implementation of the project necessitates the restructuring of the organizational structure, in particular, the creation of units that would be responsible for the work on the Stock Market and with bank loans. Accordingly, it is necessary to reduce the number of employees of other departments and eliminate a number of departments. This task can be solved by firing some employees and recruiting others, or by retraining employees. The second way is undoubtedly more effective. Its consequences and costs will be less than with the first option. In this case, the organization would begin to have a fever, the laid-off employees would give the acquired knowledge and experience to competing firms, and the selection of new people would be a big expense, but they would be less and would pay off by reducing bank interest payments and income from operations on the stock exchange.

Task.

1. Analyzing the organizational structure of the enterprise that will be created for the development project of the Zaporizhzhya Titanium and Magnesium Plant, the shares of which you want to purchase. You find that the principle of unity of purpose has been violated: the management of the plant does not have a clearly formulated goal of the project.

There are five options for goals:

a) organization of industrial production of polycrystalline silicon to meet the needs of domestic and foreign consumers;

b) meeting the needs for silicon and silicon-containing compounds for microelectronics, power electrical engineering and solar energy in different countries of the world;

c) receiving \$5.2 million in profit annually from the sale of polysilicon;

d) production of 250 tons of polysilicon per year;

e) use of the plant's production facilities to ensure the employment of personnel.

Choose a goal, clarify it, and structure it so that it is clear to each project participant what they will get as a result of the project.

2. You want to create a company that will provide services for the development of business plans.

The purpose of the company is to make a profit from the provision of services. Undesirable consequences are that the personnel you hire are distracted by other work outside your company, as well as the interests of the company's employees, who can and want to earn as much as possible on the fulfillment of orders, are found in conflict with the interests of the company itself. To make your organization effective, you:

a) involve only narrow specialists in the field of marketing, production and finance, so that their interests do not intersect;

b) under the threat of dismissal, prohibit them from working for other firms and communicating with each other;

c) promise to compensate them for the lost income if they work only for you;

d) in each case, you will clearly distribute the work "for the project" (order) and set a time and money frame for its implementation.

Practical lesson 14–15

PROJECT MANAGEMENT

The goal is to summarize theoretical knowledge and use it in practice.

Task1

Build a structural diagram of the work by life cycle and by results for the project "Creation of a conceptual Internet café".

Task2

For a better understanding of what are the assumptions and what are the risks of the project, answer the questions in the second column of the table:

Description	Assumption, risk, or something else?
We will get strong support for the project from the management	

We'll get the test bench before we're ready for the test	
Intermediate floors are made of monolithic reinforced concrete	
We will finish the requirements analysis in the IT project before starting the design	
Our suppliers will make delivery by October 1	
For the purchase of finishing materials, we will need an expedition to Pluto	
The working groups of the project are at a distance of 60 km from each other	

TECHNICAL ANALYSIS

Task 3. A project is being considered for the construction of a mini-factory for the production of biscuits, which provides for the purchase of a one-story house, where an ice cream workshop and a café with a rich assortment of this product can later be located. The rest of the products, which will not be sold in their own store, are supposed to be sold through the city's retail network. The project provides for the following expenses: purchase of a one-story building ± Y.E 300,000, its overhaul ± Y.E 45,000, carrying out works on the decoration of the territory ± 5000 Y.E, purchase of equipment for the main production ± 35 000 Y.E, purchase of refrigeration equipment ± 15 000 Y.E, purchase of packaging materials ± 1000 Y.E, installation of equipment ± 1000 Y.E, purchase and installation of commercial equipment ± 15 000 Y.E, preparation of a package of permits ± 1000 Y.E, transport and loading and unloading operations ± 500 Y.E, maintenance of administrative and maintenance staff ± 8000 Y.E, Maintenance of machines ± 1500 Y.E, general plant and administrative costs ± 800 Y.E, training of personnel ± 2000 Y.E, advertising ± 1500 Y.E, purchase of raw materials and materials for production ± 5000 Y.E, organization and conduct of consultations, negotiations and purchases ± 1500 Y.E.

Required:

1. Allocate costs according to the project by cost items.
2. Determine the amount of capital and operating costs for the project.
3. Determine the total amount of project costs.

When performing the task, it is necessary to remember that capital costs include costs associated with pre-investment research and preparatory work, and

costs associated with the selection, preparation and development of the site, civil engineering, purchase of technology and equipment, construction and installation works, etc. Current costs include training costs, overhead costs, and working capital.

Task 4. A project for the construction of an enterprise is being considered. Analysts are tasked with determining the location of this enterprise, the choice of which is carried out on the basis of the influence of such factors as the proximity of raw materials and fuel and energy resources, labor resources and the area of consumption of finished products, the location of which is shown in Fig. 5.2, where:

- A – location of raw materials;
- B – location of fuel and energy resources;
- B – location of labor resources;
- D – location of the area of consumption of finished products;
- K, L, M, N, R, S are possible locations of the enterprise.

Determine the rational location of the project and the construction object in the case of considering the project for the construction of an enterprise that belongs to:

- a) chemical industry;
- b) mechanical engineering;
- c) food industry;
- e) meat and dairy industry.

When choosing the location of the enterprise, it is necessary to adhere to the principles of distribution of productive forces, taking into account industry affiliation.

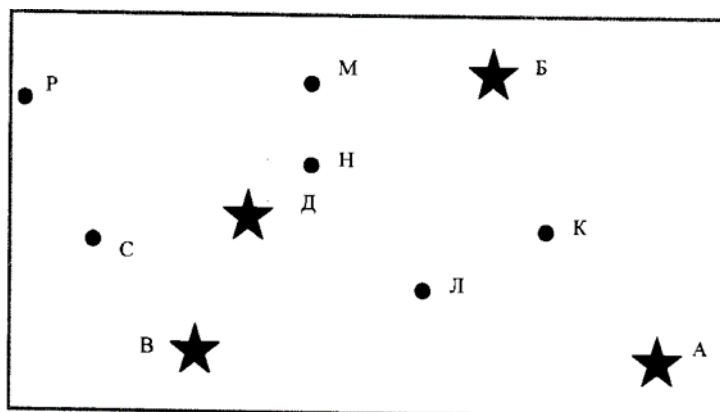


Fig. 14.1 – Map of the location of factors influencing the localization of the enterprise

MARKETING ANALYSIS

Target 6. A project is being considered to create a small enterprise in the Zhytomyr region for the production of juices and nectars using direct extraction

technology based on local raw materials. The production capacity of the projected enterprise is at the level of 0.5 million liters of juice per year.

Previous marketing studies have shown that the capacity of the juice market will constantly grow and in the near future will amount to 150-180 million liters per year. According to experts, the potential capacity of the Ukrainian market of juices and nectars is approximately 400 million liters per year.

Analysis of the market for the project's products showed that about 90% of the market belongs to domestic producers, who mainly specialize in the production of juices from condensed or frozen juices. But the quality of juices meets international standards, so foreign-made products are not considered competitive due to significant price differentiation. Most of the producers (more than 16 enterprises) are located in the southern, eastern and central regions, as they are primarily focused on consumers or raw material bases. The most famous companies on the market are "Jaffa" (Odesa), "Sandorra" (Mykolaiv region), "Sepro" (Kherson), "Gutta" (Kyiv region), "Halychyna" (Lviv), "Smak" (Nizhyn), "Dar" (Kyiv). The majority of manufacturers (80%) use Tetra-Pak cardboard packaging, the rest use glass containers (mainly for direct juices). The average profitability of enterprises in this market does not exceed 20%. Since the juice market can be identified as a market of monopolistic competition, it has all the principles of market functioning, and the main method of competition is non-price discrimination.

A preliminary analysis of the business environment shows that Ukrainian consumers remain supporters of domestically prepared fruit and berry drinks, consuming more than 600 million liters annually. The analysis shows that juice consumers practically do not focus their attention on a particular manufacturer, but are supporters of several brands or do not give preference to anyone at all.

Using these situations, marketing reviews of the markets of periodicals and online publications, as well as other information sources, it is necessary to:

- 1) analyze the demand for the project's products and determine the strategy for its development;
- 2) analyze the market environment of the project;
- 3) develop a marketing mix for the project's products.

INSTITUTIONAL ANALYSIS

Task 7. The Golan company is considering a project to build a large plant for the production of building mixtures for interior and exterior wall decoration to meet the needs of the Eastern European region. It is assumed that 50% of the products of the new enterprise will be exported. Ukraine, Poland, and Moldova apply for the

implementation of this project. The investor is primarily interested in such aspects as: availability of a favorable investment climate, the possibility of buying land for development, availability of cheap and skilled labor, sales markets, stable domestic political situation. The investor is considering a number of possible options for the project, namely: the purchase of a plot of land and the construction of a completely new enterprise, the purchase of a similar existing enterprise, the purchase of a share in one of the enterprises in the construction industry. Other options are possible.

Need:

1. Determine the main factors of external influence on the implementation of this project.
2. Analyze the impact on the attractiveness of the project implementation of each of the environmental factors in different countries.
3. Justify which country is the most attractive for the implementation of this project, and determine the most attractive option for the implementation of the project.

SOCIAL ANALYSIS

Glossary of Terminology

Beneficiaries of the project are groups of people who receive benefits (additional income, improvement of living conditions and quality of life, advanced training, reduction of negative environmental impacts, etc.) from the implementation of the project.

Project population – all groups of the population that are directly or indirectly affected by the project and which include: persons living in the area and involved in the construction or operation of the facility, as well as members of their families, labor involved in design work from other places; people whose lifestyle is changing as a result of the project, consumers of project products.

Target 8. The Melitopol company "Universal" has been operating in the market of automotive components for more than 50 years. In the early years, it produced more than 30 different large car components, but recently it specializes in the production of rear axles. The consumers of the company's products are well-known automobile enterprises - GAZ, AvtoVAZ , AvtoZAZ. But the demand for these products is constantly decreasing due to the expansion of the production of front-wheel drive cars.

The development of the global automotive market, the country's integration into the international space required the company to improve quality, improve design and reduce product prices. However, the company's innovative passivity was due not only to the inefficiency of its management, but also to significant

government support. In order to protect the national manufacturer, the government adopted a resolution banning the import of imported components that replace Universal products. Only after AvtoVAZ refused to continue cooperation, the management of Universal decided to start a project to restructure the company in order to produce a new competitive model of the bridge, which should meet the growing requirements of consumers and at the same time be relatively cheap. This was planned to be achieved through the modernization of equipment, staff reduction, as well as the introduction of resource-saving technologies. The appointment of a new General Director in July 1999 was met with hope by the company's staff. Pyotr Ignatovich Zasukha, who headed the company, graduated from the Sevastopol Instrument-Making Institute and worked his way up from a technologist to the chief engineer of the production of power units. Despite his youth (he had just turned 40 years old), the new director was respected by the team and had the authority of a highly qualified specialist.

The first step of Petro Hnatovych was the creation of a team of managers who began to work on the project of restructuring the enterprise to get it out of the crisis.

The restructuring project submitted for approval provided for the following measures: closure of the subsidiary that produced components and assemblies for Universal, transfer of its production facilities directly to the parent company; consolidation of a significant number of small machining and assembly sites into two large divisions in order to reduce costs and solve problems of moving materials and products; introduction of a new production structure, which is built in accordance with the processing of homogeneous components of different divisions and sections into separate production groups; halving the staff of the parent company – from 2,600 to 1,380 employees; prohibition of trade unions' interference in the preparation and adoption of management decisions, removal of trade union representatives from the Board of Directors; introduction of a new labor organization: clear delineation of production operations according to the structure and specialization of workplaces, transition to flexible production, reduction of time standards for technological and auxiliary operations, reduction of benefits, tariffs and wage rates payment with an increase in the intensification of labor.

The company announced the re-certification of all staff during the year. The certification system was aimed at motivating to improve the professionalism of the company's personnel, for which advanced training courses and the development of new specialties were organized. The implemented system of financial incentives was supposed to relieve the company's staff of resistance from large-scale changes.

The organizational culture that prevailed in the company before the restructuring and was based on the principles of paternalism began to die out. The management began to form a new corporate culture aimed at increasing the responsibility, initiative of the staff, and the introduction of democratic management incentives. Forming the tasks of personnel policy, Petro Ignatovych Zasukha proclaimed at the meeting of the labor collective: "We believe that human resources are not a cost factor that needs to be minimized, but our most important resource that should be purposefully developed."

Two years later, the company employs 970 people. The average salary has doubled to about \$250. per month, the total profitability of the company is 18%. It seemed that the financial results of the restructuring project proved the feasibility of its implementation.

Using data, statistical sociological materials for the Melitopol region, online publications, as well as other information sources, it is necessary to:

1. To substantiate which of the elements of social analysis should be included in the analysis of the restructuring project.
2. Identify the population of the project, its beneficiaries and identify the impact and social consequences of the project results on different population groups.
3. From the point of view of the sociologist-analyst of the project, determine which indicators of the social environment should be used to compare the situations "with the project" and "without the project" in order to decide on the feasibility of implementing the restructuring project.
4. Develop a social support program for the project.

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Educational Edition

Suggestions for Teaching

to perform practical tasks
in the discipline
Project management

for full-time students majoring in 075 Marketing

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