MINISTRY OF EDUCATION AND SCIENCE OF UKRAINE

SIMON KUZNETS KHARKIV NATIONAL UNIVERSITY OF ECONOMICS

MANAGEMENT

Guidelines to practical tasks
for Bachelor's (first) degree students
of speciality 073 "Management"

Kharkiv
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Самостійне електронне текстове мережеве видання

Practical problems, practical situations most typical of modern domestic enterprises are offered for resolution to help students apply the theoretical knowledge on the academic discipline to practice.

For Bachelor's (first) degree students of speciality 073 "Management".

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Introduction

Currently, training new types of managers is one of the most important tasks. The science of management, which helps to find answers to any practical questions, requires modern business leaders to get relevant knowledge in the field of economics, psychology of human behavior, production organization, work with suppliers of resources and consumers of products. In Ukraine, it is time for manager to comprehend the achievements of domestic science and management practices, analysis of modern theories and approaches of foreign management. The combination of the accumulated world knowledge in the field of management, its adaptation to the conditions and specifics of the Ukrainian reality is the basis of the academic discipline that forms the knowledge and skills of a successful leader.

The task of management is to ensure the activities of a particular enterprise and increase its efficiency. In accordance with this task, management must ensure the profitability of the firm on the basis of its available human and material resources. The successes and failures of an enterprise are, first of all, the successes and failures of its management. Management must create conditions for the company to produce better quality products at lower prices, or provide better services than its competitors. Solving practical problems will allow students to develop practical skills in the use of methods of planning and organizing the work of units, direct the activities of structural units of the organization to achieve common goals, make effective decisions using management methods, work to motivate staff.

The guidelines to practical tasks on the academic discipline "Management" are based on the formation of students' professionally-oriented competences through solving situational exercises (tasks), preparing reports (presentations) for seminars and answers to questions.

The purpose of the publication is to form practical skills and abilities for the development of modern management tools, making and implementation of effective management decisions.

Content module 1. Management as a science

Theme 1. The concept and essence of management

The goal is to get knowledge of the essence and nature of management, its features in various aspects of human activities.

Theoretical questions
1. Organization as a management object.
2. Evolution of views on the essence of management.
3. Managers in the organization.

Seminar questions
1. An organization as a system: the internal environment.
2. An organization as an open system: relations with the external environment.
3. Classification of organizations.
4. The constituents of success of an organization.
5. Does management really help organizations to become successful?
6. Management: science or art?
7. Characteristics of a successful manager.
8. Manager's "deadly sins".
9. The relationship of management science with related disciplines.
10. Relations between an organization and its stakeholders.
11. Manager and entrepreneur: similarities and distinctions.
12. Managerial tasks at different levels of management.

The guidelines for the seminar
Select one of the given seminar questions. Analyze the information used in different sources (books, articles, professional sites, forums, electronic journals, etc.). Prepare a presentation (MS Power Point, Google Slides, Prezi, etc.). Use 10 – 12 slides. The content should describe the essence of the subject / the answer to the selected question.

A short description of the seminar questions
1. An organization as a system: the internal environment.
The concept of organization as a system. Properties of the organization as a system. The essence and characteristics of the internal environment of the

organization. The elements of the organization's internal environment. The organization's internal environment factors.

2. An organization as an open system: relations with external environment.

The concept and particular qualities of an organization as an open system. Differences between close and open systems. Benefits and limitations of the organization as an open system. The importance of the external environment for the organization. The reasons for the interaction of the organization with its external environment. Forms and styles of the organization's interaction with the external environment. The elements of the external environment of the organization. The external environmental factors affecting the organization.

3. Classification of organizations.

The classification concept. The organization classification criteria. Grouping of organizations according to the criteria. Basic classifications of organizations.

4. The constituents of success of an organization.

The essence of success of an organization. Basic factors of success of an organization. The relationship between management of an organization and its success. Specificity of achieving success of an organization in modern conditions.

5. Does management really help organizations to become successful?

The tasks and objectives of management. The role of management. The criteria of a successful organization. The criteria of effective management. Managerial tools to impact the success of an organization.

6. Management: science or art?

The essence of management. Management as a science and an art: the relationship and differences. Reasons to consider management as a science. Reasons to consider management as an art. Elements of art in management. Elements of science in management. Combining management as science and art as a need of the present time.

7. Characteristics of a successful manager.

The essence of a successful manager. The indicators of a successful manager. Personal and professional qualities: contradiction or relationship to become a successful manager. The relationship of power and personal influence as a key to achieving success. Consistency of personal goals with the company goals. The role authority of a successful manager as a result of the interconnection of values, attitudes and work results. The stages of forming a successful manager.

8. Manager's "deadly sins".

The concept and essence of manager's "deadly sins". The kinds of manager's "deadly sins". The consequences of manager's "deadly sins". The impact of manager's "deadly sins" on achieving company goals. The ways to deal with manager's "deadly sins".

9. The relationship of management science with related disciplines.

Management theory as a multidisciplinary science. Management as a basic discipline. Economic disciplines as a theoretical basis of management.

10. Relations between an organization and its stakeholders.

The main types of organizational stakeholders. The role of organizational stakeholders. The essence and basic ideas of stakeholder theory. The ways to optimize relations with stakeholders. Business ethics, morals and values as aspects of relations between an organization and its stakeholders.

11. Manager and entrepreneur: similarities and distinctions.

The essence, functions and role of ar entrepreneur. The essence, functions and role of a manager. The relationship between manager and entrepreneur.

12. Managerial tasks at different levels of management.

The essence, types and purposes of distinguishing management levels. Managerial needs according to the level of management. Differences in management tasks depending on the management level.

Questions for self-assessment

1. Describe management as a specific area of human activity and as a system of scientific knowledge.

2. The place of management in the economic sciences.

3. Describe management as the art of management.

4. Describe the areas of management.

5. The main goals, objectives, laws and patterns of management.

6. The division of labor in the organization.

7. Describe the existing management paradigms.

8. Describe the research methods used in management.

9. Explain the role of management principles.

10. Describe the principles of cost-effectiveness management.

11. Entrepreneur and manager: similarities and distinctions.

12. Professional, business and personal qualities that should be inherent in a modern manager.

13. Management functions.

14. The role of the manager at Ukrainian enterprises.

15. Describe the level of development of the management function and its components.

Theme 2. Evolution of management

The goal is to get knowledge of the origins of modern management, of the basic principles that determine the genetic certainty of management science in the 21st century.

Theoretical questions

1. The main stages of management development.
2. Classical management theories.
3. Neoclassical and quantitative management theories.
4. Modern schools of management theory.

Seminar questions

1. Scientific management theory.
2. The administrative school of management.
3. The behavioral approach to management.
4. Quantitative management theories.
5. Modern approaches: process, contingency (situational), system approaches.
6. The scientific view on management in Ukraine.
7. The 7S concept.

The guidelines for the seminar

Select one of the given seminar questions. Analyze the information used in different sources (books, articles, professional sites, forums, electronic journals, etc.). Prepare a presentation (MS Power Point, Google Slides, Prezi, etc.). Use 10 – 12 slides. The content should describe the essence of the subject / the answer to the selected question.

A short description of the seminar questions

1. Scientific management theory.

The essence and basic ideas of scientific management theory. Representatives of scientific management theory. The object of study of the school of scientific management. The main lines of the school of scientific management. The principles of scientific management.

2. The administrative school of management.

The essence and basic ideas of the administrative school of management. Representatives of the classical (administrative) school of management. The object of study of the classical school of management. The principles of administrative management. The principles of the classical model of organization.

3. The behavioral approach to management.

The essence and basic ideas of the behavioral approach to management. The features of the school of human relations and the school of organizational behavior. Representatives of the school of human relations and their ideas. Disadvantages of the school of human relations. Problems of motivation of people in an organization. The principles of motivational management. The E. Mayo Hawthorne experiment.

4. Quantitative management theories.

The essence, areas and purposes of research of the quantitative approach (schools of management science). Representatives of the school of management science. Basic ideas and contribution of the quantitative approach. Disadvantages of the quantitative approach.

5. Modern approaches: process, contingency (situational), system approaches.

The essence of modern approaches to management: process, contingency (situational), system. Management process functions. System concepts. The situational approach and the management process. The methodology of the situational approach.

6. The scientific view on management in Ukraine.

The contribution of Ukrainian scientists and practitioners to the development of management science. The features of the development of the management idea in Ukraine. The stages of development of management science in Ukraine. Management and science: the relationship and differences. Weaknesses and strengths of domestic management concepts. The main

features of the new system of views on management in modern conditions. The management process system at Ukrainian enterprises.

7. The 7S concept.

The main ideas of the 7S system concept. The origin of the 7S framework. Shared values (superordinate goals). Hard elements and soft elements. The advantages of the 7S model.

Questions for self-assessment

1. The history of the development of managerial thought in Ukraine.

2. The classical theory of management: the school of scientific management, the theory of bureaucratic organizations, the school of administrative management.

3. Neoclassical and quantitative theories of management: the school of human relations, the school of behavioral theory.

4. Modern lines of management theory.

5. The main provisions of the scientific management school by F. Taylor.

6. Analysis of approaches (process, system, situational) in management.

7. The concept of system. The system approach.

8. Theory and practice of modern scientific management.

9. The situational approach and situational changes.

Content module 2. Functions of management

Theme 3. Planning in organizations

The goal is to get knowledge of the planning process of the organization, to form skills in choosing a strategy under different business conditions.

Theoretical questions

1. The concept and essence of planning in the management system.

2. The types of plans in the organization.

3. The goals of management planning.

4. Strategic planning in the organization.

The guidelines for calculations

It is important to understand the essence of the basic definitions.

The level of output (output in physical terms, volume of sales) is the number of products that the company produces over a certain period. The output can be measured in physical terms (for example, units, pieces, weight, etc.) and in value terms (UAH, USD, EUR, etc.).

Revenue from sales of products (revenue, sales, output in value terms) is a set of cash flows over a certain period of the enterprise activity.

Profit is the excess of cash receipts from the sale of goods and services over the costs of production and sale of these goods and services.

Profitability is an indicator that characterizes the economic efficiency of the enterprise over a certain period of activity.

Labor productivity (workforce productivity) is the amount of goods and services that a group of workers produce in a given amount of time. Labor productivity is defined as real economic output per labor hour. Growth in labor productivity is measured by the change in economic output per labor hour over a defined period.

Labor intensity is an indicator that characterizes the cost of the working time spent on the production of a certain consumer value or performance of a specific technological operation. Labor intensity is the inverse of labor productivity. Labor intensity determines the efficiency of labor use.

The formulas for calculations are presented below:

$$O_{val} = O_{phys} \times P, \qquad (3.1)$$

where O_{val} is the output in value terms (UAH, etc.);

O_{phys} is the output in physical terms (units, etc.);

P is price per unit (UAH, etc.).

$$LP = \frac{O}{NS}, \qquad (3.2)$$

where LP is labor productivity;

O is the output;

NS is the number of staff.

$$LI = \frac{NS}{O}, \qquad (3.3)$$

where LI is labor intensity.

$$LP = \frac{O}{T}, \tag{3.4}$$

where T is working time (minutes, hours, shifts, days, months, etc.).

$$LI = \frac{T}{O}. \tag{3.5}$$

The relationship between labor productivity and labor intensity is:

$$ILP \times ILI = 1, \tag{3.6}$$

where ILP is the index of labor productivity;

ILI is the index of labor intensity.

Profit and profitability terms:

$$Profit = O \times (P - C), \tag{3.7}$$

where C is cost per unit.

$$Profitability = \frac{Profit}{Cost} \times 100\ \%. \tag{3.8}$$

$$Profit\ per\ unit = Price - Cost. \tag{3.9}$$

$$Cost = \frac{Price}{1 + Index\ of\ profitability}. \tag{3.10}$$

$$Total\ cost = \frac{O_{val}}{1 + Index\ of\ profitability}. \tag{3.11}$$

Examples of calculations

Task 1. The level of output over the analyzed period is 1200 units, the price per unit is 500 UAH. The number of staff is 20 people. Calculate labor productivity in physical and value terms.

The guidelines for solution

1. Determine labor productivity in physical terms:

$$LP = \frac{O}{NS},$$

$$LP_{phys} = \frac{O_{phys}}{NS} = \frac{1200}{20} = 60\ (units/person).$$

2. Determine labor productivity in value terms:

$$LP_{val} = \frac{O_{val}}{NS} = \frac{O_{phys} \times P}{NS} = \frac{1200 \times 500}{20} = 3000 \text{ (UAH/person)}.$$

Answer: labor productivity in physical terms is 60 units/person; labor productivity in value terms is 3000 UAH/person.

Task 2. The number of staff was reduced by 20 people and became 180 workers. The level of output increased from 600 to 690 units. Calculate the change in labor productivity.

The guidelines for solution
1. Determine the labor productivity before changes.

$$LP = \frac{O}{NS}.$$

$$LP_{before\ changes} = \frac{O_{before\ changes}}{NS_{before\ changes}} = \frac{600}{180 + 20} = 3 \text{ (units/person)}.$$

2. Determine the labor productivity after changes.

$$LP_{after\ changes} = \frac{O_{after\ changes}}{NS_{after\ changes}} = \frac{690}{180} = 3.83 \text{ (units/person)}.$$

3. Determine the index of labor productivity:

$$ILP = \frac{LP_{after\ changes}}{LP_{before\ changes}} = \frac{3.83}{3} = 1.28.$$

4. Determine the change in labor productivity:

$$\Delta LP = ILP - 1 = 1.28 - 1 = 0.28 \text{ or } 28\ \%.$$

If ΔLP is positive, it means growth of LP.
If ΔLP is negative, it means a decline in LP.

Answer: labor productivity increased by 28 %.

Task 3. As a result of some events, labor intensity decreased by 14 %. The number of staff increased by 5 %. Determine the change in the output.

1. Determine the index of labor productivity:

$$\text{ILP} \times \text{ILI} = 1,$$

$$\text{ILP} = \frac{1}{\text{ILI}} = \frac{1}{1 - 0.14} = 1.1628.$$

2. Determine the index of the output:

$$\text{ILP} = \frac{\text{IO}}{\text{INS}}.$$

$$\text{IO} = \text{ILP} \times \text{INS} = 1.1628 \times (1 + 0.05) = 1.22.$$

3. Determine the change in the output:

$$\Delta\text{O} = \text{IO} - 1 = 1.22 - 1 = 0.22 \text{ or } 22\,\%.$$

Answer: the output increased by 22 %.

Task 4. Determine the number of staff in the planning period, if labor productivity in value terms should remain at the level of the current period. During the current period, the number of staff is 120 people. The company produces two types of products and spare parts for them. In the current period, the output of spare parts for product A is 10 % of the output of product A in value terms. In the planned period, the production of spare parts for product A is expected to increase to 30 % of the production of product A in value terms. The output of spare parts for product B in the current period is 20 % of the output of product B in value terms, and its absolute value will remain unchanged in the planning period (Table 1).

Table 1

The initial data

Product	Level of output, units		Price per unit, USD
	Current period	Planning period	
A	200	150	500
B	300	400	200

1. Determine the output in value form in the current and planned periods:

$$O_{val} = O_{phys} \times P.$$

$$O_{val\ current} = O_{val\ A} + O_{val\ B} = 200 \times 500 \times (1 + 0.1) + 300 \times 200 \times$$

$$\times (1 + 0.2) = 182\ 000\ (USD).$$

$$O_{val\ planned} = O_{val\ A} + O_{val\ B} = 150 \times 500 \times (1 + 0.3) + 400 \times 200 \times$$

$$\times (1 + 0.2) = 193\ 500\ (USD).$$

2. Determine the index of the output:

$$IO = \frac{O_{val\ planned}}{O_{val\ current}} = \frac{193\ 500}{182\ 000} = 1.0631.$$

3. Determine labor productivity:

$$LP = \frac{O}{NS} = \frac{182\ 000}{120} = 1516.67\ (USD/person).$$

4. Determine the number of staff in the planning period:

$$NS = \frac{O}{LP} = \frac{193\ 500}{1516.67} = 127.58 \approx 128\ (people).$$

5. Determine the changes of the staff number in the planning period:

$$\Delta NS = 128 - 120 = 8\ (people).$$

Answer: the staff in the planning period will increase by 8 people and will be equal to 128 people.

Task 5. The number of staff in the company increased by 60 %, the level of the output in physical terms increased by 50 %. The price of products increased by 10 %. Identify changes in labor productivity at the enterprise in value and physical terms.

1. Determine the index of labor productivity in physical terms.

$$ILP_{phys} = \frac{IO_{phys}}{INS} = \frac{1 + 0.5}{1 + 0.6} = \frac{1.5}{1.6} = 0.9375.$$

2. Determine changes in labor productivity at the enterprise in physical terms:

$$\Delta LP = ILP - 1 = 0.9375 - 1 = -0.0625 \text{ or } -6.25\,\%.$$

It means that LP in physical terms decreased by 6.25 %.

3. Determine the index of labor productivity in value terms:

$$ILP_{val} = \frac{IO_{phys} \times IP}{INS} = \frac{1.5 \times 1.1}{1.6} = 1.03125.$$

4. Determine changes in labor productivity at the enterprise in value terms:

$$\Delta LP = ILP - 1 = 1.03125 - 1 = 0.03125 \text{ or } 3.125\,\%.$$

It means that LP in value terms increased by 3.125 %.

Answer: labor productivity in physical terms decreased by 6.25 %; labor productivity in value terms increased by 3.125 %.

Task 6. The output in the base period is 200 000 USD. The number of staff is 50 people. In the planning period, the number of staff will increase by 10 people, the output will increase to 450 000 USD. Identify changes in labor productivity in the planning period.

The guidelines for solution
1. Determine the number of staff in the planning period:

$$Staff_{planning} = Staff_{base} + \text{changes of staff} = 50 + 10 = 60 \text{ (people)}.$$

2. Determine labor productivity in the base and planning periods:

$$LP = \frac{O}{NS}.$$

$$LP_{base} = \frac{200\,000}{50} = 4000 \text{ (USD/person)}.$$

$$LP_{planning} = \frac{450\,000}{60} = 7500 \text{ (USD/person)}.$$

3. Determine changes in labor productivity in the planning period:

$$ILP = \frac{LP_{planning}}{LP_{base}} = \frac{7500}{4000} = 1.875.$$

$$\Delta LP = ILP - 1 = 1.875 - 1 = 0.875 \text{ or } 87.5\,\%.$$

Answer: labor productivity increased by 87.5 %.

Task 7. A company implemented 3 measures, due to which labor productivity increased by 3 %, 5 % and 8 % respectively. The output has not changed. Calculate change in the number of staff if after the implementation of measures 120 people remained.

The guidelines for solution
1. Determine the index of labor productivity after the implementation of the measures:

$$ILP_{total} = ILP_1 \times ILP_2 \times \ldots \times ILP_n,$$
where n is the number of periods (measures).

$$ILP_{total} = 1.03 \times 1.05 \times 1.08 = 1.168.$$

2. Determine the index of the staff number after the implementation of the measures:

$$INS = \frac{IO}{ILP} = \frac{1}{1.168} = 0.8562.$$

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3. Determine the number of staff in the base period:

$$N_{plan} = N_{base} \times IN,$$

$$NS_{base} = \frac{NS_{plan}}{INS} = \frac{120}{0.8562} = 140.15 \approx 140 \text{ (people).}$$

4. Determine changes in the staff number:

$$\Delta NS = NS_{plan} - NS_{base} = 120 - 140 = -20 \text{ (people).}$$

Answer: the number of staff decreased by 20 people.

Task 8. An enterprise is planning to improve the competitiveness. The company staff is 1 400 workers, 60 % of whom are main workers. The plan of the competitiveness improvement consists in the following activities:

1) implementation of a new process that will result in labor intensity reduction by 5 %;

2) replacing some outdated machines where 15 % of main workers are employed (as a result, productivity of machines is expected to increase by 50 %);

3) centralized organization of repair work that will lead to reduction in the number of workers engaged in repair work from 120 to 85 people;

4) Reduction of intrashift losses of working time from 10 to 5 %;

5) How will total labor productivity of the company change after the implementation of these activities?

The guidelines for solution

1. Determine the index of labor productivity after the implementation of the 1st activity:

$$ILP \times ILI = 1,$$

$$ILP = \frac{1}{ILI} = \frac{1}{1 - 0.05} = 1.0526.$$

2. Determine the number of the main workers in the company:

The number of main workers = 1400 × 0.6 = 840 (people).

3. Determine the number of the main workers who are employed on the outdated machines which should be replaced:

The number of workers employed on outdated machines = 840 × 0.15 =
= 126 (people).

4. Determine the number of the main workers (the share of the total number of staff) whose labor productivity will change after replacement of the outdated machines:

The share of workers with labor productivity changes = $\dfrac{126}{1400}$ = 0.09.

5. Determine the index of labor productivity after the implementation of the 2nd activity:

ILP = Share of workers with labor productivity changes × ILP_2 +
+ Share of workers with labor productivity changes × ILP_1,
where LP_2 is labor productivity of replaced machines;
LP_1 is labor productivity of other machines.

ILP = 0.09 × (1 + 0.5) + (1 − 0.09) × 1 = 1.045.

6. Determine the number of staff after reduction of the number of workers engaged in repair work:

$$INS = \dfrac{1400 - (120 - 85)}{1400} = 0.975.$$

7. Determine the index of labor productivity after the implementation of the 3rd activity:

$$ILP = \dfrac{IO}{INS} = \dfrac{1}{0.975} = 1.025.$$

8. Determine the index of labor intensity after reduction of intrashift losses of the working time:

$$ILI = \frac{ILI_2}{ILI_1},$$

where LP_1 is labor intensity before reduction of intrashift losses of the working time. It's equal to 1.1 because people spent more effort on producing the needed number of products in less time (by 10 %);

LI_2 is labor intensity after reduction of intrashift losses of the working time. It's equal to 1.05 because people spent more effort on producing the needed number of products in less time (by 5 %).

$$ILI = \frac{1.05}{1.1} = 0.9545.$$

9. Determine the index of labor productivity after the implementation of the 4th activity:

$$ILP = \frac{1}{ILI} = \frac{1}{0.9545} = 1.048.$$

10. Determine the index of labor productivity after the implementation of the measures:

$$ILP_{total} = ILP_1 \times ILP_2 \times \ldots \times ILP_n,$$

$$ILP_{total} = 1.0526 \times 1.045 \times 1.025 \times 1.048 = 1.18.$$

11. Determine changes in labor productivity after the implementation of the measures:

$$\Delta LP = ILP - 1 = 1.18 - 1 = 0.18 \text{ or } 18 \text{ %}.$$

Answer: after the realization of the plan of the competitiveness improvement the company's labor productivity will increase by 18 %.

Task 9. Determine the profit of each product and the total profit of the company (Table 2).

Table 2

The initial data

Products	Product price, thou UAH	The number of products, units	Profitability, %
A	1200	400	15
B	4000	200	20

The guidelines for solution

1. Determine the cost of each product:

$$\text{Cost} = \frac{\text{Price}}{1 + \text{Index of profitability}}.$$

$$\text{Cost}_A = \frac{1200}{1 + 0.15} = 1043.48 \text{ (thou UAH)}.$$

$$\text{Cost}_B = \frac{4000}{1 + 0.2} = 3333.33 \text{ (thou UAH)}.$$

2. Determine the profit per unit of each product:

Profit per unit = Price - Cost.

Profit per unit A = 1200 − 1043.48 = 156.52 (thou UAH).

Profit per unit B = 4000 − 3333.33 = 666.67 (thou UAH).

3. Determine the total profit of the company.

Total profit = Profit per unit A × Number of products A +
+ Profit per unit B × Number of products B.

Total profit = 156.52 × 400 + 666.67 × 200 = 195 942 (thou UAH).

Answer: profit per product A is 156.52 thou UAH, profit per product B is 666.67 thou UAH and total profit of the company is 195 942 thou UAH.

Task 10. Determine the company's total profit in the current and planning period. The company produces three products: A, B, C. In the current period, there were sold: 2500 units of product A at a price of 850 UAH per unit with the cost of 805 UAH per unit; 15 000 units of product B at a price of 558 UAH per unit with the cost of 500 UAH per unit; 23 000 units of product C at a price of 330 UAH per unit with the cost of 300 UAH per unit.

In the planning period, the sales of product A will increase by 15 %, the sales of product B will be 18 % more than in the current period, and the sales of product C will be 9 % less than in the current period. The initial cost of product A will decrease by 6 %, of product B by 7.5 %, and of product C by 8.7 %.

The guidelines for solution

1. Determine the company's profit in the current period:

$$\text{Profit} = O \times (P - C),$$
$$\text{Profit}_A = 2500 \times (850 - 805) = 112\,500 \text{ (UAH)}.$$
$$\text{Profit}_B = 15\,000 \times (558 - 500) = 870\,000 \text{ (UAH)}.$$
$$\text{Profit}_C = 23\,000 \times (330 - 300) = 690\,000 \text{ (UAH)}.$$

$$\text{Total profit} = \text{Profit}_A + \text{Profit}_B + \text{Profit}_C.$$
$$\text{Total profit} = 112\,500 + 870\,000 + 690\,000 = 1\,672\,500 \text{ (UAH)}.$$

2. Determine the output of each product in the planning period:

$$\text{Output} = \text{Output}_{current} \times IO.$$
$$\text{Output}_A = 2500 \times (1 + 0.15) = 2500 \times 1.15 = 2875 \text{ (units)}.$$
$$\text{Output}_B = 15\,000 \times (1 + 0.18) = 15\,000 \times 1.18 = 17\,700 \text{ (units)}.$$
$$\text{Output}_C = 23\,000 \times (1 - 0.09) = 23\,000 \times 0.91 = 20\,930 \text{ (units)}.$$

3. Determine the cost of each product in the planning period:

$$\text{Cost} = \text{Cost}_{current} \times ICost.$$
$$\text{Cost}_A = 805 \times (1 - 0.06) = 805 \times 0.94 = 756.7 \text{ (UAH/unit)}.$$
$$\text{Cost}_B = 500 \times (1 - 0.075) = 500 \times 0.925 = 462.5 \text{ (UAH/unit)}.$$
$$\text{Cost}_C = 300 \times (1 - 0.087) = 300 \times 0.913 = 273.9 \text{ (UAH/unit)}.$$

4. Determine the company's profit in the planning period:

$$\text{Profit} = O \times (P - C).$$
$$\text{Profit}_A = 2875 \times (850 - 756.7) = 268\ 237.5\ \text{(UAH)}.$$
$$\text{Profit}_B = 17\ 700 \times (558 - 462.5) = 1\ 690\ 350\ \text{(UAH)}.$$
$$\text{Profit}_C = 20\ 390 \times (330 - 273.9) = 1\ 174\ 173\ \text{(UAH)}.$$

$$\text{Total profit} = \text{Profit}_A + \text{Profit}_B + \text{Profit}_C.$$
$$\text{Total profit} = 268\ 237.5 + 1\ 690\ 350 + 1\ 174\ 173 = 3\ 132\ 760.5\ \text{(UAH)}.$$

Answer: company's total profit is 1 672 500 UAH in the current period and 3 132 760.5 UAH in the planning period.

Practical tasks

Task 1. The number of staff increased by 12 %, and labor productivity increased by 20 %. Calculate the change in the output.

Task 2. The department is planning to reduce the labor intensity of production by 10 %. The output in physical terms increased by 25 %. Calculate changes in the staff number.

Task 3. Labor productivity at the department increased by 15 %. The number of staff remained unchanged. Calculate the change in the labor intensity at the department and the change in the output.

Task 4. The company's labor productivity increased by 18 %. The number of staff has not changed. Calculate the change in the labor intensity and the output.

Task 5. The enterprise is planning to improve the competitiveness. The company staff is 2000 workers 55 % of whom are main workers. The plan of the competitiveness improvement consists in the following activities:
1) to implement a new technological process. It should lead to reduction in labor intensity by 11 %;
2) to replace some outdated machines where 22 % of main workers are employed (as a result, productivity of machines will increase by 47 %);

3) to centralize the organization of repair work that will lead to an increase in the number of workers engaged in repair work from 80 to 105 people;

4) to decrease intrashift losses of the working time from 15 to 12 %.

How will total labor productivity of the company change after the implementation of these activities?

Task 6. Calculate the change in labor productivity in value terms in the planning period if the company produces two types of products and is planning to increase the output with a simultaneous increase in the number of staff by 10 % (Table 3).

Table 3

The initial data

Product	Level of output, units		Price per unit, USD
	Current period	Planning period	
A	600	800	1000
B	100	150	700

Task 7. The number of staff will increase by 10 people at the beginning of the planning period, and by 30 people by the end. In the current period, the staff number is 60 people. Labor productivity in the planning period will increase by 15 %. Determine how much the output will change.

Task 8. As a result of some action on the production site, labor productivity increased by 18 %. The number of staff increased from 25 to 30 people. Identify changes in the output.

Task 9. In the current period, the level of output is 1500 units. In the planning period, it is planned to reduce the number of staff by 7 % and increase labor productivity by 5 %. Determine how many units will be produced during the planning period.

Task 10. Labor productivity has increased by 15 %. The number of staff in the previous period was 180 people. By how many people can the staff be changed if the volume of output does not change?

Task 11. The number of company staff increased by 5 %. The output increased by 20 %. The price of products decreased by 14 %. Calculate changes in labor productivity at the enterprise in physical and value terms.

Task 12. In the base period, the company produces 1500 units, the output in value terms is $6 000 000. In the planning period, the volume of output in value terms will be increased by $4 000 000, and the volume of output in physical terms by 20 %. Determine the change in the price of goods in value and physical terms.

Task 13. Determine the profitability of each product manufactured in the company (Table 4).

Table 4

The data to solve the problem

Products	Volume of output, UAH	Number of products, units	Cost per unit, UAH
A	1 200 000	280	4000
B	850 000	100	6000

Task 14. The company produces several products. The output is 150 units, the price is 20 000 UAH. The profit is 3000 UAH. Labor productivity increased by 5 % and the number of staff reduced by 10 %. Identify changes in the total profit.

Task 15. Determine the profit for each product (Table 5).

Table 5

The data to solve the problem

Products	Volume of output, thousand UAH	Number of products, units	Profitability, %
A	1500	300	20
B	2000	400	15

1. The essence and content of planning as a function of management.
2. The main elements of planning.
3. The stages of the planning process. The mission of an organization.
4. Assess the strengths and weaknesses of an organization.
5. The procedure for determining the goals of an organization.
6. Development of the enterprise strategy.
7. Implementation of the organization's strategy.
8. Analysis of strategic and tactical plans of an enterprise.
9. The external environment of an organization.
10. Analysis of the internal environment of an organization.
11. Building a business plan for an organization.
12. Tactics of an enterprise. Development and implementation of tactics.

Theme 4. Organization as a function of management

The goal is to get knowledge of the enterprise organizational activities, to form skills in building organizational structures of a company depending on the type of organization.

Theoretical questions

1. The essence of the function "organization" and its place in the management.
2. The fundamentals of the organization theory.
3. The fundamentals of the organizational design.
4. The types of organizational management structures.
5. Managing organizational changes.

The guidelines for the theme

Hierarchical (bureaucratic, mechanistic, traditional, classic) organizational structures differ by rigid hierarchy, numerous rules and narrow degree of responsibility of employees: linear, functional, linear-functional, divisional.

The line organizational structure is the kind of structure that has a very specific line of command, in which the approvals and orders come from top to bottom in a line (Fig. 1). This kind of structure is suitable for smaller organizations like small accounting firms and law offices, because it allows for easy decision making, and and it is very informal in nature.
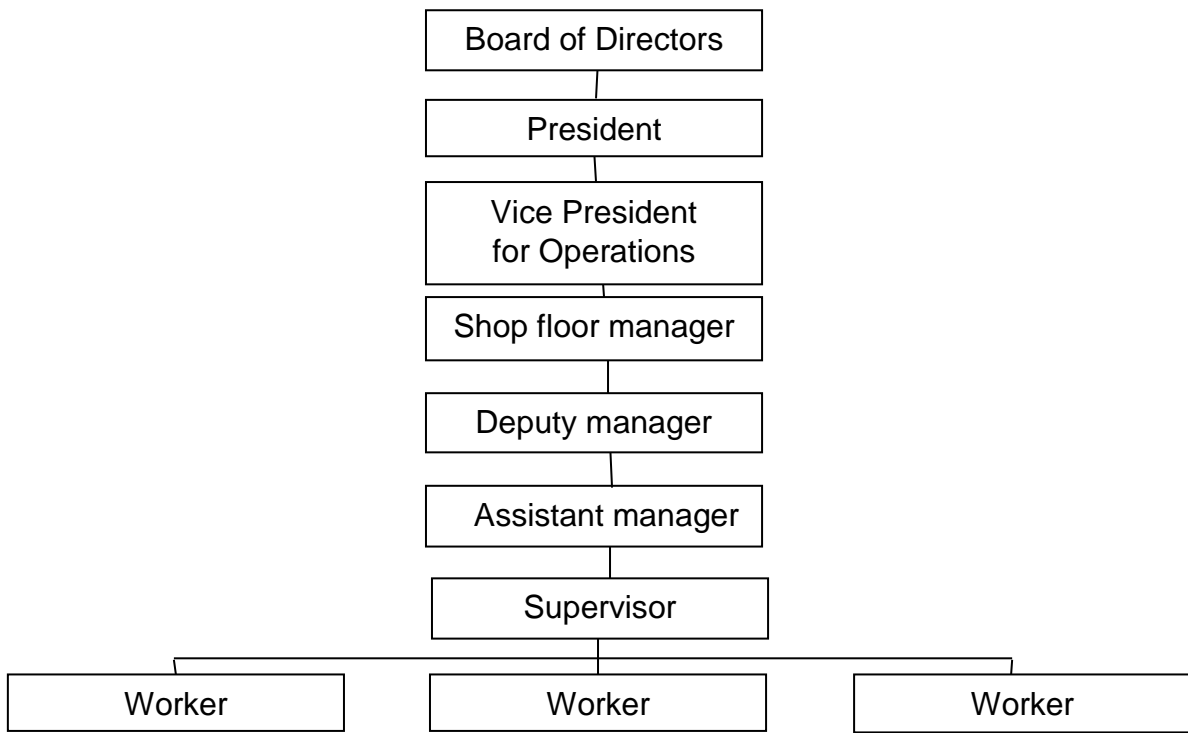
Fig. 1. **An example of the line organizational structure**

The functional organizational structure is a structure in which job positions are grouped into organizational chains based on the feature of their functions (Fig. 2). Historically, the functional organizational structure was the first and most widespread type.
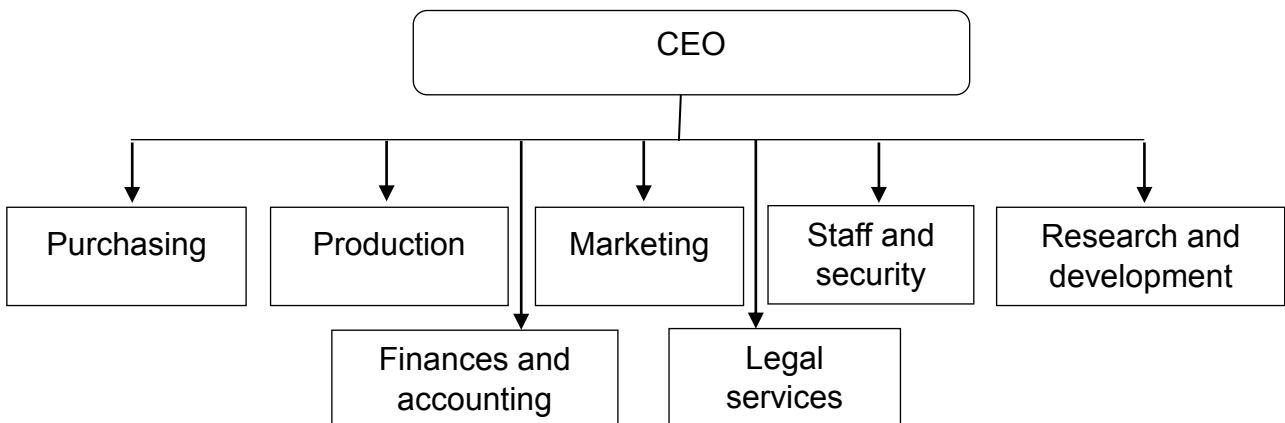

Fig. 2. **An example of the functional organizational structure**

The divisional organizational structure is based on diversification of company activity. It provides autonomy (full or partial) of market-oriented organizational elements from the company head office and is primarily applicable for huge organizations. The basic types are: client-oriented (Fig. 3), product (market) (Fig. 4) and regional/geographical (Fig. 5).
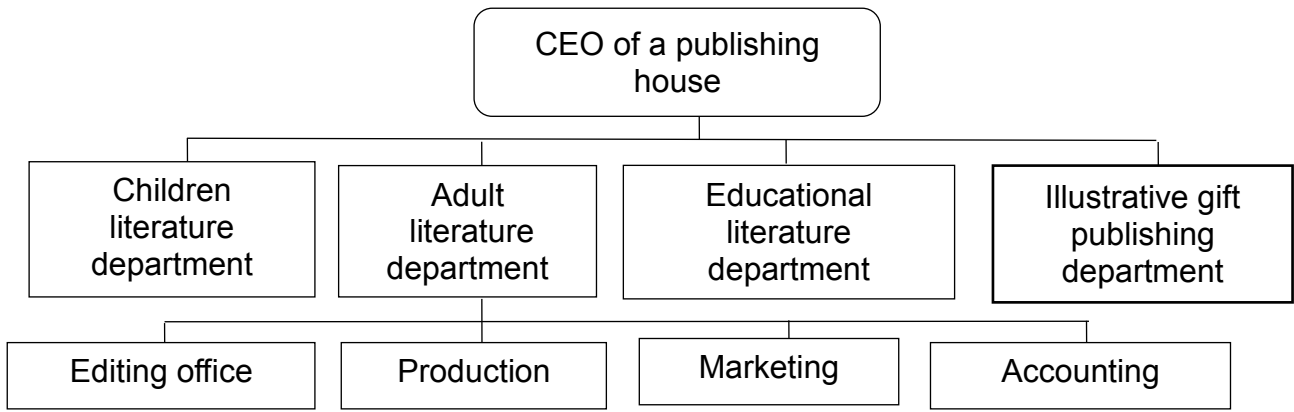
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                    ┌─────────────────────┐
                    │  CEO of a publishing │
                    │        house         │
                    └─────────────────────┘
       ┌──────────────┬──────────┴─────────┬──────────────┐
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│  Children  │ │   Adult    │ │Educational │ │Illustrative gift│
│ literature │ │ literature │ │ literature │ │  publishing   │
│ department │ │ department │ │ department │ │  department   │
└────────────┘ └────────────┘ └────────────┘ └──────────────┘
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  │Editing office│ │ Production │ │ Marketing  │ │ Accounting │
  └────────────┘ └────────────┘ └────────────┘ └────────────┘
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Fig. 3. **An example of the client-oriented divisional organizational structure**

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                        ┌─────────┐
                        │   CEO   │
                        └─────────┘
        ┌──────────────────┐   │
        │Central apparatus │───┤
        └──────────────────┘   │
   ┌──────────────┬────────────┴────────┬──────────────┐
┌────────────┐┌────────────┐┌────────────┐┌────────────┐
│Vice-president││Vice-president││Vice-president││Vice-president│
│for product A ││for product B ││for product C ││for product D │
└────────────┘└────────────┘└────────────┘└────────────┘
   ┌───────────┬──────┬──────┬──────┬──────┐
┌─────────┐┌─────────┐┌─────────┐┌─────────┐┌─────────┐
│Purchases││Production││Marketing││Finances ││  Staff  │
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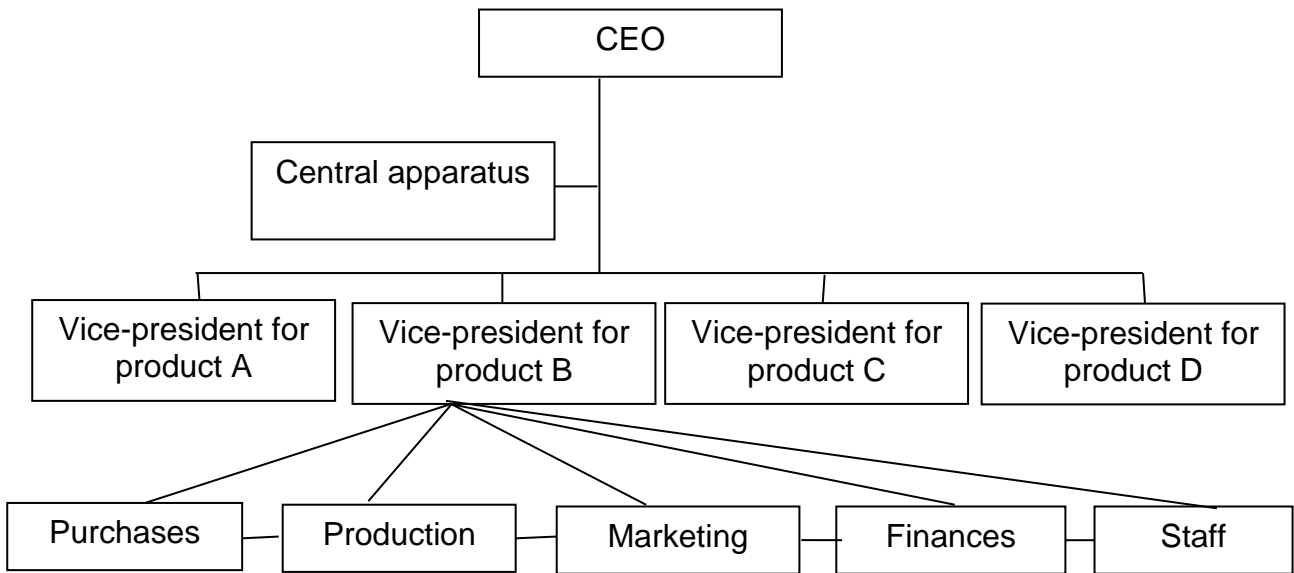
Fig. 4. **An example of the product divisional organizational structure**

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                    ┌─────────┐
                    │   CEO   │
                    └─────────┘
       ┌────────────────┼────────────────┐
┌────────────┐  ┌────────────┐  ┌────────────┐
│West Ukraine│  │East Ukraine│  │Central Ukraine│
│  division  │  │  division  │  │   division   │
└────────────┘  └────────────┘  └────────────┘
 ┌────┬────┬────┐ ┌────┬────┬────┐ ┌────┬────┬────┐
│Marketing│Sales│Service│ │Marketing│Sales│Service│ │Marketing│Sales│Service│
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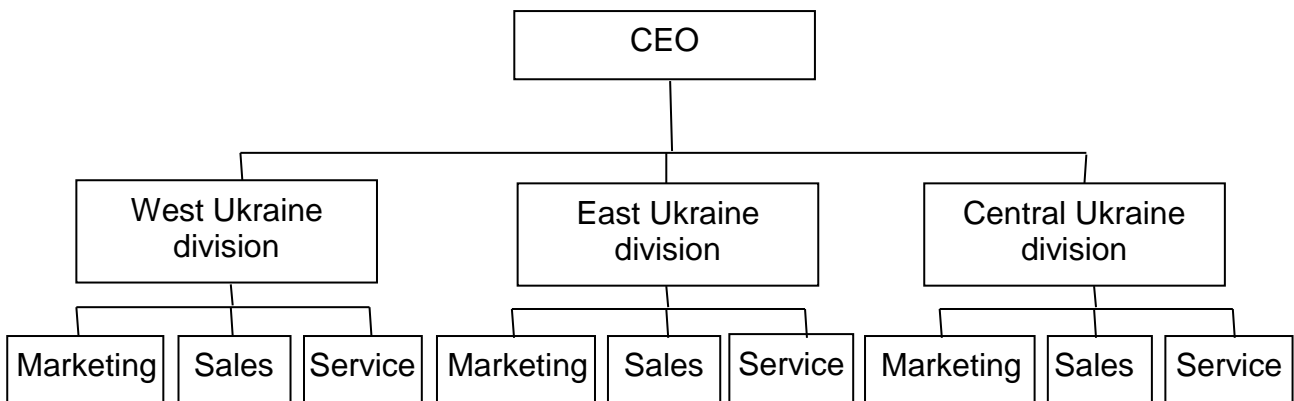
Fig. 5. **An example of the** г**egional divisional organizational structure**

Adaptive (organic) organizational structures are characterized by not clearly defined hierarchy, flexibility and a broad scope of responsibility (matrix, network).

In a *matrix organizational structure,* an infliction of one structure on another (e.g. project structure on functional, regional on production, consumer on regional, etc.) happens (Fig. 6). The clue moment of this structure is subordination of employees to two managers (heads) of one hierarchical level.
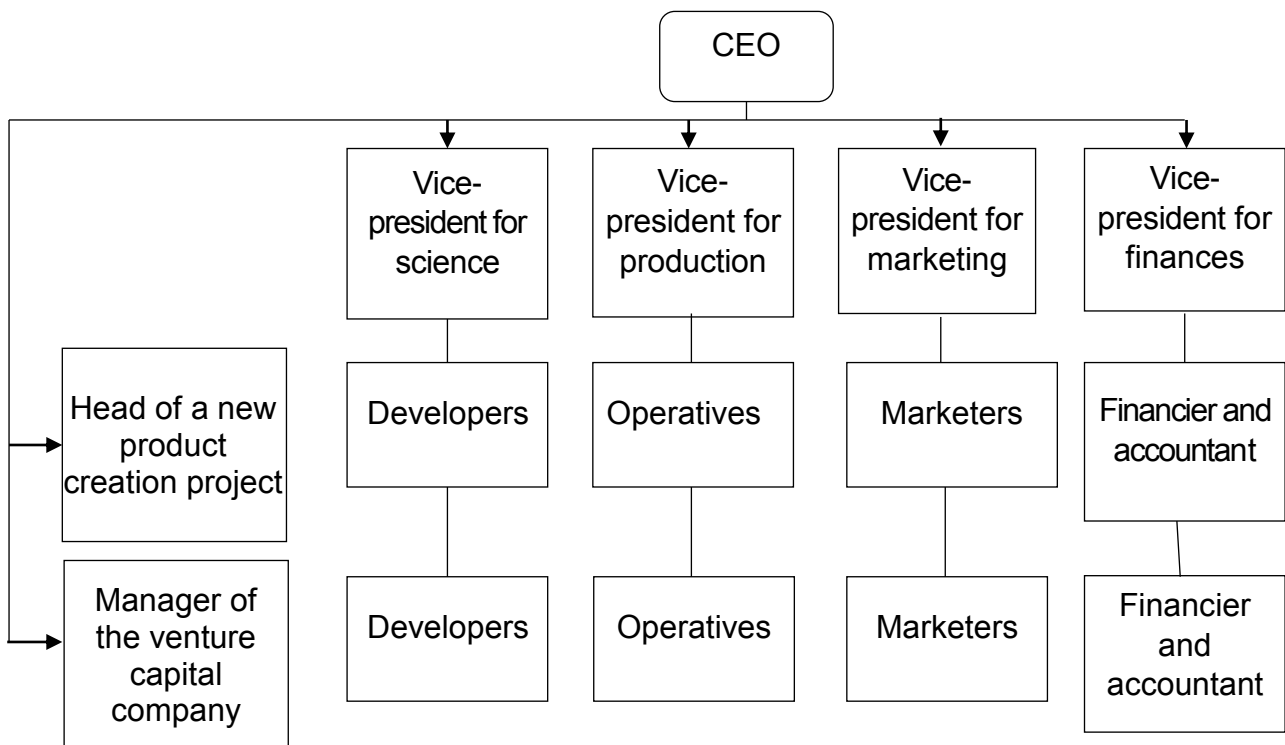

Fig. 6. **An example of the matrix organizational structure**

Practical tasks

Task 1. The company has a director, 5 deputies, 10 functional services and 15 production units.

Build a schematic diagram of:

1) the functional organizational structure;

2) the linear-functional organizational structure.

Task 2. Build a schematic diagram of the enterprise organizational structure and name the positions of deputy directors, chiefs departments, shops, sections, if the company includes:

4 deputy directors;

9 departments;

5 shops, including 3 main shops and 2 auxiliary shops;

9 shop offices;

14 production sites;

30 brigades.

Task 3. The corporation has subsidiaries in 15 countries which produce about 40 different types of products.

What should the organizational structure of management be in this corporation? Justify your decision.

Give a schematic diagram of this organizational structure.

Task 4. A firm has several branches in one large city. The company produces children's outerwear (spring and winter) for girls and boys. The organizational structure is linear and functional.

Is it advisable to change for any other organizational structure to improve the management of the firm? What organizational structures can be proposed? The organizational structure should be rebuilt. Give a justification.

Questions for self-assessment

1. An organization as an object of management. The signs of an organization.

2. The concept and composition of organizational activities.

3. The types of organizations in Ukraine.

4. The organizational management structure and the principles of construction of an organization.

5. The schemes of management construction.

6. The methods for designing and modeling of organizational structures.

7. The structure and functions of the management staff.

8. The design of enterprise management systems.

9. The linear-functional organizational structure of an organization (the scheme, the advantages, the disadvantages).

10. The divisional organizational structure (the scheme, the advantages, the disadvantages).

11. The matrix organizational structure (the scheme, the advantages, the disadvantages).

12. The network organizational structure (the scheme, the advantages, the disadvantages).

13. The team organizational structure (the scheme, the advantages, the disadvantages).

14. The characteristics of the system of delegation of powers and responsibilities.

15. Describe the importance of the human factor in the management of an organization.

Theme 5. Motivation

The goal is to get knowledge of employee motivation in the organization, to form skills in the identification of the needs of company employees and basic practical measures to motivate people to work more productively.

Theoretical questions
1. The concept and essence of motivation.
2. Content theories of motivation.
3. Process theories of motivation.
4. Problems of motivation in modern management practice.

Seminar questions
1. What is the difference between motivation and stimulation?
2. McGregor's theory X and theory Y.
3. Ouchi's Theory Z.
4. The Porter – Lawler theory.
5. Reinforcement theory of motivation.
6. Adam's theory of motivation.
7. Handy's Theory of motivation.

The guidelines for the seminar
Select one of the given seminar questions. Analyze the information used in different sources (books, articles, professional sites, forums, electronic journals, etc.) Prepare a presentation (MS Power Point, Google Slides, Prezi, etc.). Use 10 – 12 slides. The content should describe the essence of the subject / the answer to the selected question.

A short description of the seminar questions

1. What is the difference between motivation and stimulation?

This question should include definitions of both terms – motivation and stimulation, their essence, examples of use and a table of differences between them. For better understanding, a list of factors which are key to creating motivated or stimulated employees should be provided, and some tips which will help to achieve this goal should be listed. Draw a conclusion.

2. McGregor's theory X and theory Y.

Firstly, this question should include some historic data concerning the emergence of these theories: the year, the scientist, the essence, why "X" and "Y". Then a separate explanation of these two theories and a generalized table which will show their key distinctions/similarities should be provided. Also, examples for better understanding of the topic need to be included. Use your own ideas about which one is better for an organization and draw a conclusion.

3. Ouchi's Theory Z.

Firstly, this question should include some historic data concerning the emergence of this theory: the year, the scientist, the essence, why "Z". Then the difference from previous theories and a necessity for creating a new one should be listed and explained. Also, examples for better understanding of the topic need to be included. Draw a conclusion.

4. The Porter – Lawler theory.

This question should include some historic data concerning the emergence of this theory: the year, the scientist, the essence, etc. After that, key variables and elements of this theory should be presented and explained. Also, the Porter – Lawler model should be shown and described. Moreover, the areas of uses and a possibility of implementing it nowadays must be explained. Draw a conclusion.

5. Reinforcement theory of motivation.

This question should include some historic data concerning the emergence of this theory: the year, the scientist, the essence, etc. After that, key variables and elements of this theory should be presented and explained. Also, positive and negative aspects of application of this theory can be presented. Moreover, a possibility of using it nowadays must be explained. Draw a conclusion.

6. Adam's theory of motivation.

Firstly, this question should include some historic data concerning the emergence of this theory: the year, the scientist, the essence, etc. After that, key variables and elements of this theory should be presented and explained. Also, positive and negative aspects of application of this theory can be presented. Moreover, a possibility of using it nowadays must be explained. Draw a conclusion.

7. Handy's theory of motivation.

Firstly, this question should include some historic data concerning the emergence of this theory: the year, the scientist, the essence, etc. After that, key variables and elements of this theory should be presented and explained. Also, positive and negative aspects of application of this theory can be presented. Moreover, a possibility of using it nowadays must be explained. Draw a conclusion.

Questions for self-assessment

1. The concept of motivation. The types of motivation.
2. The essence of content theories of motivation.
3. Describe the process theories of motivation.
4. Maslow's hierarchy of needs.
5. Alderfer's ERG theory.
6. McClelland's motivational/needs theory.
7. Herzberg's two-factor theory of motivation.
8. McGregor's theory X and theory Y.
9. Ouchi's Theory Z.
10. The goal-setting theory.
11. Expectancy theory by V. Vroom.
12. Equity (Adam's) theory.
13. Reinforcement theory.
14. The Porter – Lawler theory.

Theme 6. Management control

The goal is to get knowledge of control over the activities in the organization, to form skills in the formation and implementation of an effective control system.

Theoretical questions

1. The concept and process of control.
2. Classification of management control tools.
3. Control efficiency.

The guidelines for calculations

It is important to understand the essence of the basic definitions:

labor productivity, hourly (LP hourly) is the amount of goods and services that a group of workers produce in one hour;

labor productivity, weekly (LP weekly) is the amount of goods and services that a group of workers produce in a week;

man-hour, also called *person-hour,* is the unit of measure that is used in project management to measure the efforts needed to complete a task. 1 man-hour is equal to work completed by an average worker in an hour of uninterrupted effort.

The formulas for calculations are presented below:

$$O_{val} = O_{phys} \times P, \tag{6.1}$$

where O_{val} is the output in value terms (UAH, etc.);

O_{phys} is the output in physical terms (units, etc.);

P is price per unit (UAH, etc.).

$$LP = \frac{O}{NS}, \tag{6.2}$$

where LP is labor productivity;

O is the output;

NS is the number of staff.

$$LP = \frac{O}{T}, \tag{6.3}$$

where LP is labor productivity;

O is the output;

T is time.

$$INS = \frac{NS_{previous}}{NS_{current}}, \qquad (6.4)$$

where INS is the index of the number of staff;

NS$_{previous}$ is the number of staff in the previous period;

NS$_{current}$ is the number of the staff in the current period.

$$IO = ILP \times INS, \qquad (6.5)$$

where IO is the index of output;

ILP is the index of labor productivity;

INS is the index of the number of staff.

$$IO = \frac{O_{planned}}{O_{current}}, \qquad (6.6)$$

where IO is the index of output;

O$_{planned}$ is the output in value terms in the planned period;

O $_{current}$ is the output in value terms in the current period.

Examples of calculations

Task 1. The output at the production site decreased by 16 % after a temporary shift from five- to four-day work week. Determine how labor productivity at the production site has changed.

The guidelines for solution

1. Determine changes in labor productivity:

$$LP = \frac{O}{T},$$

$$LP = \frac{(1 - 0.16)}{4/5} = \frac{0.84}{0.8} = 1.05.$$

Answer: labor productivity increased by 5 %.

Task 2. As a result of some action on the production site, labor productivity increased by 18 %. The number of staff increased from 25 to 30 people. Define changes in the output.

The guidelines for solution

1. Find the index of labor productivity:

as labor productivity increased by 18 %, ILP = 1.18.

2. Determine the index of the number of staff:

$$INS = \frac{NS_{previous}}{NS_{current}},$$

$$INS = \frac{30}{25} = 1.2.$$

3. Determine the index of the output:

$$IO = ILP \times INS,$$
$$IO = 1.18 \times 1.2 = 1.416.$$

Answer: the output increased by 41.6 %.

Task 3. Calculate changes in labor productivity (in value terms) at the enterprise in the planned period as compared with the current one if in the current period the company produces 4000 units of product A at a price of 500 UAH per unit. In the planning period, the output of product A will increase by 20 % and the number of personnel will increase by 55 %. Moreover, in the planning period the company will start to produce a new product B, which will amount to 30 % of the output in physical terms of product A in the planning period. The price of product B will be 300 UAH.

Calculate the output of product B in the planning period so that labor productivity in the planning period remain at the same level as in the current period.

The guidelines for solution

1. Determine the output in value terms in the current and planning periods:

$$O_{val} = O_{phys} \times P.$$

$$O_{current} = 4000 \times 500 = 2\,000\,000 \text{ (UAH)}.$$

$$O_{planned} = 4000 \times 500 \times 1.2 + 4000 \times 1.2 \times 0.3 \times 300 = 2\,832\,000 \text{ (UAH)}.$$

2. Determine the index of output:

$$IO = \frac{O_{planned}}{O_{current}}.$$

$$IO = \frac{2\ 832\ 000}{2\ 000\ 000} = 1.416.$$

So, the output increased by 41.6 %.

3. Determine the index of labor productivity:

$$ILP = \frac{IO}{INS}.$$

$$ILP = \frac{1.416}{1.55} = 0.913.$$

Labor productivity decreased by 8.7 %.

4. In order for labor productivity in the planning period to remain at the same level as in the current period the index of LP must be equal to 1. It means:

$$\frac{IO}{INS} = 1.$$

So,

$$IO = INS = 1 + 0.55 = 1.55.$$

5. Determine the output in value and physical terms of product B if it is needed to maintain the same level:

$$O_{val.\ planned} = 2\ 000\ 000 \times 1.55 = 3\ 100\ 000\ (UAH).$$

$$O_{phys.\ planned} = \frac{(3\ 100\ 000 - 4000 \times 1.2 \times 500}{300} = 2333\ (units).$$

Answer: the output of product B in the planning period should be 2333 units for the labor productivity in the planning period to remain at the same level as in the current period.

Task 4. The number of the company staff will increase by 15 people at the beginning of the planning period and by 75 people at its end comparing with the base period. In the current period, the number of the company staff was 100 people. Labor productivity in the planning period will increase by 11 %. Determine how much the output will change with other things being equal.

1. Determine the index of the number of staff:

$$INS = \frac{NS_{end\,of\,period}}{NS_{beginning\,of\,period}},$$

$$INS = \frac{100 + 75}{100 + 15} = 1.5217.$$

The number of staff increased by 52.17 %.

2. The index of labor productivity is 1.11.
   Determine the index of the output:

$$IO = ILP \times INS,$$
$$IO = 1.11 \times 1.5217 = 1.689.$$

Answer: the output increased by 68.9 %.

Task 5. The number of the staff has grown from 120 to 160 people. The length of the workweek has increased from 36 to 40 hours. The output has increased by 40 %. Calculate changes in hourly and weekly labor productivity at the enterprise.

The guidelines for solution

1. Determine the index of the staff time (IST):

$$LP = \frac{O}{T},$$
$$S \times T = \text{man-hours},$$
$$IST = \frac{IST_2}{IST_1},$$
$$IST = \frac{160 \times 40}{120 \times 36} = 1.4815.$$

The staff began to work 48.15 % longer.

2. Determine changes in labor productivity:

$$ILP = \frac{IO}{IST},$$
$$ILP = \frac{1.4}{1.4815} = 0.945.$$

Answer: labor productivity decreased by 5.5 %.

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Task 6. Labor intensity of a product is 3 man-minutes. Calculate hourly and daily labor productivity if the duration of the working day is 8 hours.

The guidelines for solution
1. Determine the hourly labor productivity:

$$LP_{hourly} = \frac{Number\ of\ minutes\ in\ a\ hour}{LI},$$

$$LP_{hourly} = \frac{60}{3} = 20\ (units/hour).$$

2. Determine the daily labor productivity:

$$LP_{daily} = \frac{The\ number\ of\ hours\ in\ the\ working\ day \times Number\ of\ minutes\ in\ a\ hour}{LI},$$

$$LP_{daily} = \frac{8 \times 60}{3} = 160\ (units/day),$$

or

$$LP_{daily} = LP_{hourly} \times Number\ of\ hours\ in\ the\ working\ day,$$
$$LP_{daily} = 20 \times 8 = 160\ (units/day).$$

Answer: hourly labor productivity is 20 units; daily labor productivity is 160 units.

Task 7. Labor intensity of a product changed from 10 man-minutes to 4 man-minutes. Calculate the change in labor intensity and labor productivity (daily and hourly) in relative terms.

The guidelines for solution
1. Determine the index of labor intensity:

$$ILP = \frac{LP_{planned}}{LP_{current}},$$

$$ILP = \frac{4}{10} = 0.4.$$

Labor intensity decreased by 60 %.

2. Determine the basic labor productivity, hourly and daily:

$$LP_{\text{basic hourly}} = \frac{\text{Number of minutes in a hour}}{LI},$$

$$LP_{\text{basic hourly}} = \frac{60}{10} = 6 \text{ (units/hour)}.$$

$$LP_{\text{basic daily}} = LP_{\text{basic hourly}} \times \text{Number of minutes in a hour},$$

$$LP_{\text{basic daily}} = 6 \times 8 = 48 \text{ (units/day)}.$$

or

$$LP_{\text{basic daily}} = \frac{\text{Number of hours in the working day} \times \text{Number of minutes in a hour}}{LI},$$

$$LP_{\text{basic daily}} = \frac{480}{10} = 48 \text{ (units/day)}.$$

3. Determine the planned labor productivity hourly and daily:

$$LP_{\text{planned hourly}} = \frac{60}{4} = 15 \text{ (units/hour)},$$

$$LP_{\text{planned daily}} = 15 \times 8 = 120 \text{ (units/day)},$$

or

$$LP_{\text{planned daily}} = \frac{480}{4} = 120 \text{ (units/day)}.$$

4. Determine the index of labor productivity:

$$ILP = \frac{120}{48} = \frac{15}{6} = 2.5.$$

5. Determine the index of labor intensity:

$$ILI = \frac{1}{ILP},$$

$$ILI = \frac{1}{2.5} = 0.4.$$

6. The index of LP_{daily} is equal to the index of LP_{hourly}.

Answer: the index of labor productivity is 2.5; the index of labor intensity is 0.4.

Task 8. The technological process for a product is described in Table 6.

Table 6

The technological process for the product

Operation	Duration, minutes	Number of workers involved simultaneously
A	8	1
B	5	2
C	12	1

Calculate labor intensity in the current and planned periods and the relative change in labor intensity and labor productivity if, in the planned period, operation A is automated, operation B is conducted by 1 worker.

Calculate the number of workers in the planned period if the output increases by 25 %. The number of workers in the current period is 800 people.

The guidelines for solution

1. Determine the current labor intensity and the planned labor intensity:

$$LI = Duration \times NS,$$

$$LI_{current} = 8 \times 1 + 5 \times 2 + 12 \times 1 = 30 \text{ (man-minutes)},$$
$$LI_{planned} = 8 \times 0 + 5 \times 1 + 12 \times 1 = 17 \text{ (man-minutes)}.$$

2. Determine the index of labor intensity:

$$ILI = \frac{LI_{planned}}{LI_{current}},$$
$$ILI = \frac{17}{30} = 0.567.$$

3. Determine the index of labor productivity:

$$ILP = \frac{1}{ILI},$$
$$ILP = \frac{1}{0.567} = 1.765.$$

4. Determine the index of the number of staff:

$$INS = \frac{IO}{ILP},$$
$$INS = \frac{1.25}{1.765} = 0.708.$$

40

5. Calculate the number of workers in the planned period:

$$NS = INS \times NS_{current},$$
$$NS = 0.708 \times 800 = 566 \text{ (people)}.$$

Answer: the number of workers in the planned period is 566 people.

Practical tasks

Task 1. The output at the production site increased by 14 % after a temporary shift from five- to four-day work week. Determine how labor productivity at the production site has changed.

Task 2. As a result of some action on the production site, labor productivity decreased by 9 %. The number of staff decreased from 25 to 20 people. Calculate the changes in the output.

Task 3. Calculate the changes in labor productivity (in value terms) at the enterprise in the planned period comparing with the current one if in the current period the company produces 7000 units at a price of 650 UAH per unit. In the planned period, the output of product A will decrease by 10 % and the number of staff will decrease by 12 %. Moreover, in the planned period, the company will start to produce a new product B, which will amount to 25 % of the output of product A in physical terms in the planned period. The price of product B will amount to 330 UAH.

Calculate the output of product B in the planned period so that labor productivity in the planned period remain at the same level as in the current period.

Task 4. The number of company staff will increase by 12 people at the beginning of the planning period and by 14 people at its end comparing with the beginning of the planning period. In the current period, the number of the company staff is 120 persons. Labor productivity in the planning period will decrease by 14 %. Determine how much the output will change with other things being equal.

Task 5. A company implemented 3 measures due to which labor productivity decreased by 2 %, 6 % and 9 % respectively. The output has not changed. Calculate the change in the number of staff if after the implementation of measures 128 people remained.

Task 6. The number of the staff has grown from 120 to 175 people. The length of the workweek has increased from 38 to 40 hours. The output decreased by 35 %. Calculate the changes in hourly and weekly labor productivity at the enterprise.

Task 7. Labor intensity of a product is 5 man-minutes. Calculate hourly and daily labor productivity if the duration of a working day is 10 hours.

Task 8. Labor intensity of a product changed from 12 man-minutes to 9 man-minutes. Calculate the change in labor intensity and labor productivity (daily and hourly) in relative terms.

Task 9. The technological process for the product is described in Table 7.

Table 7

The technological process for the product

Operation	Duration, minutes	Number of workers involved simultaneously
A	9	1
B	17	3
C	3	2

Calculate labor intensity in the current and planned periods and the relative change in labor intensity and labor productivity if in the planned period operation A is automated, operation B is conducted by 4 workers and operation C is conducted by 1 worker.

Calculate the number of workers in the planned period if the output decreases by 15 %. The number of workers in the current period is 950 people.

Questions for self-assessment
1. Control as a function of management.
2. The control system at an enterprise.
3. The principles of control.
4. The subjects and objects of control.
5. The stages of control in an organization.
6. The types of control and their characteristics.
7. The components of effective control.

Content module 3. The general principles of practical application of management techniques and methods

Theme 7. The fundamentals of the management decision theory

The goal is to get knowledge of understanding of the nature and process of management decisions.

Theoretical questions
1. The concepts and models of decision making.
2. The decision-making process.
3. The methods of creative search for alternatives.

The guidelines for the theme

Decision making can be regarded as a mental process (a cognitive process) resulting in the selection of a course of action among several alternatives. Every decision-making process produces a final choice.

There are two basic management decisions:

1. Intuitive (reactive) decisions which are pattern recognition based on previous experience. The experience is relied on to recognize the essence of a given situation or problem. Pattern recognition from previous actions, observations, and training is utilized to develop a solution.

2. Analytical (planned) decisions imply a calculated selection of alternatives. Possible options are identified. All options are analyzed according to a set of criteria. The value for all criteria of each option is calculated. An option with the highest total criteria values is chosen.

The guidelines for solution

The student needs to get acquainted with the situations and choose the most acceptable solution (an intuitive decision). After that a discussion in class is required.

Practical tasks (situations)

Situation 1. You are the head of the production department. You've been in trouble lately because some workers think they are being paid less than they deserve.

Your behavior in the following situations is as follows:

1. I will look for ways to give everyone about the same job.

2. I will bring the issue to the meeting for discussion and I will act as it solves.

3. I will put the responsibility for registration of documentation on the rater.

4. I will turn to the leaders of the department and ask them to help understand the situation.

5. I propose to create a department council and give it the opportunity to decide on wages.

Situation 2. You are the head of a large unit. An employee was hired for your unit. You promised him some benefits if he lived up to your expectations. Six months later, he proved himself as a highly qualified specialist. It's time to fix the holidays. The employee complained that the vacation was planned for a month that did not meet his expectations, the permit was not given. Also, you forgot to mention it in the order. You just forgot about him. The employee applied for dismissal.

Your possible solutions:

1. I will sign the application.

2. I will call the employee and try to convince him that a mistake was made.

3. I will ask the members of the labor collective to communicate with the employee and correct the situation.

Situation 3. You are the head of the marketing department. The employee did not complete your task due to his own disorganization or inability to work, although he promised to do everything on time.

Your possible solutions:

1. First, I will seek to fulfill the task, and only then consider the issue of punishment.

2. First I talk to him alone, find out the reasons, and then I will seek work or punishment.

3. First, I will talk to those who know more about the culprit, and I will consult with them about the form, the degree of influence on him.

4. I will set a probationary period and will exercise close control over its work, I will correct mistakes, make remarks, order for non-performance of work in due time.

Situation 4. You are a shop manager. After the reconstruction of production there was a need to re-staff part of the teams.

Your possible solutions:

1. I will propose to address these issues to the personnel department. This is their job.

2. I will take up the case myself, I will study all the lists of candidates.

3. I will instruct the masters of the site to make preliminary lists, I will look at them myself, and then we will think together.

4. I will propose to address this issue to the most active staff of the shop.

5. I will hold a general meeting of the shop staff, warn about the importance of decisions, ask to make suggestions.

Situation 5. You are the head of the department.

There is an employee in your department who has a negative impact on other employees, but you have no legal grounds to fire him. Because of this, conflicts often arise in the team.

Your possible solutions:

1. I will ask the management to transfer the employee to another department.

2. I will talk to the person alone; I will advise him to leave himself.

3. I will write a complaint to the council of the labor collective and ask to reduce the workplace occupied by this employee.

4. I will create such relations in the team that he will leave himself.

Situation 6. You are the head of a department. One of the employees complained to the administration about the unfair calculation of wages. A commission has been set up in connection with the statement. On the day the commission began work, the employee was 30 minutes late.

Your possible solutions:

1. I will wait for the results of the commission's work, and then decide how to act.

2. At once I will demand explanations from the employee concerning the violation of the labor discipline.

3. The main thing for me in this situation is the work of the commission, not the delay. If he has conscience, he will come and explain the reasons.

4. I will reprimand for the violation of the discipline.

5. I will wait until the end of the working day. If the employee does not come himself, I will call him, I will demand explanations, after which I will make a decision.

Situation 7. You are the head of the foreign economic relations department. There is a mutual intolerance between two employees of your department, which hinders their joint work. Each of them addressed you separately so that you would take their side.

Your possible solutions:

1. It is my job not to allow the conflict to interfere with the case, and it is their business to settle the conflict.

2. It is best to instruct the general meeting of the team to understand the situation.

3. First of all, I will try to understand it myself and try to reconcile them.

4. First, I will find out if there are authoritative people in the team for each of the employees and I will influence the employees through these people.

Situation 8. You are the head of the marketing department. An employee of your department ignores your instructions: does everything at his own discretion or does not follow orders to eliminate deficiencies.

Your possible solutions:

1. It is sufficient to apply the usual administrative penalties.

2. I will call for an open conversation and make an attempt to involve the person in business communication in the future.

3. I will try to influence the subordinate through employees authoritative for him.

4. First I will analyze my own mistakes, and then the mistakes of the subordinate.

Questions for self-assessment
1. The characteristics of management decisions. Their classification and conditions of acceptance.

2. The types of management decisions.

3. The criteria for management decisions.

4. Describe the algorithm of a standard decision-making process.

5. What is the modification of a standard decision-making process for problems that require innovative solutions?

Theme 8. Methods for substantiating managerial decisions

The goal is to get knowledge of understanding the essence of decision-making methods, development of models and features of application of these methods in modern economic activity.

Theoretical questions
1. Classification of methods for substantiation of managerial decisions.
2. Tools for substantiation of managerial decisions.
3. Substantiation of decisions under uncertainty.

The guidelines for the theme
It is important to understand the essence of the basic definitions:

the level of output (output in physical terms, volume of sales) is the number of products that a company produces over a certain period. The output can be measured in physical terms (for example, units, pieces, weight, etc.) and in value terms (UAH, USD, EUR, etc.);

revenue from sales of products (revenue, sales, output in value terms) is a set of cash flows for a certain period of the enterprise activity;

profit is the excess of cash receipts from the sale of goods and services over the costs of production and sale of these goods and services;

profitability is an indicator that characterizes the economic efficiency of the enterprise for a certain period of activity.

The formulas for calculations are presented below:

Profit and profitability terms:

$$\text{Profit} = O \times (P - C), \quad (8.1)$$

where C is cost per unit.

$$\text{Profitability} = \frac{\text{Profit}}{\text{Cost}} \times 100\ \%, \quad (8.2)$$

$$\text{Profit per unit} = \text{Price} - \text{Cost}, \quad (8.3)$$

$$\text{Profit} = \text{TR} - \text{TC}, \tag{8.4}$$

where TR is the total revenue (Output × Price);

TC is total costs.

$$\text{Cost} = \frac{\text{Price}}{1 + \text{Index of profitability}}, \tag{8.5}$$

$$\text{Total cost} = \frac{O_{val}}{1 + \text{Index of profitability}}, \tag{8.6}$$

$$\text{FV} = \text{PV} \times (1 + r \times n), \tag{8.7}$$

where FV is the future value of money;

PV is the present value of money;

r is the interest rate;

n is the period of time.

$$\text{Net Profit} = \text{FV} - \text{PV}, \tag{8.8}$$

$$\text{Profit} = \text{Probability}_1 \times (\text{Index of Profit (or Losses)} \times \text{Investments}) + \ldots$$
$$+ \text{Probability}_n \times \big(\text{Index of Profit (or Losses)}\big). \tag{8.9}$$

A *decision tree* is a decision support tool that uses a tree-like model of decisions and their possible consequences, including chance event outcomes, resource costs, and utility. It is one way to display an algorithm that only contains conditional control statements.

Decision trees are commonly used in operations research, specifically in decision analysis, to help identify a strategy most likely to reach a goal, but are also a popular tool in machine learning.

A decision tree is a flowchart-like structure in which each internal node represents a "test" on an attribute (e.g. whether a coin flip comes up heads or tails), each branch represents the outcome of the test, and each leaf node represents a class label (decision taken after computing all attributes). The paths from root to leaf represent classification rules.

In decision analysis, a decision tree and the closely related influence diagram are used as a visual and analytical decision support tool, where the expected values (or expected utility) of competing alternatives are calculated.

A decision tree consists of three types of nodes:

1) decision nodes – typically represented by squares;

2) chance nodes – typically represented by circles;

3) end nodes – typically represented by triangles.

Decision trees are commonly used in operations research and operations management. If, in practice, decisions have to be taken online with no recall under incomplete knowledge, a decision tree should be paralleled by a probability model as a best choice model or online selection model algorithm. Another use of decision trees is as a descriptive means for calculating conditional probabilities.

Decision trees, influence diagrams, utility functions, and other decision analysis tools and methods are taught to undergraduate students in schools of business, health economics, and public health, and are examples of operations research or management science methods.

Examples of calculations

Task 1. In the planning period, the company has targeted to increase profit. There are two options to provide this.

The first option would be to reduce production cost by 7 %, while the output does not change.

The second option would be to reduce production cost by 5 %, and increase the output by 3 %.

The output in the current year amounted to 1 million USD, profit was 250 thou USD.

Determine which of the two options will be most advantageous to the enterprise.

The guidelines for solution:

1. Determine production cost in the current year:

$$\text{Cost}_{\text{current}} = \text{Output} - \text{Profit} = 1\,000\,000 - 250\,000 = 750\,000 \text{ (USD).}$$

Let's consider the first option.

2. Determine the new cost after production cost reduction by 7 %:

$$\text{Cost}_{new} = 750\,000 \times 0.93 = 697\,500 \text{ (USD)}.$$

3. Determine the new profit after all changes:

$$\text{Profit}_{new} = 1\,000\,000 - 697\,500 = 302\,500 \text{ (USD)}.$$

Let's consider the second option.
4. Determine the new cost after production cost reduction by 3 %:

$$\text{Cost}_{new} = 750\,000 \times 0.95 = 712\,500 \text{ (USD)}.$$

5. Determine the new output after the output increase by 5 %:

$$\text{Output}_{new} = 1\,000\,000 \times 1.03 = 1\,030\,000 \text{ (USD)}.$$

6. Determine the new profit after all changes:

$$\text{Profit}_{new} = 1\,030\,000 - 712\,500 = 317\,500 \text{ (USD)}.$$

Conclusion: the most advantageous option for the enterprise is the 2nd one – to reduce production cost by 5 %, and to increase the output by 3 % because of the bigger profit.

Task 2. Last year, a firm received profit of 5 million UAH. The company management is considering to use these funds to increase the profit of the company. There are several options of the funds use:
1) to invest money in a bank for a year at 14 % per year;
2) to invest in the growth of the company (profit will be 14 % per year with the probability of 80 % profit), and with a 20 % probability that the company gets losses in the amount of 8 % of the invested capital;
3) to use the funds to strengthen and develop its own production. The company produces two types of products (A and B). the output of product A is 20 mln UAH, the output of product B is 12 mln UAH. The total cost of production of product A is 12 mln UAH, the total cost of production of product B

is 8 mln UAH. The company management supposes to use the funds for modernization of production and improvement of product quality. Such events would increase the price of product A by 3 %, of product B by 4 %. The output in physical terms does not change.

Determine the best option for company's investment in order to maximize profit.

The guidelines for solution:

Consider the first option.

1. Determine the future value of the invested money in a bank:

$$FV = PV \times (1 + r \times n) = 5\ 000\ 000 \times (1 + 0.14 \times 1) = 5\ 700\ 000\ (UAH).$$

2. Determine the net profit of investing money in a bank:

$$\text{Net profit} = FV - PV = 5\ 700\ 000 - 5\ 000\ 000 = 700\ 000\ (UAH).$$

Consider the second option.

3. Determine the profit of investing money in the growth of the company:

$$\text{Profit} = \text{Probability}_1 \times (\text{Index of Profit (or Losses)} \times \text{Investments}) + \dots$$
$$+ \text{Probability}_n \times \left(\text{Index of Profit (or Losses)}\right) =$$
$$= 0.8 \times (0.14 \times 1\ 000\ 000) + 0.2 \times (-0.08 \times 5\ 000\ 000) = 480\ 000\ (UAH).$$

Consider the third option.

4. Determine the new output of product A after its price increase by 3 %:

$$\text{Output}_{NewA} = 20\ 000\ 000 \times 1.03 = 20\ 600\ 000\ (UAH).$$

5. Determine the new output of product B after its price increase by 4 %:

$$\text{Output}_{NewB} = 12\ 000\ 000 \times 1.04 = 12\ 480\ 000\ (UAH).$$

6. Determine the profit for product A after its price increase by 3 %:

$$\text{Profit}_A = O - TC = 20\ 600\ 000 - 12\ 000\ 000 = 8\ 600\ 000\ (UAH).$$

7. Determine the profit for product A after its price increase by 4 %:

$$\text{Profit}_A = O - TC = 12\ 480\ 000 - 8\ 000\ 000 = 4\ 480\ 000 \text{ (UAH)}.$$

8. Determine the total profit:

$$\text{Total profit} = \text{Profit}_A + \text{Profit}_B = 8\ 600\ 000 + 4\ 480\ 000 = 13\ 080\ 000 \text{ (UAH)}.$$

9. Determine the net profit:

$$\text{Net profit} = 13\ 080\ 000 - 5\ 000\ 000 = 8\ 080\ 000 \text{ (UAH)}.$$

Conclusion: according to calculations, the best option for investing the funds is to use these funds (5 mln UAH) to strengthen and develop company's own production because net profit is the biggest one.

Task 3. An electric company decided to design a new series of switches. You have to choose one of three strategies. The forecast of the market is 200 000 units. The project manager has determined the initial and variable costs associated with each strategy.

First strategy:

Low technology: low initial costs for hiring new young engineers are 45 000 USD. Variable costs of production are 55 USD per unit with a 0.2 (20 %) probability, 50 USD per unit with a 0.5 (50 %) probability, 45 USD per unit with a 0.3 (30 %) probability.

Second strategy:

Costs associated with third-party designers. This leads to initial costs of 65 000 USD and variable costs of: 45 USD per unit with a 0.7 (70 %) probability, 40 USD per unit with a 0.2 (20 %) probability, and 35 USD per unit with a 0.1 (10 %) probability.

Third strategy:

High technology connected to the use of the latest advances. This requires the initial costs of 75 000 USD and variable costs of: 40 USD per unit with a 0.9 (90 %) probability, and 35 USD per unit with a 0.1 (10 %) probability.

What is the best decision based on the criteria of minimization of costs? Build a decision tree.

The guidelines for solution

Total costs = Initial cost +
+ Expected value of variable costs per unit × Number of units.

1. 1st strategy:

Total costs = 45000 + (0.2 × 55 + 0.5 × 50 + 0.3 × 45) × 200 000 =
= 9 945 000 (USD).

2. 2nd strategy:

Total costs = 65 000 + (0.7 × 45 + 0.2 × 40 + 0.1 × 35) × 200 000 =
= 8 665 000 (USD).

3. 3rd strategy:

Total costs = 75 000 +(0.9 × 40 + 0.1 × 35) × 200 000 = 7 975 000 (USD).
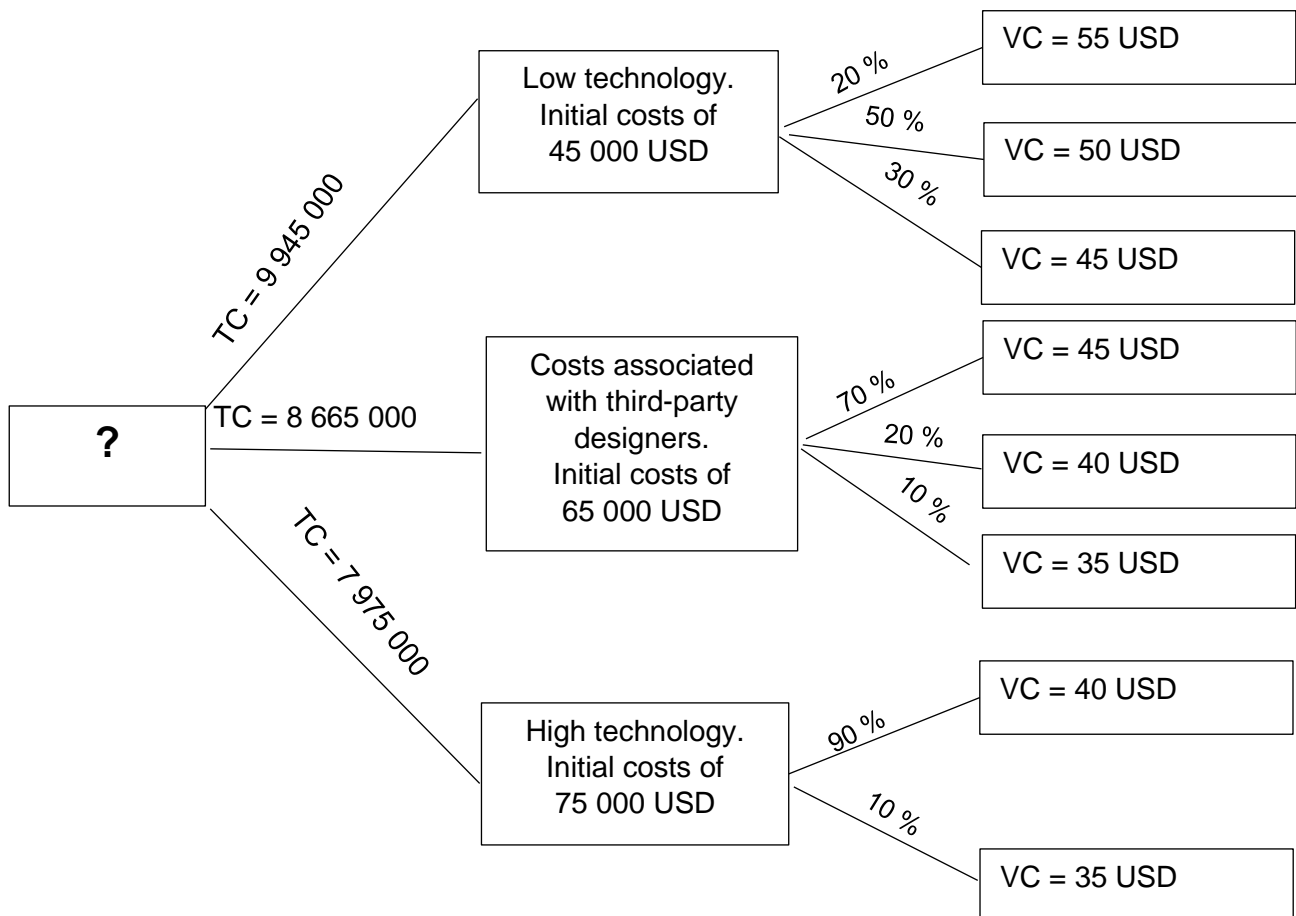
4. Let's build a decision tree (Fig. 7).

Fig. 7. **The decision tree**

Conclusion: the best decision for the company is to implement the strategy of high technologies because total costs for its implementation are less than for other strategies.

Practical tasks

Task 1. In the planning period, the company has targeted to increase profit. There are two options to provide this. The first option would be to reduce the production cost by 7 % with no change in the output. The second option would be to reduce the production cost by 5 %, and increase the output by 3 %.

The output in the current year amounted to 1 million USD, the profit was 250 000 USD. Determine which of the two options will be most advantageous for the enterprise.

Task 2. An enterprise produces 3000 products per year. The wholesale price of one product is 12 000 UAH and the cost of production is 10 000 UAH.

Choose the best of the following options for the enterprise and identify changes in the profit and profitability:

1) to invest the available funds in equipment modernization, which will reduce the cost of production by 4.5 %;

2) to use the available funds to develop the production of products that will increase the output by 20 %, while the increase in production volume will reduce production costs by 10 %;

3) to increase the output by 10 %, which would lead to reduction of price by 5 %.

Task 3. Last year, the firm has received a profit of 3.5 million UAH. The company produces two types of products (A and B). The output of product A is 10 mln UAH, the output of product B is 7 mln UAH. The profitability of product A is 10 %, the profitability of product B is 12 %.

The company management is considering to use these funds to increase the profits of the company. There are several uses of funds:

1. Use of the funds to decrease the cost:

a. If you implement measures to decrease the cost of both products, the cost of each product will decrease by 5 %.

b. It is also possible to reduce the cost of one type of product. If you implement measures to reduce the cost of product A, the cost of product A will decrease by 7 %.

c. If you implement measures concerning product B, the cost of product B will decrease by 8 %

2. Use of the funds to increase the volume of production of product A by 4 %, of product B by 6 %.

Determine the most advantageous variant of investment based on the maximum profit.

Task 4. An enterprise produces 3000 products per year. The wholesale price of one product is 12 000 UAH and the cost of a product is 10 000 UAH.

You must choose the best option for the enterprise and identify changes in the profit and profitability considering the following options:

1) to invest the available funds in the enterprise modernization of equipment, which will reduce the cost of production by 4.5 %;

2) to use the available funds to develop the production of products that will increase the output by 20 %, while the increase in the production volume will ensure reduction of production costs by 10 %;

3) to increase the output by 10 %, but it is necessary to reduce the price by 5 %.

Task 5. Last year, the firm received profit of 4.5 million UAH. The company management considers it appropriate to use these funds to increase the profits of the company. There are several uses of the funds.

1) to invest money in a bank for a year at 24 % per year;

2) to invest in the growth of the company (the profit will be 7 % per year, the probability of profit is 81 %), with a 9 % probability of a 7 % loss of the invested capital;

3) to use the funds to strengthen and develop its own production. The company produces two types of products (A and B). The output of product A is 16 mln UAH, the output of product B is 24 mln UAH. The total cost of product A is 11 mln UAH, the total cost of product B is 17 mln UAH. The company management supposes to use the funds for modernization of production and improvement of product quality. Such events would increase

the price by 4 % for product A, and by 4.5 % for product B. The output in physical terms does not change.

Define the most appropriate way of investment.

Task 6. This year, the company has produced 45 000 units. The price of one product is 23 000 UAH. And the cost of production is 17 500 UAH. Choose the best of the following options and determine the profit and profitability:

1) to invest funds in upgrading the equipment that will increase the output by 18 %;

2) to use the available funds to improve the production process that will increase the output by 11 % and decrease the cost by 5 %;

3) to decrease the output by 12 %, which would require an increase in the price by 8 %.

Task 7. The firm has profit of 4.5 million UAH. The company management is considering how to use these funds to develop the company. There are several uses of the funds:

1) to invest in the growth of the company (the profit will be 12 % per year, the probability of profit is 75 %) with a 25 % probability of 7 % profit of the invested capital.

2) to use the funds to strengthen and develop its own production. The company produces two types of products (A and B). The output of product A is 16 mln UAH, the output of product B is 24 mln UAH. The total cost of product A is 11 mln UAH, the total cost of product B is 17 mln UAH. The company management supposes to use the funds for modernization of production and improvement of product quality. Such events would increase the price of product A by 4 %, of product B by 4.5 %. The output in physical terms does not change.

Define the most appropriate way of investment.

Task 8. The company management has decided to use the earned profit amounting to 6 million UAH for development of the company. There are several options to use the funds:

1) to invest money in a bank for a year at 26 % per year;

2) to invest in the growth of the company (the profit will be 8 % per year, the probability of profit is 79 %) with a 10 % probability of a 6 % loss of the invested capital;

3) to use the funds to strengthen and develop its own production. The company produces refrigerators and freezers. The output of refrigerators amounts to 15 mln UAH, the output of freezers is 23 mln UAH. Total cost of refrigerators is 10 mln UAH, the total cost of freezers is 15 mln UAH. The company management supposes to use the funds for the distribution system development. The implementation of new advertising will increase demand by 4 % for refrigerators, by 4.5 % for freezers. The costs and price do not change.

Find the best option for company's investment using the profit maximization criteria.

Questions for self-assessment

1. Name the main methods of management decision making.

2. Describe the essence of optimal solutions. The basic methods of optimization of management decisions.

3. What is the essence of modeling?

4. Name the main methods of modeling.

5. Describe the process of choosing the best management decision by building a decision tree.

6. Describe the main methods of forecasting: informal, quantitative and qualitative.

Theme 9. Leadership

The goal is to get knowledge of different approaches to leadership theory in organizations, to form skills in the application of different leadership styles in organizations.

Theoretical questions

1. The concept and nature of leadership.

2. The trait theory of leadership.

3. Behavioral theories of leadership.

4. Contingency theories of leadership.

5. Modern leadership concepts.

Seminar questions

1. The difference between leadership and management.

2. Ashby Law and the fundamental contradiction of management.

3. Three Leadership Circles (by J. Adair). The Leadership Wheel. The choice of leadership style.

4. The secrets of Japanese management (Hoshin Kanri).

5. Examples of effective leadership in the world.

The guidelines for the seminar

Select one of the given seminar questions. Analyze the information used in different sources (books, articles, professional sites, forums, electronic journals, etc.). Prepare a presentation (MS Power Point, Google Slides, Prezi, etc.). Use 10 – 12 slides. The content should describe the essence of the subject / the answer to the selected question.

A short description of the seminar questions

1. The difference between leadership and management.

This question should include definitions of both terms – leadership and management, their essence, examples of use and a table of differences between them. For better understanding, a list of qualities for leaders and managers should be provided and some tips how to become a successful leader or manager should be listed. Draw a conclusion.

2. Ashby Law and the fundamental contradiction of management.

A presentation of this topic should include information about who Ross Ashby is (a brief biography), an explanation of his law and examples of using it in management. The part "The fundamental contradictions of management" should contain main contradictions and their role in management development. Also, information concerning the modern approach to different contradictions can be added.

3. Three Leadership Circles (by J. Adair). The Leadership Wheel. The choice of leadership style.

A presentation should contain information about John Adair (a brief biography), illustration of his leadership model and explanation of each core management responsibility. The part "The leadership wheel" should explain this term and give information about its elements. "The choice of leadership style" should present the types of leadership style with an explanation and the style you believe to be the most appropriate one or most commonly used in your country.

4. The secrets of Japanese management (Hoshin Kanri).

A presentation should include information about what Hoshin Kanri is: the main principles, goals, how these goals are to be achieved, where it is used, the difference from other methods, etc. Besides that, the steps of this method with an explanation should be provided. The main advantages and disadvantages of implementing this process into an organization can also be added.

5. Examples of effective leadership in the world.

Key information on this topic is rather wide. A presentation can include information about a country/company/business / particular sphere leader. The main idea is to describe a person or a group of people including their biography, the field of activity, etc. Also, the main principles which this person/people follows/followed (what brought such success) and explanation of uniqueness should be added.

Questions for self-assessment
1. The essence of the concept of leadership. Leadership theories.
2. Management methods (economic, administrative and socio-psychological).
3. Characteristics and classification of management styles.
4. The role of leadership in management.
5. Basic concepts of leadership.
6. The behavioral approach to the study of leadership.

Theme 10. Communications in management

The goal is to get knowledge of the communication process in an organization, to form skills in overcoming communication barriers.

Theoretical questions
1. The concept and process of communication.
2. Interpersonal and organizational communications.
3. Management of organizational communications.

The guidelines for the theme
Communication is:
✓ the most vital element of any organization;
✓ a dynamic force in shaping organizational behavior;

✓ a thread that holds all the units, subunits, processes, systems, culture together;

✓ what shifts information of value acquired from the environment to various departments, groups and individuals.

The structure of communication is as follows:

1) downward communication. In a hierarchical structure where there are various organizational levels the communication is from top to bottom;

2) upward communication relates to communication being made by a junior person to a senior one. This generally follows the reporting channel of command;

3) horizontal or lateral communication refers to communication across departments or between people within different departments. It is more informal in nature and is necessary in promoting a supportive organizational climate.

The types of communication are:

• *formal communication;*

• *informal communication.*

Various types of communication are presented in Fig. 8:

a) the *chain type of communication* is used where information flows upward and downward in a hierarchical manner. There is no lateral communication. This type of communication is best suited for organizations where reporting is strict and jobs are well defined;

b) the inverted *Y-type* communication represents one person having two subordinates. They report to the designated boss;

c) the *wheel-type communication* represents a manager in the center having control over two superior officers. The wheel-type communication is very commonly used in most organizations as it provides faster problem solving. This type of communication displays lack of flexibility and shows lowest job satisfaction;

d) the *circle-type* communication is used by a member to the adjoining member only. Communication is lateral;

e) the *all-channel type* of communication is used by a member to any member of the organization. There is no leader but any person may assume leadership.

Barriers to effective communication may be:

1) *physical, such as* poor timing, choice of channel, inadequate information, organizational structure, information overload;

2) *interpersonal,* such as filtration, perceptual process, semantic barriers, power position, cultural barriers, sender credibility.
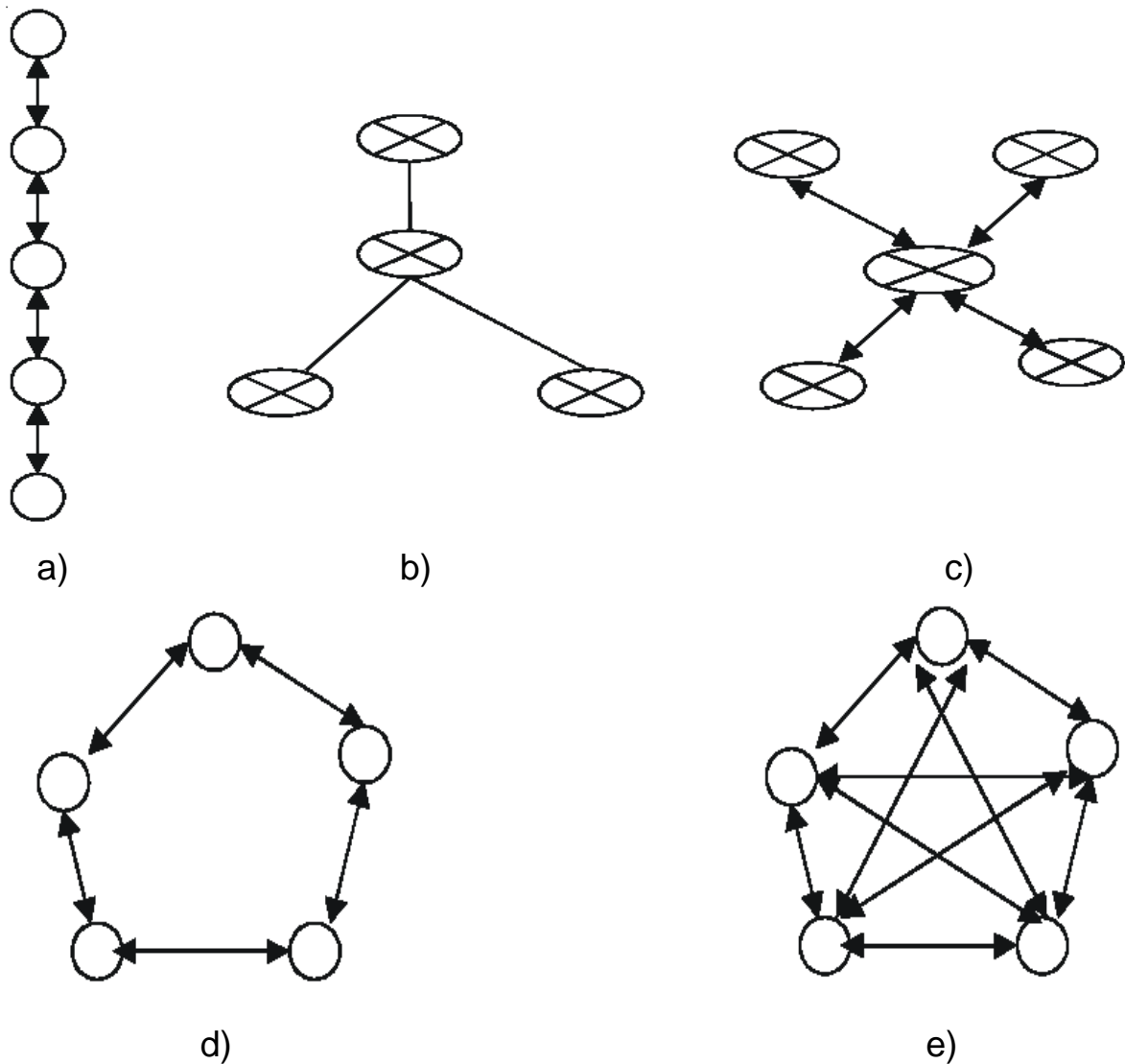

a)   b)   c)

d)   e)

Fig. 8. **Various types of communication**

Lack of or wrong *feedback* is counterproductive to effective communication.

Practical tasks

Task 1. Describe the communication levels at the university where you are studying.

Answer the questions.

1. What methods of information dissemination are used in this university?

2. What is the network model of the university communication structure?

3. Describe the vertical and horizontal communication networks in the university.

4. Identify the most common rumor category in the university.

Task 2. Students are divided into pairs, observe each other during a week and analyze what types of interference related to the content, form and means of communication most often arise in the process of communication. They suggest reasonable ways to overcome the barriers. The obtained results are discussed during a practical class in an academic group.

Task 3. Irina has been working under the leadership of the same chief for 11 years.

One day, at tea, a longtime friend of hers asked how well she worked with her boss. The answer was approximately the following: "Actually, ok. He doesn't bother me. I'm doing my job". Then a friend asked: "But you have been working in the same place for 11 years. How do you work? Will you ever get promoted? Please do not be offended, but I do not understand how the company estimates your work".

Irina thought: "I really don't know if I'm doing a good job... My boss never talks to me about it. True, I have always believed that the lack of news is already good news. As for the content and importance of my work, when I was hired by the company, they did not explain anything very clearly to me and there was no more talk about it. We don't really communicate with the leader".

The questions for analysis of the situation:

1. What goals and conditions for effective communication between the manager and the subordinate are missing?

2. How can you determine the level of vertical communication?

3. Are there opportunities for upward communication in this situation?

4. How can you build feedback more effectively?

Task 4. Analyze the types of information transmitted in the message (Table 8). Determine the type of communications (upward, downward, horizontal, diagonal). Fill in the table.

Table 8

The types of information and communication

No.	Type of information	Type of communication
1	Organization budget information	
2	Proposals to improve the activities of the unit and the organization as a whole	
3	Information on upcoming changes in the composition of shareholders	
4	Suggestions for the developed company business plan, made by various management departments	
5	Seeking advice on solving a specific problem	
6	Information on personnel appointments	
7	Job instructions	
8	Proposals to the draft regulation on remuneration in the organization and comments on it	
9	Information about the introduction of new products on the market by the company	
10	Information on the progress of the production task	
11	Information on the progress of reconstruction in the company	
12	Complaints of subordinates about poor working conditions	
13	Information on the creation of new divisions in the company	
14	Information on the introduction of a new regulation on remuneration and bonuses in the organization	
15	Proposals for a collective agreement between the administration and the labor collective of the organization	
16	Information about the reasons for leaving the organization	
17	The opinion of subordinates about the direct supervisor	

Task 5. In the communicative process of an organization, there is a distortion of information passing through the communication channels. The chief engineer of the organization is holding a production meeting, during which this problem is also discussed. The participants of the meeting express their opinions on what the reason for the distortion of information is.

The head of the workshop believes: "The main distortion occurs due to the filtration of information when it moves up, down or along the control levels. In order to speed up the movement of information, information is integrated and simplified, and a significant part of it gets lost".

The shift supervisor notes: "The main culprit is the overload of information systems channels with a large amount of information; the list and composition of the required information must be shortened".

The head of the enterprise (organization) expresses his point of view: "We will optimize the structure of the organization, reduce the number of management levels, reduce the number of management personnel and solve the problem of information distortion".

Answer the questions:

1. Are the opinions expressed complement or exclude each other?

2. What views on this problem of information systems development do you personally adhere to?

Questions for self-assessment

1. The role of information in management.
2. The content and classification of information used in management.
3. Management information systems. Their characteristics.
4. Information transmission channels.
5. The role of feedback in the communication process.
6. The elements and stages of the communication process.
7. The models of the communication process.
8. Communication barriers and means to eliminate them.
9. Modern information methods and technologies.

Theme 11. The effectiveness of management

The goal is to get knowledge of determining the effectiveness of the organization, to form skills in the calculation of the main indicators of its effectiveness.

Theoretical questions

1. The effectiveness of an organization.
2. The concepts of determining the effectiveness of management.
3. Management performance assessments.
4. Areas for improvement of the organization's management efficiency.

The guidelines for the theme

There are three approaches to evaluation of the efficiency of management decision-making:

an indirect approach;

according to the final results;

according to the direct results of activity.

An indirect approach provides analysis of the managerial decision market value and management decision costs by analysis of variants of the managerial decision for the same object type, developed and implemented in approximately the same conditions:

$$E = \left(\frac{P_{2T}}{C_{2T}} - \frac{P_{1T}}{C_{1T}} \right) \times 100 \text{ \%,} \qquad (11.1)$$

where P_{1T} is profit on sales of a product in the first variant of the managerial decision;

P_{2T} is profit on sales of a product in the second variant of the managerial decision;

C_{1T} is production costs of a product in the first variant of the managerial decision;

C_{2T} is production costs of a product in the second variant of the managerial decision.

The approach according to the final results is based on the calculation of production efficiency in general and the allocation of the fixed (statistically justified) part (K):

$$E = \frac{P \times K}{TC} \times 100 \text{ \%,} \qquad (11.2)$$

where P is profit on sales of a product;

TC is total costs;

K is the share of the managerial decision in production efficiency (K = 20 – 30 %).

The approach to evaluation of the efficiency of management decision-making according to the direct results of activity is based on evaluating the direct effect of the managerial decision in case of achievement of the purposes,

implementation of functions, methods, etc. The main parameters during the evaluation of efficiency are standards (time, resource, financial, etc.):

$$E = \frac{S_i}{U_i} \times 100 \text{ \%},\qquad(11.3)$$

where S_i is the standard for the use (waste) of resources and for the development and implementation of the management decision;

U_i is the real use (waste) of resources and the use of resources for the development and implementation of the management decision.

When calculating the efficiency with this method it is necessary to determine its value from several resources (m) and then, according to the priority of resources, (R_i), to find the average value of efficiency:

$$E = \frac{\Sigma E_i \times R_i}{m} \times 100 \text{ \%}.\qquad(11.4)$$

Examples of calculations

Task 1. The company "Hot Bread" produces and sells bakery and other products. The company executive implemented management decisions to change functional responsibilities and laid off one employee. Other employees were rewarded for performing additional functions. As a result of the improved functional responsibilities and better staff performance the product cost decreased by 1 %, the price of products decreased by 0.5 %, but the total sales price increased by 5 % due to increased sales. The general data are given in Table 9.

Table 9

The initial data

Company working stage	Total sales per month, mln UAH	Total costs per month, mln UAH
Before the implementation of managerial decisions	2.592	2.074

Evaluate economic efficiency by two methods.

66

The guidelines for solution

1. Determine the profit of the company before the management decisions:

Total profit = Total sales − Total cost.

Total profit = 2.592 − 2.074 = 0.518 (mln UAH).

2. Determine the total sales price per month after management decisions:

New total sales = 2.592 × 1.05 = 2.722 (mln UAH).

3. Total costs after implementation of the management decisions will equal:

New total costs = 2.074 × 0.99 = 2.054 (mln UAH).

4. Company profit after implementation of the management decisions:

Profit after implementation of the management decisions = 2.722 − 2.054 = = 0.668 (mln UAH).

5. Determine the efficiency of management decisions by the indirect approach:

$$E = \left(\frac{P_{2T}}{C_{2T}} - \frac{P_{1T}}{C_{1T}} \right) \times 100\ \%.$$

$$E = \left(\frac{0.668}{2.054} - \frac{0.518}{2.074} \right) \times 100\ \% = 7.6\ \%.$$

Thus, the efficiency of management decisions is 7.6 %.

6. Determine the efficiency of management decisions using the approach based on the final results:

$$E = \frac{P \times K}{TC} \times 100\ \%.$$

Take the management decisions share in production efficiency as 25 % (К = 20 – 30 %), that is:

$$E = \frac{0.668 \times 0.25}{2.054} \times 100\% = 8.1\%.$$

The difference between the two approaches to calculation of the efficiency of managerial decisions is acceptable.

Answer: the economic efficiency of implementation of managerial decisions based on the indirect method and the methods based on the final results is 7.6 % and 8.1 % respectively.

Task 2. A local factory produces cars. Car sales are declining, that does not meet the capabilities of the enterprise. Head of Marketing Department has made a management decision to expand the form of payment for products by the use of leasing, with the factory itself acting as a lessor. Cars began to leave the factory faster than the financial content of the account.

After a year of work the factory had to abandon this system. And then the chief engineer of the factory decided to create permanent and temporary teams of the working staff. The permanent part of the staff works independently, while the temporary part of the staff works depending on the number of orders.

The general data for calculations are given in Table 10. Evaluate the economic efficiency by two approaches.

Table 10

The initial data

The type of solution at the factory	Total sale price per month, mln UAH	Total costs per month, mln UAH
Organization of the leasing form of payment	8.051	8.234
Organization of permanent and temporary staff	8.051	6.537

Task 3. The company JSC "Superpack" has been successfully operating on the market for 8 years. It produces and sells packaging material for liquid food, and also provides interested companies with technological equipment for the packaging material production.

The company employs 1040 people. The company has one branch in Kharkiv.

In 2019, the company's net profit amounted to 20 mln UAH with a gross revenue (sales) of 140 mln UAH and costs of 120 mln UAH. Following the results of 2019, the company's management discussed the issue of increasing sales.

The data for calculation are given in Table 11.

Table 11

The initial data

Parameters	Solution options		
	1	2	3
Gross revenue (sales), mln UAH	215	150	230
Costs, mln UAH	180	140	185
Implementation period	18	3	6
Social stability	Medium	Low	High
Technological prospects	High	Low	Medium

Three alternative management decisions were put for vote:

1. To organize two more branches – one in Dnipro and the other in Lviv. According to the marketing research results, in these cities there is a large and long-term demand for the company's products.

2. To understand the management and production activities of the company, deal with them, reduce costs and strengthen the administrative and technological discipline.

3. To focus on the improvement of the working conditions of staff, stimulating their labor productivity and creative activity based on the principle "incentive is first, and productivity is secondary". Due to this, you can reduce non-production costs and strengthen the intellectual and social potential of the company.

Which option of management decision should be chosen? What are the values of economic efficiency of the proposed management decision?

Questions for self-assessment

1. The essence of efficiency in management.

2. Methods for calculating the efficiency in management.

3. Types of management efficiency.

4. Indicators of economic efficiency of management in an organization.

5. Methods for calculation of generalized and partial indicators of economic efficiency of management.

6. Classification of threats to the success of an enterprise. Ways to prevent and eliminate them.

7. McKinsey's 7S system and its importance for the success of an organization.

Recommended reading

Basic

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Information resources

10. Миронова О. М. Management (спец.073) [Electronic resource] / О. М. Миронова, Ю. С. Тисячна // Сайт ПНС. – Режим доступу : https://pns.hneu.edu.ua/course/view.php?id=3035.

11. Management [Electronic resource] : syllabus of the academic discipline for Bachelor's (first) degree students of speciality 073 "Management" / compiled by O. Myronova. – Kharkiv : S. Kuznets KhNUE, 2019. – 13 p. – Access mode : http://www.repository.hneu.edu.ua/handle/123456789/22961.

Content

НАВЧАЛЬНЕ ВИДАННЯ

МЕНЕДЖМЕНТ

Методичні рекомендації
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для студентів спеціальності 073 "Менеджмент"
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(англ. мовою)

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