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FACULTY OF AGRARIAN MANAGEMENT
PRODUCTION AND INVESTMENT MANAGEMENT DEPARTMENT

CONTROLLING

for the students of the specialty 073 “Management”

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The textboob was complied for the studying of the discipline "Controlling" by students of specialty 073 "Management". The textbook includes theoretical material in the main topics which are important for bachelors in management.

Intended for bachelor students of 073 "Management". Educational edition for students of specialty 073 "Management" educational level "Bachelor".

CONTENT

INTRODUCTION

The activities of enterprises and organizations in the conditions of market economy require new approaches to management: at the first place there are economic and market efficiency criteria which are put forward, whereas requirements for management flexibility are being increased simultaneously. The economic environment is currently extremely unstable. Scientific and technical progress and the dynamics of the external environment force modern enterprises turn into more and more complex systems.

To provide control of such systems it is necessary to implement methods that correspond to complexities of the internal and external environments of enterprises and organizations.

Today, the role and importance of such management functions as accounting, analysis, planning and control are being fulfilled with new content. There is also a simultaneous rethinking of the tasks of the mentioned functions.

A new phenomenon in management was the emergence of controlling as a functionally separate direction of economic work at the enterprise, associated with the implementation of the financial and economic functions in management, which ensures the adoption of operational and strategic management decisions.

By coordinating, integrating and directing the activities of the entire enterprise management system to achieve the set goals, controlling performs the function of enterprise management or

organization and is at the same time a synthesis of planning, accounting, control, economic analysis, organization of information flows and much more.

Occupying a special place in the enterprise management system, controlling provides information support for acceptance of solutions with the aim of optimal use of available opportunities, objective assessment of the company's strengths and weaknesses of organizations, as well as in order to prevent crisis situations and even bankruptcy.

Controlling as an information system is widely implemented by foreign enterprises and brings significant results. As for managing the economy of domestic enterprises and organizations, this system is still not suitable for application due to the fact that the need for it quite often prevails over the availability of relevant knowledge in this area.

The importance of controlling in current conditions in Ukraine is growing due to a significant, potentially medium-term deterioration in the conditions of doing business by domestic economic entities: a decrease in the raw material market, a decrease in demand for finished products (goods, services), a decrease in the level of business profitability, a limitation of self-financing of development and the possibility of attracting relatively cheap credit resources. The indicated situation was provoked by the active phase of military aggression of the Russian Federation. It is possible to resist the extremely negative influence and build a road map for the revival of domestic business

thanks to the deepening of research on the search for an effective algorithm for ensuring the financial stability of enterprises.

So that, controlling is a complex system that examines the trajectory strategic development of the enterprise based on the defined general goal, material, cost and social goals of the enterprise, tracking trends in the development of production programs, economic processes, investment projects and financial activities based on planning, accounting, analysis and control of a set of economic indicators.

The current manual highlights modern approaches to understanding the role of controlling in business, focusing mainly on practically-oriented problems of controlling.

TOPIC 1. THE ESSENCE, NECESSITY AND TYPES OF CONTROLLING

The purpose of the topic is the optimal presentation of the material for students to master them the necessary set of theoretical knowledge about controlling, i.e. the definitions, its origin and development, the basic concepts and types of controlling, the role of controlling in the enterprise management system.

Content

1.1. The concept of controlling and its essence

Controlling is one of the newest areas of information and economic development of the enterprise.

In today's economic conditions, interest in it is becoming more and more evident, due to the need for new directions of optimization of the management process and the emergence of a significant number of translated publications on accounting, finance, pricing, etc.

Controlling is a fundamentally new concept of information and management that can be defined as a accounting and analytical system that implements the synthesis of accounting, control, planning elements

that provides both operational and strategic management of the process of achieving the goals and results of the enterprise.

The emergence of controlling is due to a rethinking of the role and importance of management in modern business. If by this time management was associated mainly with the resolution of current affairs in an enterprise, then in conditions of intensifying the competition and the instability of the external and internal environment in which the company operates and managers have to work, management is associated with the success of its activities and ensuring long life.

Only a comprehensive nature of the monitoring of all blocks of economic and financial activity can provide information about the situation of the company and the tendencies that contribute to strengthening or weakening the position of the company in the market. As a system for monitoring the activities of the enterprise in its entirety of diversity is allocated a new scientific discipline – controlling. Nowadays there is a contradiction in interpretations that characterize the internal meaning of this concept, for example: "management accounting", "controlling", "internal accounting". Some authors and translators consider the above concepts and objective phenomena of economic practice of western enterprises which lie behind them are equivalent in content while others on the contrary. It is obvious that it is impossible to disconnect the concept and the term from the national background. In spite of the origin of the words "controlling" from the English "to control" – to control, manage, in the English-speaking

countries, the term "managerial accounting" is used, although the employees whose responsibilities include the formation of information for management, are called controllers. In the theory and practice of managing for example German enterprises, the notion of "managerial accounting" is absent. The accounting department is clearly divided into financial and production, which means that in Germany, the term "controlling" is used in English, which marks a qualitatively new phenomenon in the management of the enterprise.

The term itself was born in America, in the 70's it was moving to Western Europe, and then in the early 90's to Ukraine. In the definition, the term combines two components: controlling as a philosophy and controlling as an instrument:

1) **Controlling** is the philosophy and way of thinking managers, focused on the efficient use of resources and the development of enterprises (organizations) in the long run.

2) **Controlling** is goal-oriented integrated system of information, analytical and methodological support of managers in the planning, control, analysis and approval of management decisions in all functional areas of the enterprise.

Controlling, on the other hand, is a cross-functional management tool that should help decision-makers to take decisions, and on the other hand, it is the managerial concept of the decision-making process. Controlling should coordinate planning, control and information management systems.

The control at the enterprise is intended to help the management of the enterprise to make the right managerial decisions that are aimed at achieving strategic and operational goals.

The main difference between financial control of financial management is that controlling does not perform managerial function and does not accept managerial decisions. It provides a methodological and instrumental basis for supporting the main functions of financial management: planning, monitoring, accounting and analysis, as well as a general assessment of financial activity.

Controlling tasks are much larger than the scope of the tasks of managerial accounting, which is part of the quality control system of one of the components. Sometimes references are made to the fact that controlling in the Federal Republic of Germany is equivalent to management accounting in the US, UK and other countries. In fact, this is not true. In particular, financial institutions (Finanzbuchhaltung), Manufacturing (Betriebsabrechnung) and Controlling (Financial Control) are allocated to German enterprises.

The complexity of modern decision-making conditions requires greater coherence.

So the increase in demand for services in the field of controlling led to the emergence in Germany of a number of scientific organizations. The first was the Controller-Institut zur Ausbildung in Unternehmensplanung und Rechnungswesen GmbH, Cauting1, which provided training in the field of enterprise planning and accounting. Since 1971 private and public workshops have been conducted by the

Controller-Akademie (Academy of Controllers). In 1975 the Controller-Verein (Union of Controllers) was founded. The next important step in the implementation of the ideas and philosophy of controlling was the establishment of the journal "Controller" (1989).

In most developed countries with a market economy the concepts of controlling are similar. The differences are only in the understanding of two aspects: pragmatism and the degree of improvement of the system in accordance with the mentality of users (Fig. 1.1).

Thus in Germany controlling exists in an academic form: the scientific environment tends to create a theoretical integral system, and then – to solve certain practical problems. The pragmatic approach prevails in the United States and several European countries: controlling here is closely linked to management, more focused on market demands and customer needs.

In the German edition of the Lexicon of Enterprise Economics the notion of controlling is defined as the concept of information and management. The most complete system of controlling is described and applied the first time in the United States, hence the English semantic origin of the term "to control" – the control, control, which in turn comes from the French word, which means "the registry, the checking list". However, in English-speaking sources, the term "controlling" is practically not applicable: in the United Kingdom and the US, the term managerial accounting (management accounting) is more common, although workers who hold managerial accounting are called controllers.

American model	**German model**
Controlling	Controlling
Planning	Planning
Informative management and reports	Informative management and reports
Special economic tasks, i.e. assessing of investments	Special economic tasks, i.e. assessing of investments
Internal accounting	Internal accounting
Taxes and insurance	
Information technologies	
Internal audit	

Fig. 1.1 Distinctive features of the American and German models of controlling

Although these terms in the Ukrainian language are similar to the sound they differ much in lexical meanings. In particular, based on the analogy of the relatively similar words in the Ukrainian language we can see that controlling is a control system, and the controller performs a kind of controller of the state of the economy and finance of the enterprise. However, the content of the controller and the work of the controller are not limited only by these functions, at least in the extent to which they are accustomed to interpret them. It should be noted that it is no coincidence that in contemporary German the words "die Kontrolle" and "das Controlling" differ in writing and sounding.

First of all, the concept of "controlling" combines a set of tasks in accounting and finance and the controller – the chief accountant. Then this concept became more widespread and began to include issues of

financial control and more appropriate use of financial resources and sources. Today, leading controlling scientists such as R. Mann and Z. Mayer define controlling as a process management system for achieving the company's ultimate goals and outcomes that is in economic terms with a certain share of the conditionality, as the profit management system of the enterprise.

Taking into account the above definitions, the evolutionary interpretation of the concept of "controlling" can be schematically reflected in Fig. 1.2.

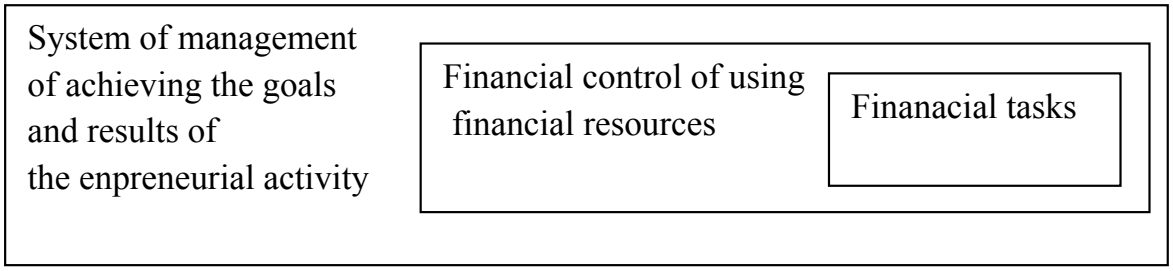

Fig. 1.2. Evolutionary interpretation of the concept of "controlling"

From the economic point of view one of the main objectives of each enterprise is to generate profits but in some cases the whole enterprise may be other, for example, gaining market share, eliminating competitors, then controlling focuses the enterprise's efforts towards these goals.

Thus, we note that controlling for today is no longer associated with either the control or the management accounting system, which

formed the basis of controlling in the 30's and 50's, nor with the information support system of the enterprise, which was characteristic of the 70- 80's - a time of rapid development of computer technology. Thus controlling is associated more often with the "management system" of the enterprise as a whole.

It should also be noted that in the most general form, controlling is defined as an integrated management system that includes planning and control, management, and management.

Some scientists understand controlling as a profit management system, and recently in the literary sources of widespread the definition of controlling as a cost management system has been defined. Although the analysis of the ratio of revenue-expenditure in the control system and paid a lot of attention, but with this view cannot be fully accepted, since the cost management system includes only two components: the subject area of economic activity of the enterprise and the process of management of this functional area. At the same time it is inappropriate to call managerial accounting controlling, and therefore it is necessary to dwell in more detail on the interpretation of the concept of "controlling" and to find the difference in the lexical meaning of the terms "controlling" and "cost management" (Table 1.1).

Thus, controlling is a management organization. It follows that controlling is based on the economic system, management system and information automated control system. In the absence of at least one of the components, the management system is not controlling. The presence of these three components is confirmed by the historical

stages of the development of control, during which the priorities and orientations of the concept of controlling changed: focused on the accounting system (1930's); oriented to the management information system in the 1970-1980's (coincides with the rapid development of computer technology); oriented to the management system, is directly related to the development of project management, the emergence of new forms of organizational structures.

Table 1.1.

Differences of the system of cost management and controlling

Characteristics of the system	System of cost management	Controlling
Aim	Costs reducing	Raising of quality of the decisions to be made
Subsystems, functions for achieving goals	Functional spheres Management functions	Functions of management Technologies of manangement and decision makig
Executives and resources	Labour, materials, capital, energy, information	Organizational, mathematical, informational providing
Objects	Centers and cost bearers	System of management
Structure of the management system	Organizational structure	Models' structure
Quantitative characteristics	Significance of economic indicators	Significance of criteria of decision quality
Factors to control	Expense amount	Level of corresponding of the models which provide the profits' maximization

The above information suggests that the concept of controlling does not contain new knowledge about the enterprise's economy, but only uses tools known to economists from other disciplines. Therefore, it makes sense to talk about controlling not as a system of certain

knowledge, but rather about the philosophy or the ideology of enterprise management.

In fact, controlling acts as "management management", that is, the mechanism of self-regulation in the enterprise, providing feedback in the control circuit.

1.2. The purpose and tasks of controlling

Controlling can be defined as a system of checking how successfully the company is moving towards its goal. In case of deviations from the target, corrective actions are taken. Taking into account the complexity of the control system, different authors determine the purpose of controlling in different ways. Let's give a description of all that, in our opinion, can serve the purpose of controlling. Thus, the purpose of controlling is to maintain the effective functioning of the enterprise, it is determined by the senior management and can be specified depending on changes in the factors of the internal and external environment in which the company operates. The goal may be high quality products, gaining share and expanding the market, reducing production costs, lowering prices, increasing profits, and independence from creditors.

The purpose of controlling is also to diagnose the actual technical-economic and financial condition, compare its predicted, identify trends and patterns of economic development of enterprises in accordance with the main objective and prevent the negative impact of

internal and external factors and financial performance and market situation. In other words, controlling is a system for monitoring and studying the behavior of the economic mechanism of a particular enterprise and developing ways to achieve the goal it poses. The state of controlled objects is determined by quantitative, qualitative, structural, temporal and spatial characteristics.

The main purpose of controlling is to ensure the profitability and liquidity of the enterprise by identifying causal relationships when comparing revenue from sales and costs, as well as developing measures to regulate the resulting deviations.

The key concept is in determining the purpose of controlling, the trends and regularities of the enterprise's economy, its technical, economic and financial situation. Speaking about the economy, it should be borne in mind that this is primarily about the use of assets and liabilities, and the information shows trends and patterns of development. Diagnosis of the technical-economic and financial condition is possible provided that the actual accounting and other types of information about the objects are provided and compared with the planned indicators.

The purpose of controlling can be the receipt of data, their processing and transformation into information for management and decision-making. Such information is non-standard, intended to identify trends and patterns of phenomena and processes in the enterprise, help to develop measures that ensure its livelihoods.

The main tasks of the control system should be:

- planning (methodology and organization);

- accounting (collection and processing of information);

- control (comparison of the planned and actual values of the indicators);

- service management (collection, processing, interpretation, counseling);

- special surveillance systems (marketing, monitoring of changes in the external environment).

So, in terms of planning, the main tasks of controlling are:

- creating of a normative base for forecasting the development of the company;

- assisting the developers of strategic plans in defining the organization's goals and directions of development;

- coordinating of planning and budgeting work;

- participating in determining the quantitative and qualitative parameters of the enterprise machine for the strategic period;

- harmonization of interim goals and plans and drawing up common strategic plans.

In accounting, controlling tasks require:

- creating of a modern system of information provision and reporting of involved in the strategic process of management of responsible persons;

- defining of specific needs of managers in necessary information and reporting;

- submitting of information on deviations of actual values of indicators from planned ones;

- reporting to the management of the enterprise explaining the factors that caused the deviation;

- analyzing of deviations and discussions with interested persons.

In the field of information and analytical control, it is necessary:

- to develop the architecture of the information structure;

- to select indicators, information carriers and their transmission channels;

- to define control points of economic and financial activity;

- to compile a scheme for collecting and systematizing the most significant data for decision-making;

- to develop tools for planning, accounting, control, analysis and decision making;

- to advise managers on the operation of the controlling system.

The work of employees of the controlling service should be directed to the following areas of control:

- strategic goals (quantitative and qualitative);

- critical conditions of the external and internal environment which are the basis of strategic plans;

- strengthes and weaknesses that are identified during the planning process of the analysis of the enterprise.

An overview of approaches to the definition of the essence of controlling gives grounds to state the possibility of isolating and the need for theoretical and methodological consideration of another

approach based on the functional substantiation of the essence of controlling.

Such a definition of controlling functions though unifies the functions, but at the same time reduces the very concept of controlling. Controlling functions are determined by objectives set before the organization and include those activities that ensure the achievement of these goals.

Coordinating, integrating and directing the activities of the entire enterprise management system to achieve its goals, controlling is a feedback in the control circuit through the choice of organizational, mathematical and information support, and is the synthesis of planning, accounting, control, economic analysis, organization of information flows, etc.

To achieve the goals set at the enterprises controlling should ensure the following tasks:

- coordination of management activities aimed at achieving the goals of the enterprise;
- information and consulting support for making managerial decisions;
- creation and maintenance of functioning of the general information management system of the enterprise;
- ensuring the rationality of the management process;
- implementation of planning, monitoring and analysis systems;
- providing motivation of the personnel in improving the efficiency of the enterprise.

As noted above, controlling is defined as an integrated management system that involves planning and control, leadership and management.

At the same time, controlling enterprises have the following features: informational, managerial, planning, accounting, control, analytical, motivation function, integration function, special functions.

Graphically, this is presented in Fig. 1.3.

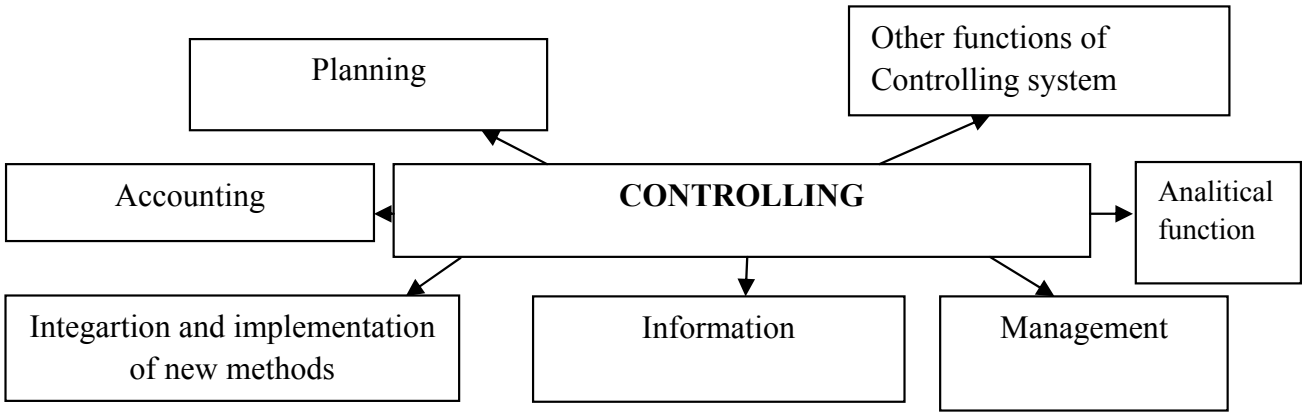

Fig. 1.3 Controlling functions at the enterprise

Thus, summing up the above, it can be noted that the functions and tasks of controlling the enterprise must always be formed in accordance with the goals that a certain enterprise faces at the present stage of its management. First of all, it depends on the specific performers, on the introduction of a well-known or own concept of the creation and operation of controlling in the enterprise, and the division of responsibilities between the separate structural units of the economic direction.

1.3. Types of control and their comparative characteristics.

As stated above, controlling is a system for managing achievement of goals and an integral part of enterprise management. Modern management divides the entire enterprise management into two groups: operational (short-term) and strategic (long-term). Controlling therefore allows for constant control over the achievements of both strategic and operational goals of the enterprise. Consequently, controlling as a system involves two main aspects: strategic and operational. ***There are two main types of controlling: strategic and operational (tactical).***

Strategic controlling analyzes the internal and external environment, monitors the enterprise's activities in the long run, and serves a higher institutional level of management. Strategic controlling should help the company effectively use its existing benefits and create new prospects for successful future operations. The Strategic controlling Service acts as an internal consultant to managers and business owners in developing strategies, strategic goals and objectives. It delivers the necessary information that guides leadership in the decision making process.

The main objective of strategic control is the creation of a management system that would allow monitoring the company's movement to a certain strategic goal of its development. The setting of strategic objectives requires a preliminary analysis of information on the external and internal conditions of the entity's operation.

The main task of operational control is to help managers achieve their goals, which are expressed more often in the form of quantitative values of levels of profitability, liquidity or profit. Operational control is focused on the short-term result so its toolkit differs fundamentally from the methods and techniques of strategic control.

Strategic controlling coordinates the functions of strategic planning, control and strategic information provision systems.

Strategic controlling defines the goals and objectives for operational control, i.e. sets regulatory limits. Both of these directions of control differ in the covering time horizon. Operational control is carried out to fulfill its functions in the short-term period of time. Strategic control in modern management is not tightly tied to time limits, although most often it is a medium to long term.

Operational controlling examines the economic efficiency and profitability of the enterprise.

In the process of controlling, the following types of work are performed:

1. Setting goals – the definition of quantitative and qualitative goals of the enterprise and the criteria by which you can assess the degree of performance of tasks.

2. Planning – transforming the goals of the enterprise into forecasts and plans. The first step in planning is to analyze the company's strengths and weaknesses, opportunities and threats.

3. Management accounting – reflection of financial and economic activity of the enterprise during the implementation of the

plan. Focusing on the information needs of enterprise managers make managerial decisions.

4. The system of information flows and their organization – an important element of the control system in the enterprise. Controlling is the supplier of information necessary for the operation of the control system. With information, the head can monitor all financial and economic activity of the enterprise:

-check the processes taking place in the enterprise in real time;

-to compile operational reports on the results of the company's work;

-comparate the target results with the actual achieved.

5. Control. If in management control is used as a simple statement of facts that is an assessment of the facts already realized in the enterprise, then in the control system it is aimed at the future.

6. Analysis of plans, actually received results, correction of deviations is carried out in three time measurements – past, present and future, they are given a comparison. The analysis of the past is aimed at evaluating the results of previous activities, gaining experience. The analysis of the present helps to determine what is happening at the enterprise at the present time and in what direction. An analysis of the future assesses whether the company can achieve its goals, what opportunities are revealed to it, and what risks it will face.

Table 1.2.

Copmparative characteristics of operative and strategic controlling

Features	Operative	Startegic
Orientation	Economic efficiency and profitability of the enterprise	The external and internal environment of the enterprise
Level of management	Tactical and operative	Strategic
Goals	Providing of profitability and liquidity	Ensuring survival. Conducting anti-crisis policy. Supporting the potential of success
Main tasks	- Leadership in planning and budget planning (fluid and operational planning); - Identifying the weaknesses for tactical management; - Definition of the totality of controlled indicators in accordance with established flow goals; - comparison of planned (normative) and actual indicators of controlled results and costs in order to identify causes, perpetrators and consequences of deviations; - analysis of the influence of deviations on implementation of fluid plans; - motivation and creation of information systems for the adoption of fluid management decisions	- Participation in setting quantitative and qualitative goals of the enterprise; - responsibility for strategic planning; - development of alternative strategies - definition of critical external and internal conditions underlying strategic plans; - identifying the weaknesses; - identification of the main controllable indicators in accordance with established strategic goals; - comparison of planned (normative) and actual values of controlled indicators in order to identify causes, perils and consequences of these deviations; - analysis of economic efficiency (especially innovation and investment)

7. Recommendations for making managerial decisions are developed on the basis of preliminary analysis, taking into account the situation, as well as future opportunities and dangers. Controlling

determines what alternatives there are in the enterprise at the present time and evaluates these alternatives in terms of achieving the goals of the enterprise.

The process of strategic planning can be divided into the following phases:

- search and formulation of a strategic goal;
- design and evaluation of the strategy;
- making a strategic decision.

Strategic goals are those goals that are derived from the general objectives of the enterprise and are specified as new and existing success potential. At the same time, restrictions are introduced in the form of fixed and independent variables. These restrictions, both external and internal, represent the initial preconditions for the planning process. Those planned goals and constraints, which are already formulated, determine the process of finding alternative data, as well as assessing their implementation.

Operational Controlling coordinates the processes of operational planning, control, accounting and reporting at the enterprise with the support of a modern information system.

The main task of operational control is to provide methodological, informational and instrumental support to enterprise managers to achieve the planned level of profit, profitability and liquidity in the short run.

So, as we can see, *controlling possesses a complex meaning that combines various elements: setting goals, planning, accounting,*

monitoring, analyzing, managing information flows and making recommendations for managerial decisions. As a result of its integration, controlling provides a synthetic, holistic view of past, present and future enterprise activities, an integrated approach to identifying and solving problems facing the enterprise.

Control questions

1. What is the essence of controlling?

2. What exactly is meant by controlling in the USA, Germany, Great Britain?

3. Determine the reasons that caused interest in controlling.

4. Is it possible to put an equal sign between the concepts of "management accounting", "controlling", "internal economic accounting"?

5. What are the main stages of development of controlling?

6. In your opinion, can modern business do without controlling?

7. Specify what is the subject of controlling and what are its objects.

8. What is the significance of controlling for business management?

9. Define controlling, reveal its purpose and tasks of functioning.

10. Give a comparative description of the methods of operational and strategic controlling.

11. What are the objective prerequisites for the emergence of controlling?

12. What are the peculiarities of the development of controlling in Western Europe and countries of the American continent?

13. Why is controlling considered to be one of the means, tools and at the same time a constituent part of the art of economic management?

14. Name the main tasks of controlling.

15. What are the characteristic features and peculiarities of modern business and their influence on management?

16. Why do foreign firms in the vast majority hire controllers for the role of strategist?

17. What is the advantage of controlling over domestic levers of management of production activity?

18. What are the necessary prerequisites for the implementation of controlling in the activities of domestic enterprises and organizations?

TOPIC 2. ORGANIZATION OF CONTROLLING AT THE ENTERPRISE

Content

2.1. Place of controlling in an enterprise management system

In the conditions of the formation of market relations, any enterprise, regardless of the form of ownership becomes economically and legally independent. This position of the enterprise as the subject of market relations determines the objective process not only the growth of the role and importance of such management functions as accounting, control, analysis, planning, but also a fundamental rethinking of their tasks.

Each of the functions is filled with new content. In this regard, it is particularly relevant to solve the problems of clarifying the degree of correlation and the tightness of the relationship of basic management functions both in the system of financial management and in its servicing control system. Successful overcoming of the problems is possible if the whole information management system of the enterprise is provided and the role of controlling in this system is clearly presented.

According to the definition of controlling, which was presented in the studies, it can be stated that controlling includes the establishment of enterprise goals, the current collection and processing of information for the adoption of management decisions, the implementation of control functions, the determination of deviations of the actual performance of the enterprise from the planned as well as most importantly the preparation of recommendations for making managerial decisions (Figure 2.1).

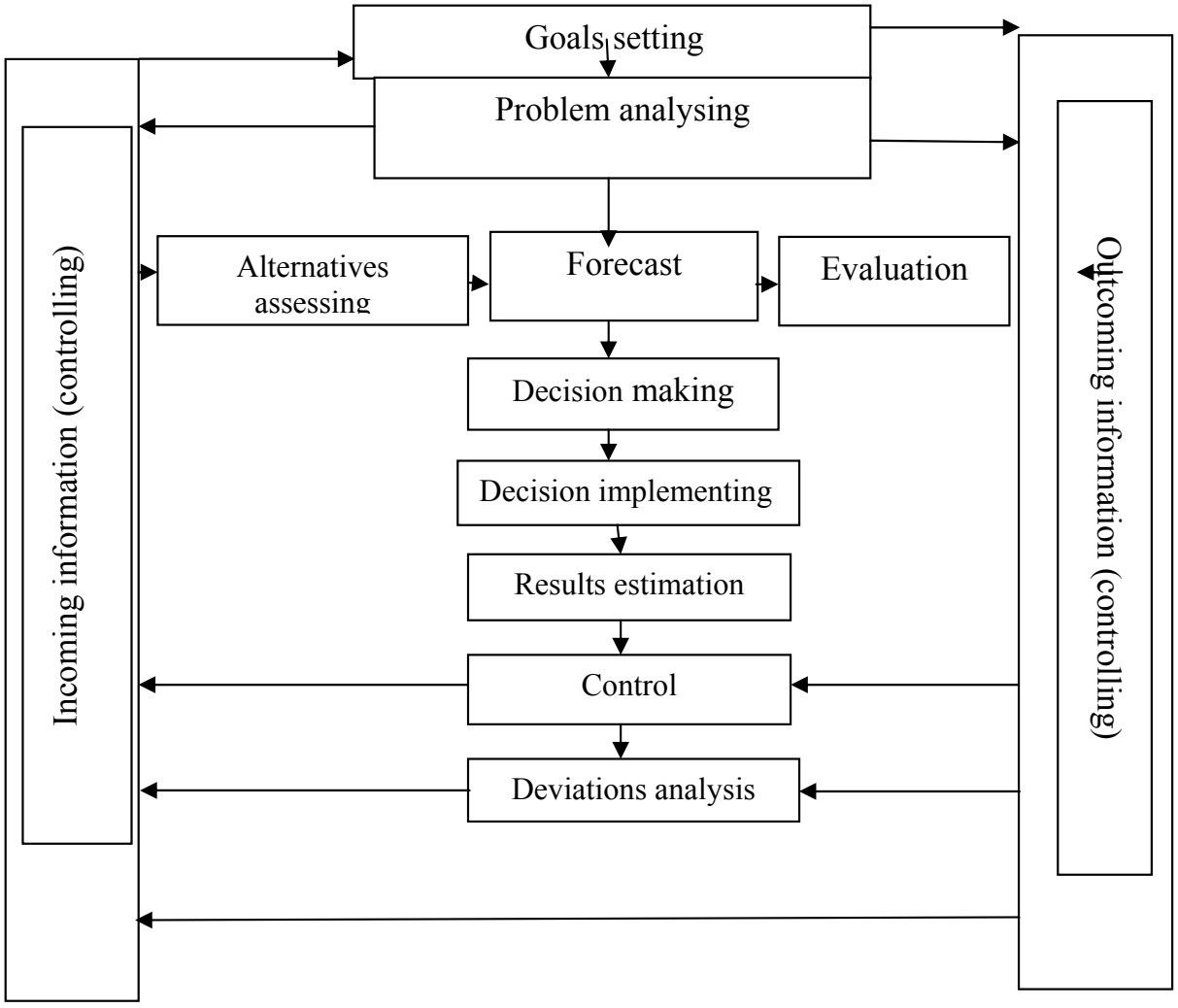

Fig. 2.1 Place of controlling in the enterprise management system

2.2. The process of implementation of controlling at the enterprise

The need to introduce controlling in enterprises can be explained by the following reasons:

- increasing the instability of the environment makes the subsidiary requirements for the management of enterprises;

- the complication of the enterprise management process requires a mechanism of internal coordination of the enterprise system;

- information excitement in the absence of certain information requires the construction of a special system of information management;

- general cultural striving for the synthesis, integration of various spheres of knowledge and human activity.

Implementation of controlling in an enterprise can take place in three directions (Fig.2.2):

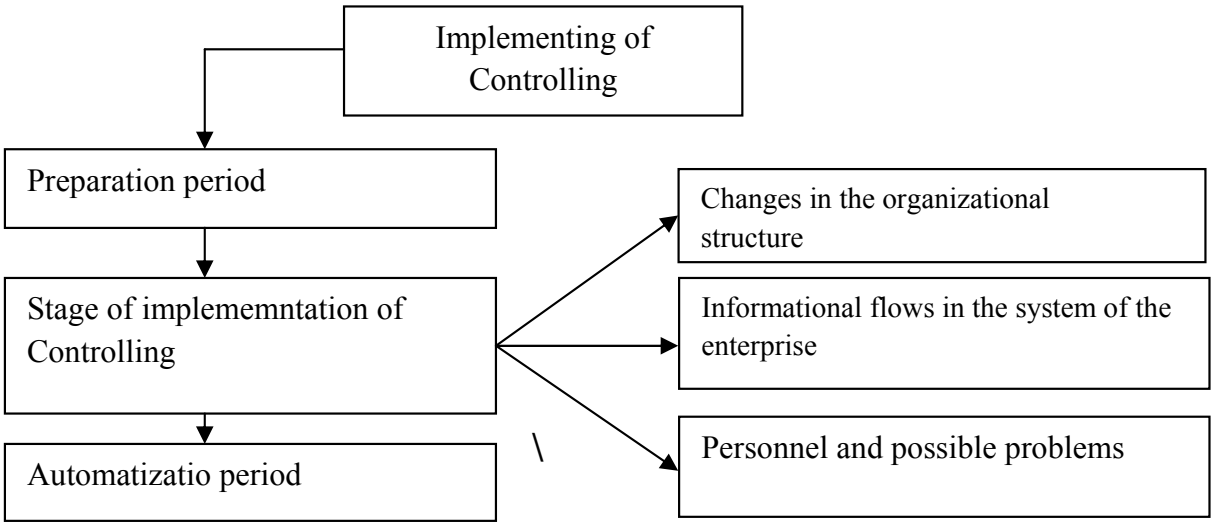

Fig. 2.2 Stages of the introduction of controlling in the enterprise

I. Preparatory stage (study of the current state of the enterprise, express analysis);

II. The stage of implementation of the controlling service;

III. The stage of automation.

The second stage includes the following areas:

- changes in the organizational structure;
- information flows in the enterprise system;
- staff and possible problems.

I. Depending on who will represent the controlling service at the company, and who will organize its implementation, there will be a preparatory stage.

The preparatory stage is a general introduction to the process of the enterprise. After agreeing with the head of the company the timing and stages of the implementation of the controlling service, it is necessary to make an order on his behalf to provide all the departments and services of this enterprise information, the list of which is attached, namely:

- passport of the enterprise;
- production structure of the enterprise;
- the staffing schedule;
- organizational structure of enterprise management, its functional and production structural divisions;
- the functions of the structural units and employees of the enterprise management apparatus;

- Strategic (5-10 years), medium-term (1-2 years), operational (quarterly, monthly, weekly, daily) plans and reports on production and economic activity of the enterprise and its structural subdivisions;

- annual reports on the activities of firms; company balance sheets (annual or quarterly);

- orders, letters from the ministry;

- orders for the company;

- normative and technical, methodological documents and legal acts regulating the relations of employees of the management apparatus in the process of performing their functions, laws, regulations on the enterprise, production units, structural units, job descriptions of specialists and technical executives, management procedures, norms and norms, document circulation , information streams, maps of the organization of work of employees;

- documentary audits and employee surveys, both internal consultants and external auditing consulting firms.

Also, the time and duration of the interview with the main specialists and the date of the presentation of the report, which should be attended by all interviewed, is also agreed upon. The main task of interviewing is to determine the relation of each department to the controlling service (for the purpose of facilitating understanding of the issue, they are divided into sub-themes: what role does this department play in planning (budgeting), how the department's activity is being analyzed, how the control is carried out). At the final stage of this stage, a report is drawn up in which it is necessary to formulate all the

positive and negative aspects of the enterprise's activity, defined using the methodological tools of controlling. On the basis of the conducted analysis, management is offered directions for elimination of deficiencies in the activities of the enterprise.

Controlling service should be based on operational accounting: analysis is carried out using operational data. Therefore, it is necessary to immediately adjust the personnel to the relevant work.

II. In case of agreement with the management on certain deficiencies, it is possible to begin the implementation of the second stage, in which each department begins a detailed study of all the main points, which should be discussed in more detail. At this stage, a controlling department is created, or a group of experienced and highly skilled employees, who are required to carry out tasks of controlling in the enterprise. If it is necessary employees should be trained at this stage.

1. Implementation of controlling practice cannot take place without a prior reorganization of the organizational structure and the definition of the goals and objectives of the enterprise. Only on the basis of a detailed study of the existing shortcomings in the work of the management apparatus, while taking into account the requirements of modern management, can reorganize the structure or make appropriate changes to the functional responsibilities of individual managers and develop projects to improve enterprise management.

The reorganization of the company involves the creation of a specialized department – controlling services. When creating

controlling service, it must be provided with operational access to information about the results of the activities of all structural subdivisions of the enterprise. And its functional responsibilities should be designed in such a way that they do not duplicate the work of other units and have been an indispensable advisor to all services and managers of all sections of management.

The organization of the controlling service at an enterprise should be formed in such a way as to ensure the operational flow of information flows from the shops to the controlling service. In this case, the allocation of controlling both the economic service and the enterprise management element will be a logical and justifiable phenomenon. In this regard, it is recommended to subordinate the controlling service directly to the head of the enterprise.

The main lines of action for implementing the controlling service are as follows:

- to implement the project it is necessary to create a working group, which includes representatives of the interested services of the underground

- the work of the working group should be regulated by the relevant instructions of the management of the company and subordinated to a solid plan of work, which will avoid possible errors arising from the lack of coordination of actions;

- before the start (or in the first phase) of the project, the strategic goals of the company should be formulated, and the objectives of the

control services should be in line with them (the principle of consistency of objectives);

- implementation of the controlling service is accompanied by a change in the company's document circulation system;

- to implement the implementation project of the controlling service, full support is needed for the company's managers, which will reduce the resistance of employees to changes.

Creating a controlling service one must take into account the following basic requirements:

1) subordination only to the heads of the highest structural unit of management;

2) allocation of controlling in an independent, independent and neutral service in the management system;

3) economic services of the enterprise should provide the controlling department with all necessary information;

4) obtaining additional information from other departments for analysis and processing of received data;

5) using in its work of advanced methods and technologies for the collection and processing of economic information;

6) provision of new means for timely receipt, processing, analysis of information and rapid transfer to its managers of the enterprise;

7) close links with other departments and a clear demarcation of employee responsibilities;

8) possibility of introducing new procedures for the collection of analytical information on an ongoing basis. The issue of compensation

for employees of other services for increasing the load should be addressed by managers for whom the information of control services is assigned;

9) ability to quickly bring information to the attention of senior management of the enterprise.

In accordance with the above requirements there are possible options for creating a controlling service and its place in the organizational structure of the enterprise.

Controlling can be implemented at the enterprise in four stages. Such an approach to the implementation of the controlling service is due to the fact that the small financial costs of maintaining its specialists and obtaining the required amount of information from other services will prove to be advantageous in its implementation and in the future will not raise doubts as to the increase in the cost of maintaining a separate controlling department.

At the first stage, it is proposed to develop only certain issues that fall within the competence of the controlling services. But questions can also be addressed by representatives of various divisions of the company (accounting, planning and economic department, financial department, etc.). These issues include: collection and submission of the necessary information to senior management in relation to the implementation of the adopted budget, the availability of financial, labour and material resources, the potential of the enterprise in the conquest of markets, its place among its competitors, etc.

At the second stage, on the basis of planning and economic department a separate group of employees can be created which in addition to their main responsibilities will perform the duties of controllers for additional payment. At the same time, the tasks facing the controlling service must be clearly divided between them. Delegation of controlling obligations may also be imposed on employees of other economic services.

At the third stage, it is possible to create an entire expert group that will deal with controlling issues. It can consist of highly skilled specialists who at that time worked as accountants, financial department, planning and economic department, etc. Since the duties that they perform will exceed what they have been doing before and have an element of a creative approach to their implementation then the pay of their work should be somewhat higher than before. The expert group develops a plan of activity and implementation of controlling in the enterprise, distributes the obligations between its executives, develops a plan of information flows, its composition, monitors the budget execution and achievement of the goals of the enterprise, etc.

At the fourth stage, under the condition of effective work of the expert group at the enterprise, a controlling department could be established in which there would be specialists in all necessary areas. Of course, the stages of implementation of controlling in the enterprise may be different however, in our opinion the basic requirement for their creation is that at any stage of implementation in the service of

controlling should above all include professionals who have worked in the company for a long time know the economic status and potential.

Like any business unit, the controlling service must establish a connection with other services and departments within a specified period establish information collaboration, and then a more precise division of functions will take place. Subsequently, the controlling service will expand its influence and state.

As already mentioned earlier, it is expedient to subordinate the controlling service directly to the director at the enterprise.

Moreover, the controlling service will inherit a privileged position in some way since on the order of the director other services

2. In our opinion, special attention should be paid to one of the directions – the information flows in the controlling system at the enterprise, in the implementation of the controlling service.

The system of information flows – the most important element of the control system in the enterprise. The process of management itself is often viewed as a process of information transformation: managerial influences are special information. In the theory of information, it has been mathematically proven that there is some minimal amount of information without which effective management is impossible. So, the more diverse the control of a control object can be, the more information is needed. As for the enterprise, this means that the more economical the environment is the more complex the internal structure of the enterprise itself, the more information is needed for effective management. Therefore, it's impossible to manage without having the

information right now. Consequently, one of the main tasks of controlling – information management support, it can be solved only if the system of information flows in the enterprise is clear and coherent. That is, controlling serves as the supplier of information necessary for the functioning of the management system at the enterprise.

The system for collecting controlling information is based on the existing system of information flows. That is, the system of information flows controlling should organically interact with the general system of information flows of the enterprise, otherwise it will be a rejection by the employees of the enterprise imposed on him controlling system.

Often, the most general system of information flows cannot stand the critique: the documents are too slow; noone is responsible for the document as a whole, everyone is responsible for part of the document. In this case, it makes no sense to integrate the controlling subsystem, which should work well, into a system that is not functioning properly (and then the controlling system will work unsatisfactorily as it relies on information from the general system). In addition, having dealt with the system of information flows of the enterprise, you can find a large number of shortcomings in the work, the extra links that can be eliminated (in this connection controllers at the enterprises will have sufficient powers). Within the framework of the implementation of the controlling service, the restructuring and optimization of the entire system of information flows in the enterprise is underway. Such an interpretation goes beyond the scope of controlling, but in practice it

will have to deal with it in order to achieve a satisfactory result in the system of controlling in the enterprise.

The main task of the controlling service at the enterprise is to provide operative collection and analysis of information for the purpose of quality management. The managers of the enterprise - the general director, the financial director, the heads of departments – must receive information in order to take appropriate measures and adjust the work of the enterprise in the event of deviations in the work of the enterprise.

3. Controlling is a new phenomenon at the enterprise; therefore, its implementation can be counterproductive. It is advisable to highlight the main issues that may be encountered by managers in the process of implementing a controlling service:

- resistance of the employees of the enterprise,
- increase of work volumes on employees during introduction of control system;

In order to overcome resistance, to quickly achieve the first results, and then to approve a stable operating system of control at the enterprise, it is necessary to prevent the emergence of difficulties, analyzing the causes of their occurrence, and also apply the proposed measures of confrontation.

The main factors that determine the speed of the introduction of any innovation, as well as factors that help and at the same time hinder the rapid implementation of controlling is given in Table 2.1.

Overcoming the confrontation with the introduction of the controlling service can be done in different ways (these methods are recommended to be combined):

Imitation.

If some enterprises introduce new systems and management methods, others do the same just because they are in a similar situation and tend to impose. The spread of new methods is often compared with infectious disease. In addition, there is a kind of synergistic effect: the attractiveness of introducing innovation and imitation of others. The desire for imitation can be explained by the need to be "like everyone", associate with the target group ("all leading foreign and Ukrainian enterprises implement controlling, we also introduce, therefore, we are advanced"), an attempt to raise their status. Therefore, in the process of explaining the methods and tools of controlling, special attention should be paid to the experience of well-known western and Ukrainian enterprises that successfully use controlling in their daily work (concern in Spain).

Skills.

Workers who enjoy work, seek to improve their skills, to apply new methods, and this further increases their interest in the work. Therefore, especially in dealing with skilled professionals, you need to try to influence professional pride. It is worth emphasizing the creative aspects of controlling.

Survival.

In a crisis situation in the introduction of new methods of controlling may be important for the survival of the enterprise. If employees understand this and are committed to their company, resistance to change will be minimal.

Table 2.1.

Factors that facilitate and prevent the introduction of controlling in the enterprise

The factor that influences the speed of implementation	Advantages of controlling implementation	Disadvantages of controlling implementation
Effect of implementation: - economic -social	- Improving the quality of enterprise management in the short and long term; - A new opportunity for rapid promotion through the creation of a controlling department (status enhancement)	- Imperfection of existing methods of analysis; - Threat to status groups (accounting, planning department, etc.) and individuals (heads of relevant departments)
Compatibility: - with corporate culture; - with methods of information management management	Depends on an enterprise	- Moderately low; - Low with traditional systems
The complexity of the innovation	The simplicity of the models	Complications in comparison with traditional methods; the need for additional training
Divisibility of the novelty, the possibility of an experiment	Ability to start with implementation in one unit, then to extend the experience to the entire enterprise	The full effect is observed only after implementation in the enterprise as a whole
Visibility	The first results are immediately visible to the manager	The full result does not appear soon

Status support.

One way to achieve a high status is to have knowledge that is important to everyone. Knowledge of controlling techniques is a great opportunity to establish your status.

III. The implementation of the controlling service as a rule should be accompanied by the automation of the controlling information service; otherwise, a large part of the positive effect of the introduction of the controlling system may be lost irrevocably. However, some problems that accompany the process of implementing the information system are well-studied, formalized and have effective decision-making methodologies. An early study of these problems and readiness for them will greatly facilitate the implementation of the controlling service and increase the efficiency of further use of the system.

Consequently, the proposed approach to the implementation of the controlling service has advantages over traditional management models because it focuses on the achievement of the planned strategic objectives, and not only monitors past events. It is clear that the ordering of the work of the controlling service is always associated with certain costs, both financial and moral, but the return justifies the reorganization of management and improves the quality of the managers at the enterprise.

Also, the study of the general aspects of the introduction of controlling service in modern economic conditions will allow modernizing the organizational and informational structure of domestic enterprises in a way that solves the basic problems of their

development. This is a very important task that enables to improve and optimize the results of the respective enterprises, their separate units and the problem of stabilization and development of the Ukrainian economy at the present stage and to determine the success of enterprises not only in the present but also in the future.

2.3. Principles of controlling organization at the enterprise

There are two groups of principles of organization of controlling at the enterprise: the principles that characterize the requirements for the formation of a system controlling a particular organization, and the principles that determine the direction of further development of this system.

Principles that characterize the requirements for the formation of a control system of a particular organization:

1. Principle of conformity of functions of the control system to the objectives of the organization.

The functions to be performed by the controlling system must be formed and subsequently changed not by chance, but according to the needs and functions of the organization.

2. Principle of the primacy of functions of the control system.

The organizational structure, requirements for managers, their composition and number should take into account the content, quality and complexity of the functions of the control system.

3. Principle of optimality ratio of managerial orientations.

It dictates the need for a predominant orientation of controlling function for the development of production, compared to functions aimed at ensuring the functioning of production.

4. Principle of cost effectiveness.

5. Principle of complexity.

When organizing a controlling system, all factors that have an impact on the organization's management system (connections with higher level bodies, contractual relationships, state of the subject of management, etc.) should be taken into account.

6. The principle of promising.

When forming a system of controlling should take into account the prospects of the organization as a whole.

7. Principle of efficiency.

Decisions on the analysis and improvement of the control system which prevent or eliminate deviations in its functioning must be timely restricted.

8. Principle of optimality.

The most rational option for specific production conditions should be chosen.

9. Principle of scientific knowledge.

Development of measures for the organization of the control system should be based on the achievements of science and take into account changes in the laws of the development of social production in market conditions.

10. Principle of hierarchy.

11. Principle of autonomy.

12. Principle of consistency.

13. The principle of stability.

14. Principle of multidimensionality.

Management of the controlling system both vertically and horizontally can be carried out on different channels: administrative, economic, economic, etc.

The principles that determines the direction of further development of the control system:

1. Principle of specialization.

Labour in the controlling system divided. There are separate units specializing in the implementation of homogeneous functions.

2. Principle of parallelism.

It provides simultaneous execution of individual management decisions, increases the efficiency of control system control.

3. Principle of adaptability (flexibility).

It means the adaptability of the controlling system to the changing objectives of the organization as a whole and its conditions of existence.

4. Principle of continuity.

There is lack of breaks in the work of the workers involved in the control system, reducing the processing time of documents.

All principles of organization of the control system are realized in interaction. Their combination will depend on the specific conditions of the model of the motivation model of work.

2.4. Structure and composition of the controlling service at the enterprise

Introduction to the organizational structure of domestic enterprises controlling service is a very new phenomenon, the correctness of which depends on the efficiency and quality of this service.

In our opinion, the decision of this problem must be preceded by:

- studying of all known types of organizational structures; their advantages and disadvantages; the expediency of introducing a controlling system;

- studying of the organizational structures of the western enterprises that successfully practice the control system; their critical assessment and the ability to adapt to domestic enterprises.

Study of organizational structures of different types leads us to the idea of uniformity in the order of forming elements of the organization of the structure, that is, developing it from top to bottom. Thus, the primary task is to divide the enterprise into a wide range of areas, which is a part of the competence of senior managers, and then to set specific tasks entrusted to managers of middle and lower levels.

The sequence of actions of the management when designing an organizational structure (Figure 2.3) has general directions that can be deepened and specified depending on the chosen organizational structure, as well as on the specifics, goals and objectives of a particular enterprise.

However, one should pay attention to the fact that the basics of the organizational structure are plans of the enterprise, which are

inherently changing. These changes cause the corresponding changes in the structure. In this regard, the process of changing the organizational structure should be referred to as a permanent process of reorganization. And management of enterprises should regularly evaluate the degree of adequacy of their organizational structures and change them as it is required by external and internal conditions.

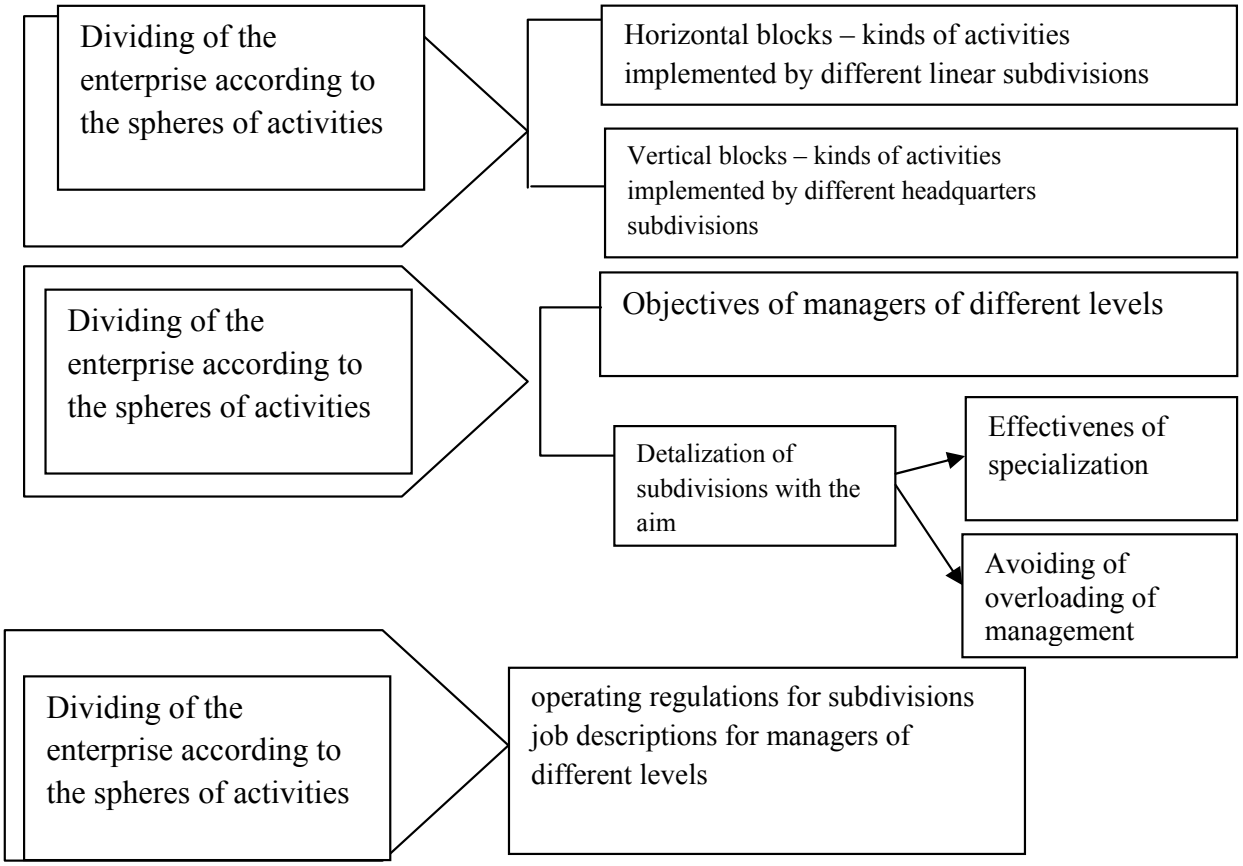

Fig. 2.3. The sequence of actions when designing any organizational structure

The study of alternative approaches to the construction of organizational structures at the enterprise allows us to focus on the peculiarities of each of them in order to highlight positive and negative

points, as well as to assess the feasibility of introducing the controlling service into a structural organization.

Controlling Service (CS) is an independent structural subdivision of an enterprise operating on the basis of the Company's Charter and the Regulations and is subordinated directly to the head of the enterprise.

The structure and number of CS are determined by the staffing schedule, which is approved by the head of the enterprise.

The main tasks and functions of the CS are in close cooperation with other units of the enterprise, which consist in obtaining and transmitting information and improving business processes.

2.5. Main tasks and functions of the controlling service

- coordination of management activities to achieve the objectives of the enterprise.

- information and consulting support for making managerial decisions.

- creation and maintenance of functioning of the general information management system of the enterprise.

- ensuring the rationality of the management process.

- implementation of planning, monitoring and analysis systems.

- ensuring staff motivation in improving the efficiency of the company.

- development, implementation of forms and methods for improving the quality of the enterprise management system.

- development and implementation of measures to implement the policy of improving the quality of the enterprise management system.

- methodical and organizational management of work on improving the quality of the enterprise management system.

- studying, generalization and dissemination of best practices in improving the quality of the enterprise management system.

- organization of work on the introduction of modern technology from controlling in the process of enterprise management, their normative and methodical and software.

Controlling Service Functions:

- introduction of alternative proposals to the management of the company, which will help to make effective management decisions on improving the quality of the enterprise management system

- assisting the company's management in adopting an alternative strategy in accordance with the enterprise's chosen business purpose, that is, developing strategic budgets, establishing control indicators, developing current supply plans, manufacturing, conquering markets, allocating capital, and providing labor resources within long-term plans.

- assessment of the company's performance, monitoring compliance with budgets to achieve the goal of the company, monitoring the implementation of tasks by individual structural units, developing unified methods and criteria for evaluating the activities of the enterprise and its individual units.

- analysis of controlled indicators, deviations from the given parameters, determination of the degree of influence of each factor on the final results of the company's work, consultation of company managers regarding the development of measures to prevent the identified deficiencies in the future.

- creation at the enterprise of the system of encouragement of individual workers to increase the efficiency of their work in order to achieve the intended purpose of the enterprise.

- ensuring implementation of the methods and concepts of improving the quality of the enterprise management system known in domestic and international practice.

- collecting and analyzing data on market conditions; comparing the data of the enterprise to the achieved results of competitors; substantiation of expediency of merger of an enterprise with other firms, or opening of new branches; carrying out costing of individual orders; calculations of efficiency of investment projects; possible participation of the company in various competitive events for raising the image of their own production, etc.

2.6. Information flows in the controlling system

Controlling is the supplier of the information that is necessary for the operation of the management system at the enterprise. Information is a collection of information that reduces the degree of uncertainty. Therefore, the information must meet the following requirements:

- authenticity;

- completeness;

- relevancy (materiality);

- utility (effects from the use of information must exceed the cost of obtaining it);

- clarity;

- timeliness;

- regularity.

Such requirements should correspond to any information, including information of traditional accounting (financial) accounting. However, the significance of different requirements may be different: if for accounting (financial) accounting, the main thing is the reliability of information, then for controlling – the relevance of information (how much it is essential for making managerial decisions).

All other information requirements in the context of controlling play a subordinate role: insignificant information, even if it is completely reliable, cannot help in making managerial decisions; at the same time, substantial, but reliable only 95% – may prove to be useful to the leadership.

For making managerial decisions can be considered only data directly related to this decision:

- the conditions in which the decision is made;

- target criteria;

- a set of possible alternatives (which decisions can in principle be taken);

- the consequences of the adoption of each of the alternatives (which will happen if a decision is taken). The functioning of any management system requires the proper organization of information provision, that is, the availability of a set of processed statements on the status of financial and economic activities that meet the requirements of the manager block. In its turn, the information support includes an information system that has the necessary information fund (personnel and technical means) and information flow system. The information system is the communication of the personnel of the company with regard to issues relating to their professional activities.

Information flows are the physical movement of information from one employee of the enterprise to another or from one subdivision to another.

The system of information flows is a set of physical movements of information, which allows you to implement any process, implement any solution. The most common system of information flows is the amount of information flows that allows an enterprise to conduct financial and economic activity. Information flows ensure the normal operation of the enterprise. The purpose of working with information flows is to optimize the work of the company.

There are many methods to achieve this goal. The basis for the study of information flows is the following sequence:

- analysis of existing information flows at the enterprise in order to optimize the entire system of information flows;

- formation of information flows of operational control and their organic inclusion in the system of information flows of the enterprise;

- development of an integrated approach in the study of information flows in the preparation of a project for automation of accounting, control and analysis at the enterprise.

Consequently, the main purpose and purpose of information flows is to optimize the work of the enterprise. The way of achievement this goal is considered by different authors in different ways.

The information collected in the control system for processing and analysis must meet the following requirements:

- timeliness, that is, information on costs, revenue, profit should come when it still makes sense to analyze it;

- probability (in order not to spend extra time and time to check information);

- verbaleness (meaningfulness), that is information should help to make decisions;

- utility (the effect of using information should cover the cost of obtaining it);

- completeness, that is there should be no omissions;

- clarity, that is, information should be easy to decipher it;

- regularity of receipt.

The above arguments confirm the need to automate the entire information process at the enterprise. The volume of constantly moving

information flows in modern enterprises is so great that manual processing of information will not only be very costly, but also inappropriate and ineffective for the purpose of operational data representation for making managerial decisions.

Information flows, when they do not deal specifically with them, are far from perfect: duplication of information may occur; it can reach the addressee; after the receipt of the information may need to be clarified. Hence the need to improve the system of information flows, to change the algorithm of passage of documents, automation of the transmission of information. What about the control system?

The system of information flows controlling must be organically embedded int the general system of information flows of the enterprise, otherwise the company will be rejected by the employees of the company imposed on it by the system of controlling, and as you know, if a large number of people rejects something, then it is practically impossible to implement. As part of the work on the implementation of the control system, there is a restructuring and optimization of the whole system of information flows (the entire economic document flow) at the enterprise. Such an interpretation goes beyond the scope of controlling, but in practice it will have to deal with it to achieve a satisfactory result in the controlling system.

If the controlling service takes care of the order in the economy of the enterprise, then it is expedient to include automation in the sphere of interests of the controlling service. Automation department deals with writing programs, debugging them, detecting mistakes in

purchased programs, installing computers in the workplace, and the controlling service can handle the task, so as not to lose the main goal of automation – improving the efficiency of financial and economic services.

Before the controlling service at the enterprise, the task is to ensure the prompt collection and analysis of information regarding the activities of the enterprise and its interpretation in order to effectively make managerial decisions.

Control questions

1. In which document is the acknowledgment of expenses?
2. What is the difference between the concept of "expenses" in accounting and tax accounting?
3. What is the necessity of classification of costs?
4. What are the signs that can be used as a basis for cost classification?
5. What types of costs are divided in relation to the volume of production?
6. What are the differences in costs grouped by cost articles and economic elements?
7. What are relevant and irrelevant costs?
8. What types of costs are divided depending on the control of execution?
9. What costs belong to the costs of the period?
10. What is the marginal cost of production?

11. How exactly does the total cost of production differ from its production cost?

12. Define the terms "cost center", "responsibility center", "profit center", "revenue center", "investment center".

13. What are the principles underlying the classification of responsibility centers?

14. Specify the factors that affect the choice of cost centers?

TOPIC 3. CENTERS OF RESPONSIBILITY AS AN OBJECT OF CONTROLLING

Content

3.1. The concept of responsibility in controlling and the concept of liability centers.

3.2. Classification of responsibility centers.

3.3. Principles of allocation of responsibility centers at the enterprise and the basic requirements to them.

3.1. The concept of responsibility in controlling and the concept of liability centers

Each enterprise has its own organizational structure, which defines its divisions and the order of interaction between them. The divisions of the company perform various functions and have different names: shops, departments, services, departments, sections, etc. These divisions are headed by managers responsible for their work.

In small businesses the same person (owner or chief manager) often manages economic activities and makes important decisions. But the ability to manage a person has certain limitations. Therefore, in the event of an increase in the scale of business and the complexity of its structure, there is a need to distribute decision-making powers between different levels of government.

For example, the owner of a small store can manage this store independently, by himself. But if he becomes the owner of several

stores at once in different areas, he will be forced to appoint managers and give them the authority to make some decisions on their own.

Delegation of decision-making powers means the decentralization of governance.

The benefits of decentralization:

- ✓ the ability of senior management to focus on global strategic issues and solutions;
- ✓ prompt decision-making at appropriate levels of management;
- ✓ decisions are made by those managers who understand deeply the essence of the problem;
- ✓ managers gain management experience.

Disadvantages of decentralization:

- ✓ complication of the coordination process;
- ✓ the possibility of unhealthy internal competition;
- ✓ increase of maintenance costs for maintenance staff;
- ✓ the emergence of the danger to lose control.

Getting the right to make decisions independently means also gettting the responsibility for its consequences. Therefore a unit headed by a manager who is responsible for the results of his activities can be called the "center of liability".

The center of responsibilityliability is a set of functional actions, for the direction and efficiency of which a certain person is the responsible.

In the management system, a senior manager should monitor and evaluate the work of lower level managers, and they, in turn must carry

out self-monitoring and inform the senior management about the results of the activity. To implement such control and ensure accountability of managers, an appropriate accounting system is needed to ensure that the process of collecting, processing and communicating information about the results of the activities of each center of liability is ensured. Such system is accounting of the centers of liability.

Accounting of liability is a system of accounting that provides control and evaluation of the activities of each center of responsibility. An effective accounting system for the liability centers is based on the following principles:

♦ managers are only responsible for the activities under their control;

♦ managers participate in defining the goals with which their activities are assessed;

♦ managers are trying to achieve the goals set before them and their divisions;

♦ clear definition of the role of accounting in the system of employee incentives;

♦ reports on the implementation of plans and budgets are scheduled and used practically for the assessment of the centers of responsibility.

Therefore, now **the main task of accounting of the centers of liability** is not control, but assistance in organizing self-control and help managers in drawing up reports on the implementation of plans and budgets to assess the performance (Figure 3.1).

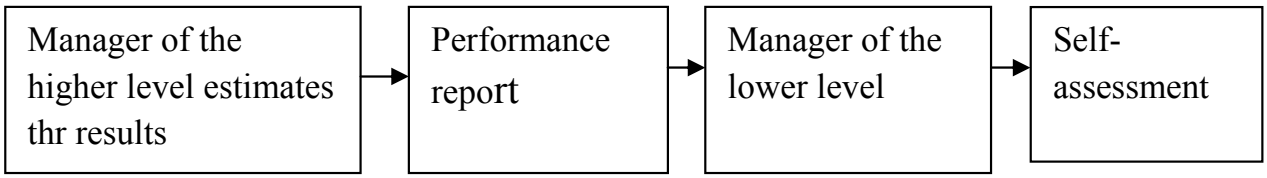

Fig. 3.1 General scheme of accounting of responsibility

Creation and functioning of the accounting system by the centers of responsibility provides for:

- determining of centers of responcibility;
- budgeting of each center of responsibility;
- regular reporting on performance;
- analysis of the reasons of deviations and assessment of the center's activities.

3.2. Classification of responcibility centers

The basis for accounting of the centers of liability is the consolidation of costs and incomes of managers of different levels and systematic monitoring of their implementation of approved budgets.

In this regard, the first step in organizing of such accounting is the allocation of appropriate centers for the purpose of securing responsibility. First of all, the allocation of centers of responsibility takes into account the organizational and technological structure of the enterprise, job descriptions, which establish the rights and responsibilities of specific employees.

Differences in the nature of managerial responsibilities make it possible to distinguish subsystems of enterprises as centers of responsibility:

Table 3.1.

The controlling system at the agricultural enterprises

Subsystems of enterprise (the liability centers)	The controlling blocks	The activities directions	The examples of the controlled figures
Production (processing)	Operational controlling	Stock management, cost management	Crop capacity, productivity
Logistics	Controlling of logistics	Analysis of delivery terms in conjunction with costs	Delivery time, fullness of the carrier
Marketing	Sales control, controlling of pricing	Customer analysis, volumes, market share, access to new markets, diversification	Margin, profitability, sales volume, parties
Foreign economic activities	Controlling of foreign economic activities	Organization of foreign economic activity, study of new markets, analysis of efficiency	Foreign trade volumes, revenues from foreign economic operations
Personnel	Personnel controlling	Analysis of labor costs of personnel for processes, system of motivation for the result, professional improvement	Time of execution of processes, tasks
Finance	Financial controlling	Management of money, investments	Profit, current assets, financial cycle, rent-free production, return on investment
Senior management	Strategic controlling	Establishment of strategic and operational goals, corporate culture, social and ecological responsibility	Financial results of the enterprise
Investments	Investment controlling	Analysis of investment efficiency	Alternative costs, return on investment projects
Innovations	Controlling of innovations	Search and analysis of risks and efficiency of innovations	Return on investment in innovative projects

3.3. Principles of allocation of responcibility centers at the enterprise and the basic requirements to them

Often in practice the following principles are applied: functional, territorial, organizational structure and similarity of structural costs.

According to the functional principle, the following centers of responsibility are distinguished:

- service providers – rendering services to other centers of liability within the enterprise (electric substation, dining room for the staff, etc.) - these are auxiliary centers;
- material liability centers serve for the procurement and storage of materials (logistics department, warehouses); it can be both main and auxiliary centers. Usually the costs of material liability centers can be attributed to a specific type of product;
- production centers of liability – these are subdivisions of the main and auxiliary industries. Expenditures of the main production units can usually be attributed to specific products. Costs of auxiliary production centers are included in the cost of production indirectly (through the main centers of responsibility).
- management centers of liability – plant management, accounting department, legal department, etc. The costs of these centers are not directly related to specific types of products. In practice, they are usually distributed according to the types of products in proportion to the chosen base (salary, direct costs);

- sales centers responsible for the sale of products (marketing department, sales department); these are the main centers of responsibility, their work can usually be correlated with specific types of products.

According to the territorial principle there are two variants of division into centers of liability:

Within the framework of one center of liability, several functions are united. For example, some companies have several offices in different regions, and each office is engaged in marketing, product marketing and contract tracking. These representations are small, and therefore it is not rational to divide them into smaller centers of liability. Each such representation becomes the only center of liability that combines several functions: marketing, advertising, sales and tracking of contracts;

One functional area of activities is divided into several centers of liability. For example, the company has several warehouses located in different parts of the city.

The choice of a method for dividing the enterprise into the centers of liaibility is determined by the specifics of the particular situation, while the following requirements must be taken into account:

- there should be indicators for measuring the volume of activity and the basis for the distribution of costs in each cost center;
- there should be one responsible person with powers in each center;

- the degree of detailization should be sufficient for analysis, but not excessive, so that keeping records is not too laborious;

- it is desirable to include only direct costs in the centers of expenditure, and the distribution of general economic costs should not be taken into account;

- since the division of the enterprise into the centers of responsibility strongly influences the motivation of the heads of the relevant centers, social and psychological factors must be taken into account.

Division of thean enterprise into the centers of liability is the basis of management and represents the most important element of the whole system of controlling.

Control questions

1. What is the transformation of accounting in part of the formation of information for management?

2. What are the most significant features of management accounting?

3. What exactly preceded the formation of management accounting in Ukraine?

4. How are the existing management accounting methods classified?

5. What exactly are the advantages of the "standard-cost" system in comparison to other methods of accounting for production costs?

6. Describe the disadvantages of the "standard-cost" system.

7. What are the features of the "direct costing" system?

8. Name the main advantages and disadvantages of the "direct costing" system.

9. In what cases can the enterprise keep records of full costs and calculate the price of the product depending on the level of its cost price?

10. Is it possible to use controlling under the condition of keeping records only at full cost?

11. What advantages does the accounting of coverage amounts provide to the controlling service?

12. Name the weaknesses of accounting for coverage amounts.

13. What are the characteristic features of the organization of the accounting of coverage amounts of the first and the second types?

14. What expenses does the first and the second type of accounting of coverage amounts deal with?

TOPIC 4. SYSTEM OF PLANNING AND BUDGETING AT THE ENTERPRISE

Content

4.1. The essence of planning at the enterprise

According to the concept of controlling the enterprise is considered to be a social and technical system; managing it is considered to be a decision-making system; planning and control are the central functions of the enterprise management system; planning and control calculations are the methods of developing plans and reports of the enterprise. In general, it is a complete concept of controlling, the core of which is planning and control. [33]

Planning as an independent branch of knowledge is a science, a specialized type of management activity and art. It should be considered as an important function of enterprise management, as a process of determining the goals that the company intends to achieve over a certain period.

The essence of planning is to substantiate the goals and ways of achieving them, as well as to identify the necessary resources and effective methods. At the same time, it is important to systematically develop a course of action for the future in order to make today such decisions that would give the company the desired results in the future. Different activities of enterprises should be coordinated (regulated) in accordance with the program of action in future periods.

Planning allows:

- to determine the place and time of manufacture and sale of finished goods;

- to identify the target segment of potential consumers of manufactured products;

- to determine the quantitative and qualitative characteristics of the resources necessary to achieve the set goals;

- to ensure the efficient use of resources, that is, to maximize the net profitability of net assets.

The planning process should, to the maximum extent, provide for a comprehensive study of the reality, trends and patterns of development of the planning object and the environment of its activities. Planning the economic activity of the enterprise should be based on such principles as target orientation, systemicity, continuity, balance, optimality of the use of resources, adequacy of the object and subject of planning.

In terms of content and form of manifestation the following forms of planning and types of plans can be distinguished:

1. In terms of compulsory planning tasks – directive planning and indicative planning.

Directive planning is a decision-making process that is mandatory for planning objects. For non-fulfillment of planned tasks, heads of business entities have disciplinary responsibility. Directive plans as a rule are targeted and distinguished by considerable detail. Legal planning is considered one of the main disadvantages of the command and administrative management system. However, along with this directive planning can serve as an effective means of solving problems of national importance: environmental protection, defense, social policy, structural adjustment of the economy, etc.

Indicative planning is a widespread form of state planning for macroeconomic development in the world. Indicative planning is the opposite of directive planning. Indicative plan is not mandatory for character execution. It may contain mandatory tasks, but their number is very limited. In general, it is a steering, recommended character.

2. Depending on the period for which the plan is being prepared, and the degree of detail of the planned calculations, it is long-term (perspective), medium-term and short-term (operational) planning.

Prospective planning covers a period of more than 3 years. Such plans are intended to determine the long-term strategy of the enterprise, including social, economic, scientific and technical development.

Medium-term planning is carried out for a period from 1 to 3 years. In some enterprises, mid-term planning is combined with

operational. In this case, there is a three-year plan in which the first year is detailed to the level of the operational plan and is, in essence, an operational plan.

Operational planning covers a period of up to 1 year, including semi-annual, quarterly, monthly, weekly, ten-day, and day-time planning.

3. The content of the planned decisions are strategic, tactical, operational-calendar and business planning.

Strategic planning, as a rule, focuses on the long-term perspective (over 3 or 5 years). The strategic plan should provide a general strategy for future development, the main objectives of the enterprise for the future, as well as a formalized strategy taking into account the external environment and internal features of the enterprise. In strategic planning, decisions are made on how to expand business boundaries, to stimulate the process of meeting the needs of consumers, what efforts should be spent to meet market demand, which markets should be possessed, which partners are worth to have business with.

The main objective of strategic planning is to create the potential for survival of an enterprise in an environment that is rapidly evolving and generates unforeseen prospects.

Tactical planning should be considered as a process of creating prerequisites for the realization of enterprise capabilities. The result of tactical planning are technical and economic plans, which reflect the measures to expand production and improve its technical level, updating and improving the quality of products, more fully utilizing the

scientific and technological potential, etc. At tactical planning, a plan is drawn up for the company's economic and social development, which is a comprehensive program of production, social and economic activity of the firm for a certain period.

Tactical planning allows you to realize existing reserves, which can be expressed in increasing production volumes, reducing costs, improving product quality, increasing productivity, reducing capital costs, etc.

Operational-calendar planning (OCP) is the final stage in the planning of business activities of an enterprise or organization. The main tasks of the OCP are the specification of the indicators of the tactical plan in order to organize the daily planning and rhythmic work of the enterprise and its structural subdivisions.

Business planning aims to assess the appropriateness of a particular innovation. This is especially true for innovations that require large investments for their realization. The business plan of an investment project is being developed for justification:

- current and future planning of enterprise development, selection of new types of activities;

- possibilities of obtaining investment and credit resources, as well as repayment of debts;

- proposals for the creation of joint and foreign enterprises;

- appropriateness of state support measures.

In planning theory and practice, other classification features of planning can be distinguished, which cover both the main and

secondary aspects of this process. Of all types of planning for controlling, the immediate and strategic planning is of paramount importance. These types of planning are the starting elements of operational and strategic control systems.

4.2. Budgeting at the enterprise

To address these and many other problems that arise in planning, it is advisable to use such a controlling instrument as budgeting.

Budgeting is a necessary component of financial planning, as the basis of any operational or current financial plan is the system of relevant budgets. As well as current planning in general, budgeting is aimed at the phased transformation of the strategic financial plan into the system of current plans, their consistent implementation in order to achieve the strategic goals of the enterprise.

The budget and, accordingly, the budgeting process are narrower concepts than the financial plan and financial planning. The plan includes the entire spectrum of actions aimed at achieving the formulated goals, which can be described both through formalized quantitative assessments and by describing qualitative indicators. The budget is a working tool for financial planning, which facilitates the implementation of planned plans and makes more justification for their adjustment.

A budget is a financial document related to a particular activity in which the revenue and expenditure of cash, income and expenses of the

structural unit or the enterprise as a whole are coordinated and recorded according to the volume and distribution in time.

Budgeting is a process of preparation, compilation and approval of a system of interconnected budgets, agreed upon by time, direction, activity or units or centers of responsibility. Budgeting, as well as financial planning as a whole, involves monitoring the implementation of budgets with further regulation of the company's activities or making changes to the budget system in order to reconcile budget figures with the actual ones. It covers all areas of financial and economic activity of the enterprise (production, sales of products, management of financial flows) and coordinates the activities of all its divisions.

The main functions of budgeting include planning, coordination and control functions. In the process of budgeting specify the planned and calculate the supporting financial indicators, as well as determine the sequence of actions aimed at their achievement, coordinate the activities of various divisions of the enterprise and various types of its production and economic activities. Implementation of the budgeting at the enterprise means not only the drafting of the budget system, but also the constant monitoring of their implementation, analysis of the current situation and making adjustments to the budgets in the course of their implementation, depending on changes in the activities of the enterprise and market conditions. Budgeting helps to identify weak links in financial security and organizational structure of the enterprise, solving communication problems and distributing responsibilities

between separate units and participants in the production process, ensuring proper discipline

Table 4.1.

Phases of budgeting at the enterprise

N	Contents of the stage (events)	Executors
1	Developing (refining) of the strategic goals	Strategic Planning Team, Controller
2	Making and advising top and middle managers of the "budget resolution" (planning letter)	Central control service, signed by the board
3	Development of special primary forms for collecting information and bringing them to those responsible for filling them out	Controlling department
4	Filling in the primary forms and sending them to the controlling department	Structural subdivisions
5	Development of financial forecasts, planning and analysis of alternatives (alternative ways of attracting and using resources)	Controller in cooperation with the relevant services
6	Balancing plans by optimally combining existing alternatives	Controlling service
7	Координація показників різних бюджетів	Controlling service
8	Fixing agreed indicators in specific budgets	Controlling service
9	Approval of budget indicators and bringing budgets to executives	Senior management. Management of the
10	Budgetary control: the definition of deviations of the actual indicators of planned plans and the analysis of the causes of deviations	Controlling services in cooperation with budget executors
11	Reporting (preparation of interim and final reports) on the results of budget	Controlling service
12	Adjusting of plans and budgets according to the recommendations contained in the reports	The group of strategic planning, management of the enterprise, the controller

It is the budget process that allows the timely detection of inconsistencies in the activities of individual units of the enterprise, inefficient use of resources, low level of management of stocks or cash.

Mandatory stages of budgeting are:

• analysis of the implementation of budget indicators for previous budget periods or in the case of the first budgeting, analysis of financial performance of the enterprise for previous reporting periods;

• taking into account budget execution data for previous periods and possible changes in the enterprise's activities in the future;

• approval of the budget, as a result of which the budget becomes mandatory for the relevant departments and their employees;

• execution of the budget with the monitoring of the accuracy of its compilation and execution;

• control over budget execution and analysis of control results;

• Adjustment of the budget or enterprise activity in order to reconcile budget and actual indicators.

4.3. The directions of budgeting at the enterprise and types of budgets

Budgeting is carried out in two main directions (Figure 4.1):

- preparation of functional budgets, i.e. budgets of units of enterprises. Accordingly, the unit for which a budget can be drawn up and monitored for its implementation is a budget center, and these functional budgets are called current operating budgets;

- development of standards (norms) of expenses for the production of individual products (or services).

The interrelation of these directions is that on the basis of the budgets of separate subdivisions, the rate of distribution of their overhead costs of individual types of products can be determined.

This makes it possible to draw up a standard (normative) calculation of the total production cost of a unit of product. In turn, cost standards (normative) are used to compile production costs budgets. On the basis of budgets, all units prepare a general consolidated budget (Fig. 4.1)

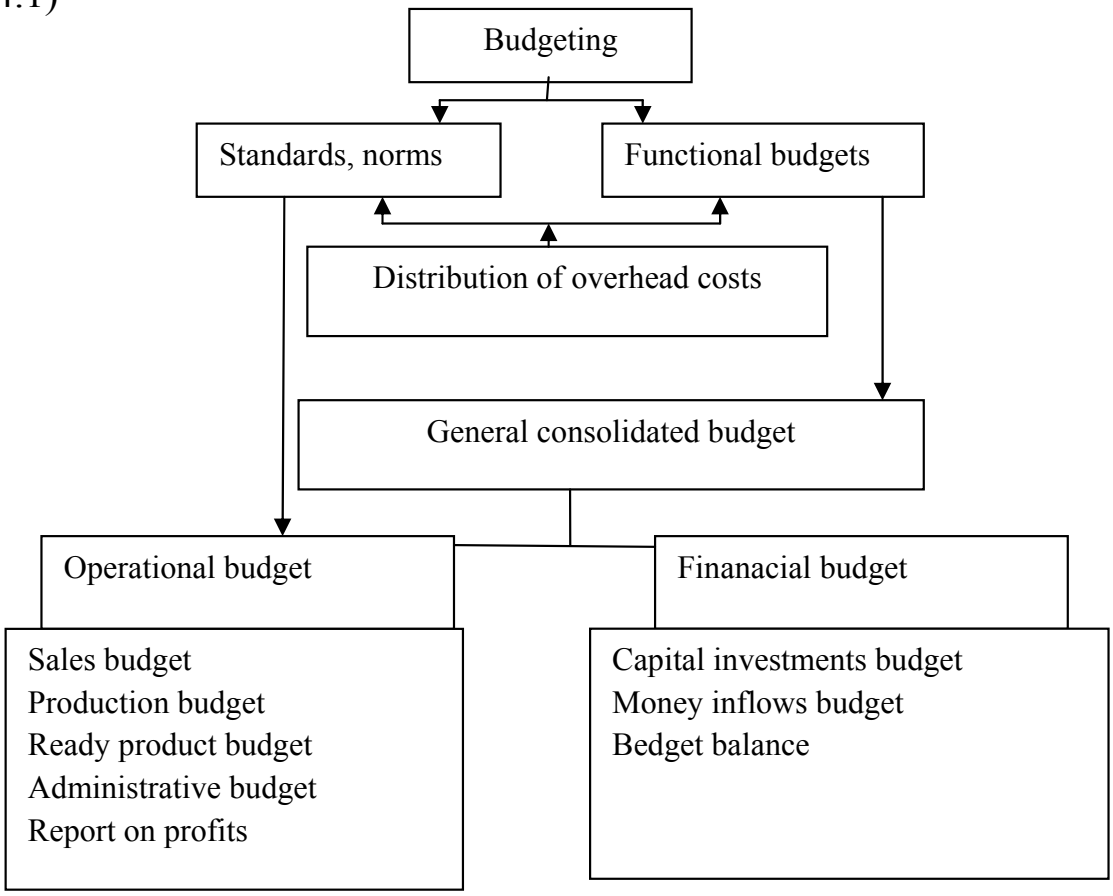

Fig. 4.1. The budgeting procedure for a manufacturing company

Let us consider the main types of budgets in more detail.

General (consolidated) budget is a set of budgets that summarize future operations of all divisions of the enterprise. It includes two groups of budgets: current (operational) and financial budgets.

The current (operational) budget is a set of budgets of expenses and incomes, which ensure the preparation of the budget income statement. It includes: implementation budget, production budget (or production program), budget requirements for materials, transition budget, direct labor costs budget, general production budget, budget for production costs, commercial spending budget, general economic expenditure budget, the budget of profits and losses.

Let us characterize the essence of each of the above types of budgets.

The implementation budget is the starting point for budgeting: in the final case, the costs depend on the volume of output, and the volume of output is set on the real sales volume. The implementation budget contains information about the planned sales volume, the price and expected revenue from the sale of each type of product. Since the sales forecast always contains some element of uncertainty, it is useful to indicate the maximum possible and most probable value. To predict future sales, an integrated approach including market research, statistical information and forecasts of specialists on the economic development of a particular industry and the economy in general, the prospects of pricing policy, etc. are also used.

The forecast of the quantity of sold products of each type, as well as prices for it, is developed by the marketing department of the enterprise.

Since the sales budget reflects the future sales that it will carry out, it is clear that it determines both the volume of production (or the volume of purchases of goods) and the costs of different types of resources (Figure 4.2)

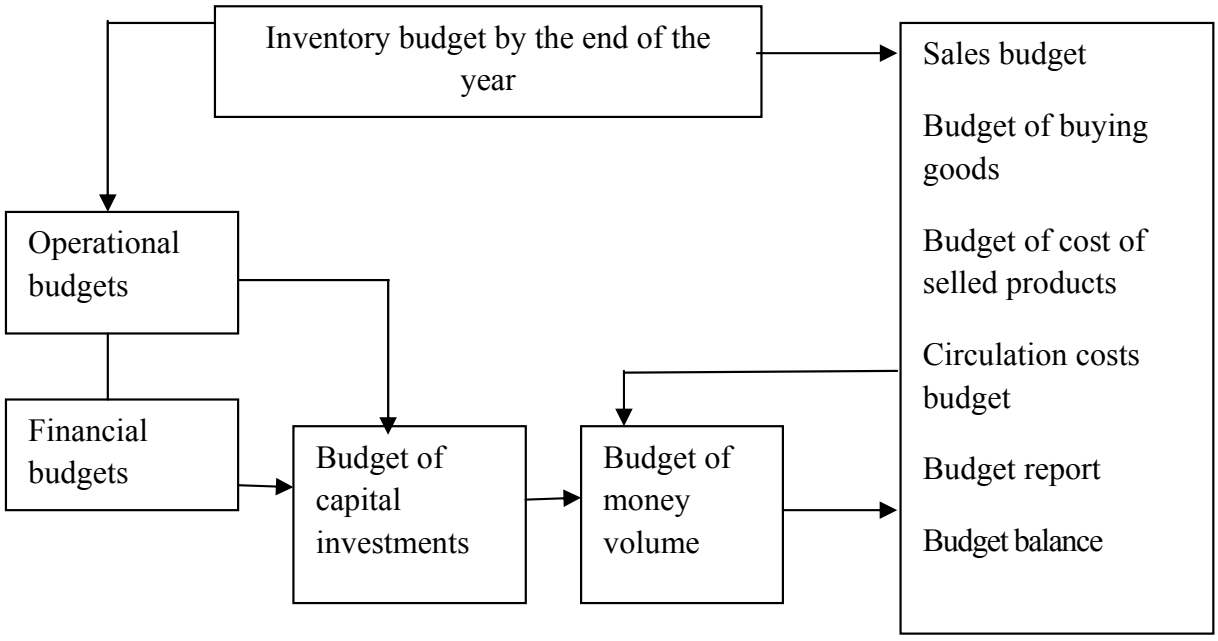

Fig. 4.2. Sequence of drawing up and interconnection of budgets of the trade enterprise

Simultaneously with the sales budget, a schedule of expected cash receipts from sales is also being developed. This graph reflects the periodization of receipt of money for realized products, taking into account available receivables.

The budget for direct labour costs is a plan document, which shows the labor costs necessary for the production of goods or services

during the budget period. It is a quantitative expression of plans for the cost of the enterprise to pay for the main production staff.

To determine the planned cost of labour, the expected output of each product is multiplied by the cost of 1 person-hour, that is, the average tariff rate.

Labour costs are also calculated by cost centers (types of works, plots), and then reduced to a single formula. It is important that the distribution of fixed and variable costs is maintained.

Total production budget is a plan document that reflects the overhead costs associated with the production of products or services during the budget period. It includes workshop costs for the maintenance and operation of equipment: the cost of purchasing auxiliary materials, energy costs, labour costs, repairs and maintenance costs, depreciation. This budget is based on the production program, agreements (lease, service, etc.) and the corresponding calculations (depreciation). The sum of variable production overheads in each quarter is determined based on the distribution rate. In practice, for each article of variable overhead, a separate distribution base is used. To simplify the calculation of the amount of individual items variable overhead (salary, rent) can be divided between the quarters in proportion to the total variable replacement costs.

The budget of the shop productions cost is a plan document, which provides a calculation of the cost of production, which is expected to be made in the budget period. The budget reduces the total

cost of materials, wages, organization and preparation of sections and shops, taking into account changes in stocks of work in progress.

The structure of the budget of the production cost of production depends on the method of the management report on the cost of production introduced in the enterprise, as well as on whether permanent costs in the cost of production are included. In any case, it is necessary to maintain the distribution of costs for constants and variables, with variable costs to be displayed separately for each type of product.

Budgetary cost of manufactured goods is determined on the basis of the budgets of using direct materials, direct labour costs and production overheads, taking into account the planned balances of work in progress.

Budget for commercial expenses is the budget that includes losses associated with sales of products and marketing activities: market research, sales promotion measures, advertising, contracting with consumers, transport services, packing costs, insurance, warehousing and storage of goods, etc. These costs need to be divided into constants and variables.

Budget of general expenses is composed by the same principle as the budget of general production costs.

The profit and loss budget is a forecast of the profit and loss account, which accumulates information from all other budgets and allows you to analyze what income the company received in the reporting period and which received losses. On the basis of this budget,

they conduct analysis and draw conclusions about the optimality of the presented budgeting system and the need for adjustments.

Financial budgets (financial plans) are a set of budgets that reflects the planned cash flows and the financial position of the enterprise.

Their application makes it possible to:

- ❖ define goals for all activities for which the manager of each center of liability is responsible (objectives may not only be financial, such as improving product quality, reducing staff turnover, etc.);
- ❖ to set criteria for achieving goals;
- ❖ to study alternative ways of conducting each type of activity;
- ❖ to evaluate the effects of each of the options according to the criteria set;
- ❖ to assess the costs for each option;
- ❖ to assess the possible levels of appropriation;
- ❖ to identify factors limiting the scope of the center of responsibility;
- ❖ to form an optimal set of activities for each possible level of allocations.

Let's consider basic financial budgets in more detail.

The cash budget (cash flow plan) is a planning document that reflects future payments and cash inflows over a certain period. This budget contains a forecast of future cash flows and allows you to determine the period when an excess or lack of funds is expected.

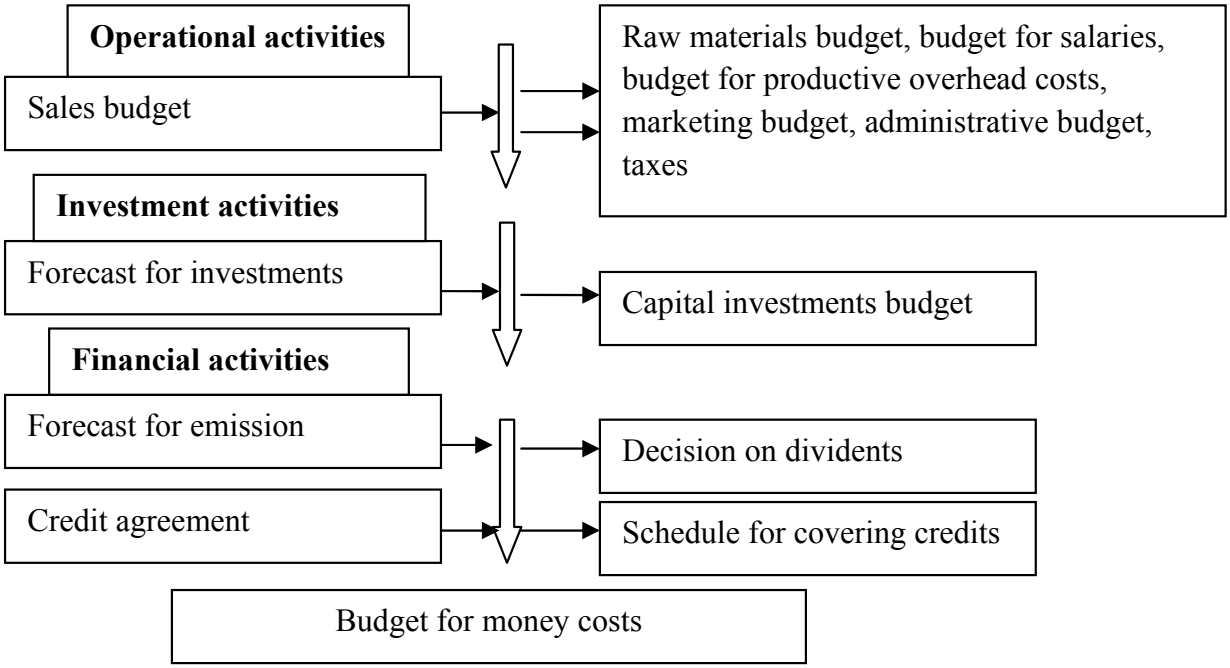

Fig. 4.3. Procedure for drawing up the budget of funds

The budget is comprised of three types of activities (basic, investment and financial) based on operating budgets, capital investment budget and cash flow due to financial activity (Figure 4.3).

It should be noted that not all incomes and expenses are related to cash flows, so you need to determine the amount of income and expenses with cash nature. For example, depreciation deductions should be excluded, because it is not neccessary to pay money for them.

To provide the company by a sufficient amount of cash at any time, which would correspond to the level of operations on different budgets, ***cash generated consolidated budget*** is compiled. Due to the fact that cash planning is often uncertain, it is necessary to foresee

amounts that are slightly higher than the minimum amount of funds. The cash budget will help the company to avoid cash in excess of its needs, management will take measures to convert excess funds in short-term investments.

Budget balance is a pro forma of financial statements, which contains information about future state in the end of the forecast period, is expected as a result of planned operations. It allows you to identify some unfavorable financial problems and perform a calculation of various financial indicators. It also serves to monitor all recent budgets for the previous period.

Investment plan is a document that reflects future investment costs of the company, carried out not in the form of operating costs, but in the form of one-time capital investment. The analysis is subject to construction and installation costs, the purchase of fixed assets and equipment, etc.

The development of the budget system at the enterprise allows you to take into account all elements of the forecasts, concentrating them in the budget on profits and losses. Implementation of the current and the next analytical work allows making the necessary adjustments and additions in order to improve the processes of budgeting at the enterprise. The logic of our reasoning led to the need to study the stages of budgeting. In this case, the purpose of the study is to determine the sequence of budget development work that will be determined by their organizational and logical construction.

Control questions

1. What are "budget", "budgeting" and "budget cycle"?

2. What stages does the budget cycle include?

3. How are budgets classified in terms of baseline data and periodicity of coverage?

4. How do operational budgets differ from the main budget?

5. What steps are typical for drawing up an operating budget for manufacturing companies?

6. What are the most common methods of forecasting the volume of sales?

7. What factors underlie sales planning?

8. What common and different risks are inherent in budgets and standards?

9. In what cases are perfect and real standards used?

10. What are the peculiarities of the procedure for determining deviations abroad compared to the domestic method?

11. What is the role of flexible budgets in the calculation of deviations?

12. What factors affect the deviation of direct costs?

13. What are the features of the method of calculating the influence of factors on the deviation of variable and fixed costs?

TOPIC 5. METHODICAL TOOLKIT OF OPERATIVE CONTROLLING

5.1. The essence of economic analysis in the controlling system.

5.2. Methods of Operational Analysis (ABC-analysis, Quality Circles, XYZ- analysis)

5.3. The essence of strategic analysis in the controlling system.

5.4. Methods of Strategic Analysis. (Experimental Curve: Logistics. Portfolio Analysis. Relative Market Share. Market Growth. Potential Analysis. Analysis of strengths and weaknesses of the enterprise.)

5.1. The essence of economic analysis in the controlling system

Term analysis borrowed from the Greek language and in translation means "distribute", "divide". In the general sense, the term "analysis" refers to the distribution of a single phenomenon into its constituent parts.

All processes of economic activity of enterprises occur, as a rule, simultaneously and closely interconnected, but their nature, content and patterns of implementation are different. They are the result of the functioning of the object of governance, which is based on objective social and economic laws. Production and non-manufacturing management requires detailed information on the trends and the nature of changes in the economy of the enterprise. Its source and method of comprehension is precisely economic analysis.

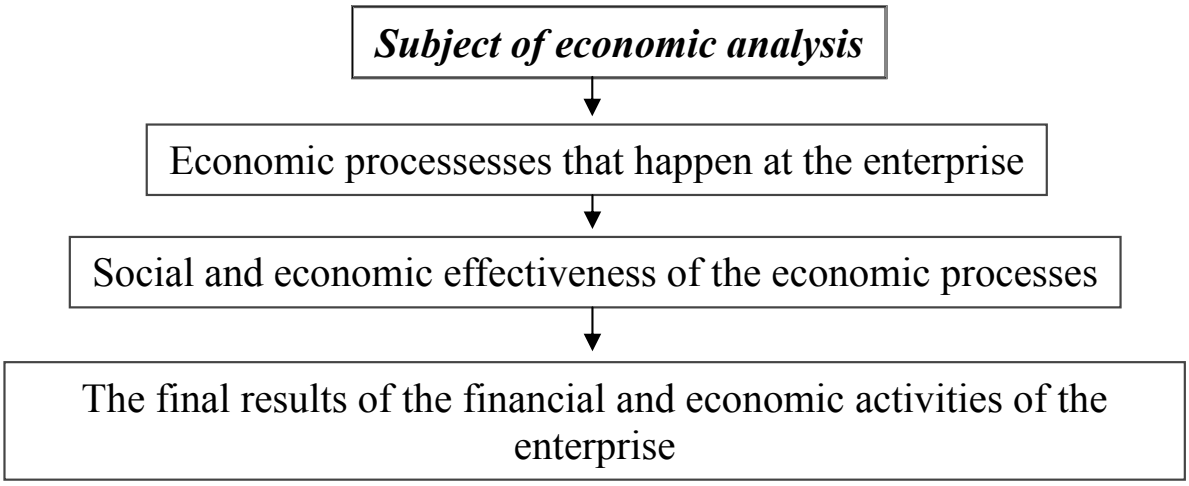

Fig. 5.1. The subject of economic analysis of enterprises

Primary information received by managers from accounting and other sources in itself does not indicate anything. In the process of analysis, it undergoes a special processing:

• comparison of the results of the enterprise for a number of periods with indicators of other enterprises in the industry;

• the influence of different factors on the value of controlled indicators is determined;

• there are shortcomings and unused opportunities;

• outlines prospects.

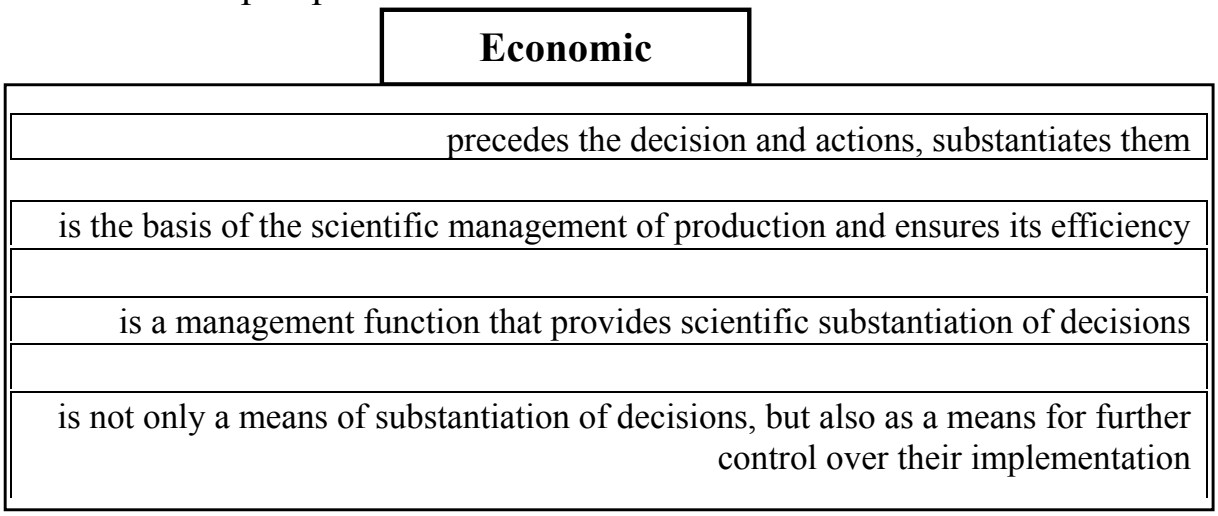

Fig. 5.2. The essence of economic analysis of enterprises

The essence of the economic analysis of the controlling system and its main purpose are presented in Fig. 5.2

Managerial decisions are developed and substantiated only after processing the entire array of received information

Depending on the model of management of economic activity, the content of which is dominated by control cycles or periods of economic processes, distinguish operational, current and prospective analysis.

Operational analysis (Fig. 5.3) is carried out in an operational or short-term management system for a decade, a week, a day, a change; aimed at studying the primary short-term causal relationships in the management object, whose results are reflected, mainly, by operational accounting.

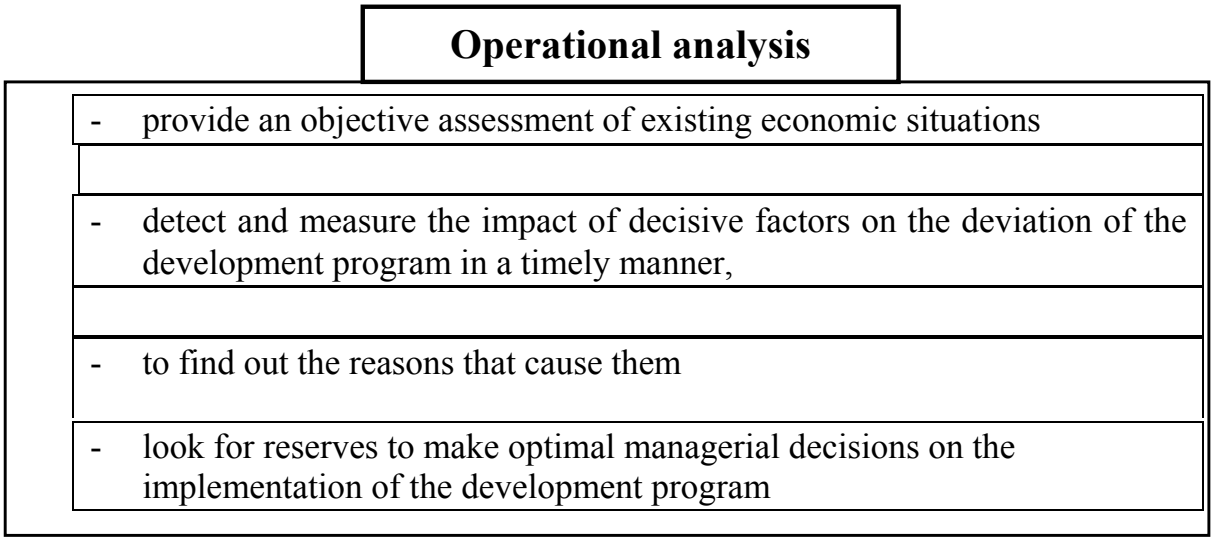

Fig. 5.3. Operational analysis in the controlling system

Current analysis is used in the current or mid-term management system; provides a detailed study of the nature of the implementation of the plan and program tasks of current periods (months and quarters with a summary); detects and eliminates the negative reasons that are

characteristic of a certain system; activates the use of current reserves, which contribute to the achievement of the goal.

Prospective analysis is carried out in a long-term or long-term management system; is intended to provide a substantiation of the forecasted results of economic activity, which are reflected in long-term plans and programs (for 5-15 years), to evaluate the actual implementation of these programs; is a study of the factors of enterprise development, interconnection and influence on performance indicators in the dynamics over a long period of time.

Operational analysis is based on the widespread use of natural indicators that characterize the primary factors of a technical nature, affecting economic performance. The system of analytical indicators should reflect both the results of economic activity and the efficiency of production, as well as available and used resources.

Indicator is a quantitative and qualitative characteristic of socio-economic phenomena and processes (Fig. 5.4).

Quantitative aspects	**Qualitative aspects**
displays the dimensions, absolute or relative value of the indicator	the essence of the indicator in the specific conditions of place and time

Fig. 5.4 Quantitative and qualitative aspects of indicators in controlling

Indicators in the economic analysis are classified according to various features, the main of which are presented in Fig. 5.5.

1. By content *quantitative* and *qualitative* indicators are distinguished. Changing quantitative indicators necessarily leads to a change in quality, and vice versa. This allows you to use them in a complex.

2. According to the specifics of the analysis, the *general indicators* used to characterize the general results of work are separated, and *specific indicators* that give a partial characterization of certain phenomena of industrial and economic activity.

3. By the degree of synthesis, the indicators can be separate *booms* (reflecting individual parties, elements of phenomena, processes), *generalizations* (used for the general description of complex economic phenomena) and *auxiliary* (indirect) intended for a more complete description of the object of research.

4. By methods of expression, distinguish *absolute* (natural, cost) indicators, as well as their *relative* characteristics, reflecting the ratio of two absolute indicators and are determined in percentages, coefficients, indices.

5. For causal relationships, indicators are divided into factors that determine the behavior of the *effective indicator* and act as causes of changes in its size and *productive* when the indicator is considered as the result of the influence of causes and acts as an object.

When forming a system of indicators of operational analysis in the controlling system, the following requirements must be observed:

1) the system should include several separate indicators and one generalization, aggregating individual indicators and ensuring the unity of the system;

2) the system must be inherent in the integration, which allows it to apply it in the program-targeted management of the economy;

3) a sufficient number of indicators is necessary to assess certain aspects of the company's operation;

4) all indicators should be adequate, that is to reflect actual processes and phenomena, as well as dynamic ones and provide a unambiguous understanding of the phenomena and processes being studied.

The most important aspects of cost accounting for the responsibility centers are setting regulatory costs and evaluating the results by comparing the actual costs with the normative ones. The difference between actual and regulatory costs is called a ***deviation***. Deviations are calculated separately for each center of liability.

Analysis of deviations is the main tool for assessing the activities of the centers of liability. Current control and analysis of deviations allow to timely reconfigure the system of production management and non-productive sphere. The manager has the ability at any moment to influence the processes without waiting for the end of the period for which the goals and criteria that reflect them are established.

The deviation is the result of a change in the three main factors (Figure 6.5): volume of production, resource prices, cost per unit of output. As a rule, all factors are influenced simultaneously. For

effective operational management, it is necessary to identify the causes of deviations (to determine which deviations are caused by factors; to establish responsibility for the implemented decisions; to avoid unwanted deviations in the future).

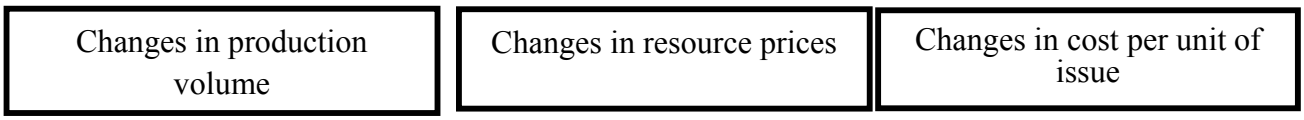

Fig. 5.5 Reasons for the deviation of the main indicators of the enterprise

Analysis of the dependence of the final results of the enterprise on the established deviations involves the development of a system of coordination and control over the process of achieving the end results. Its purpose is to create a system of controlled indicators that can best respond to any changes in the activities of the enterprise, its structural units (liability centers). Each system indicator can be used for analysis purposes; it should be easily adapted and manageable, thus providing the flexibility and maneuverability of the entire system in achieving the final results of the enterprise.

The indicator, which should be the basis for the formation of controlled quantities is profit, as a source of prosperity of the enterprise and the cover of all its debts, as well as increase own funds (capital). As the final indicator of the activity of both the whole enterprise and its structural divisions, the profitability of the funds invested in the current

activity is used. An indicator of profitability reflects the ratio of results and factors that affect them and allows you to evaluate performance.

Operational analysis and appropriate management methods are the basis of operational control. The better and more consistent the use of separate methods, the more active control in the enterprise.

An effective controlling system reduces the load of entrepreneurs and managers and frees up time that should be used for strategic analysis.

The analysis methods that will be discussed below should be used at the enterprises for the best solution of problems. Due to the diversity of possibilities of their application, all functional units will appear in the prize.

5.2. Methods of operational analysis

ABC-analysis is an important method used by the enterprise to determine key points and priorities. In control, ABC-analysis is of particular importance, since it allows for targeted and economic measures. When structural elements are discovered, effective corrective action can be taken immediately for important processes.

In the ABC-analysis, indicators are compared in both physical and value terms. Studies conducted at enterprises show that relatively small quantity in physical terms, taken in some aggregate, gives relatively large value values. Therefore, the management should identify in the enterprise those small quantities in in physical terms, which correspond

to high values. Then you can relatively quickly influence the entire population according to the target representations.

ABC-analysis can be applied, first of all, in logistics, production and sales. In the framework of this analysis in the field of logistics, the number and cost of parts in terms of suppliers are considered. In the field of production, studies and changes in fixed costs can be carried out. In the field of sales, interest is represented by orders received and products sold.

ABC-analysis is also required when studying the costs of elements, places of origin and objects of calculation.

ABC-analysis can also be used with great success in the field of sales for a more detailed study of product groups, customer groups and sales segments.

The method, like ABC-analysis, should be used by a procurement specialist and warehouse manager. With the help of ABC-analysis in these spheres of activity it is necessary to divide the essential and non-essential procurements and warehousing processes. It is worth concentrating on materials of high economic importance to reduce costs through the implementation of targeted measures. With this method, you can significantly improve the efficiency of procurement and warehousing activities.

Importance in purchasing has accurate information about suppliers and the necessary materials. Not all suppliers and parts have the same impact on efficiency. In this regard, it is advisable to intensively deal

with suppliers that have a large turnover. Materials and details that are regularly used in large quantities should also be checked in more detail.

The value of individual suppliers and parts is not known to many logistics staff. In this regard, it is necessary, as far as possible, to objectively determine the importance of suppliers and parts using the ABC-analysis, which facilitates their classification according to their importance for the enterprise.

The classification of suppliers is as follows. As a rule, we distinguish three groups of suppliers. A-suppliers are those with which the company makes about 75% of the turnover. Such a turnout is given by approximately 5% of suppliers. In-suppliers (20%) give, as a rule, 20% of the turnover. For C-suppliers (75%) turnover is about 5%.

Table 5.1.

Classification of suppliers

Group	Share in circulation, %	Share in the total number of suppliers, %
A	75	5
B	20	20
C	5	75

The classification of suppliers can be carried out in the form of details purchased by the enterprise. The empirical values for the A-, B-, and C-components are respectively 75, 20 and 5%. In this case, it is

also advisable to deal primarily with A-parts, if the costs of procurement-related measures are to be small.

By identifying the value of individual parts for an enterprise, concentration of efforts on specific procurement activities should be achieved. In addition, key tasks for the storage system can be identified in this way. Based on the data of the ABC-analysis in the field of procurement, new priorities should be established.

A-parts are expensive materials that are subject to particularly intense and thorough processing. The following measures can be taken for them:

1) a more accurate analysis of procurement prices;

2) detailed analysis of the cost structure;

3) comprehensive market analysis;

4) receipt of several offers from suppliers;

5) more firm negotiations on the prices of procurements;

6) more thorough preparation of supply orders;

7) more accurate disposition;

8) more accurate purchasing management;

9) regular stock control;

10) more precise definition of insurance reserves;

11) installed smaller lots of demand;

12) better use of functional-cost analysis.

In-detail, these are materials that are characterized by average values. Depending on their value with the B-parts, it's worth working, either with the A-parts, or with the C-parts.

C-parts are low-value materials, which need to work differently than with A-parts. Due to their large quantity and low cost, the main task of streamlining is to reduce the cost of processing orders and warehousing. To this end, the following measures should be taken:

1) simplification of order execution;

2) consolidated orders;

3) application of simple formulation of orders;

4) telephone orders;

5) monthly calculation;

6) simplified warehouse accounting;

7) debit from the account of monthly needs;

8) large batches of orders;

9) simplified inventory control;

10) establishing a higher level of insurance reserves.

The concentration of efforts on A-parts and A-suppliers should not mean that B- or C-parts or suppliers are completely overlooked. However, their economic impact will not be as decisive as for the A-class.

For A-parts, it is necessary to evaluate the proposals. The procurement object, the designation of the type, the drawing number or the material must be precisely specified. Proposals for A-parts should be obtained from 3-5 enterprises with even intervals. All prices should be calculated on the same basis. It is also worth taking into account other criteria, such as quality, compliance with delivery terms, service level.

The tasks of inventory management include inventory planning and decision making on ordering materials. The desired terms of supply and the required insurance reserves should be planned in accordance with the conditions of capital freeze on the groups of materials, and if necessary, on separate details.

Managing inventory of materials is a dynamic process. Changes in market demand, as well as changes in the procurement market, require constant review of orders. Thus, important materials should be defined:

1) the critical level of stocks;

2) the volume of replenishment of stocks;

3) the moment of filing an application.

In order to ensure the reliability of uninterrupted production processes and compliance with the timing of the delivery of finished products, consumers must constantly monitor and correct.

Well-known methods of inventory managing of materials are well-known, from simple access to ordinary files and to methods for forecasting needs using software. Rational inventory control of materials should be guided by the economic significance of located parts and materials and their application. To determine the economic value of individual parts and materials, it is necessary to use the ABC-analysis.

Regulation according to needs.

The movement of the A-parts should be adjusted to needs, and for the C-parts the adjustment is always carried out at their own expense.

Table 5.2.

Material inventory management system

Applicability of parts	**Reusable details of multiple use with even consumption**	**Special items for single use with uneven consumption**
Economic significance		
A-parts	Adjusting according to needs	Adjusting according to needs
B- parts	Adjusting according to costs	Adjusting according to costs
C- parts	Adjusting according to costs	Adjusting according to costs

How to handle B-parts depends on the conditions prevailing in the enterprise and on the capabilities of the logistics department.

Inventory managing is based on the procurement plan. With regard to precious details, management as needed is better suited to ensure the efficient content of the warehouse.

Cost regulation.

Application of the method of regulation of cost is expedient for low-value parts (C-parts). Due to consumption, stocks at the warehouse are constantly decreasing. If they fall below the critical level, you must submit a new application. The amount of replenishment of the stock can be determined by the cost line, taking into account the delivery periods. This quantity is indicated in the application and is delivered at the moment when the stock has fallen to the level of the insurance stock. The insurance stock should be considered as an "iron stock", which should cover the supply risk.

Many entrepreneurs and managers will experience the pressure of time factor. They constantly complain about his lack. Some of them could have better managed their management tasks if they were not always in a stressful state and did not work so much. It turns out, you have to organize your personal time management differently.

We cannot put time on a savings account in a bank, withdraw it from the account and take it with us. If we do not treat him with care, then we will lose, let us miss it, we will loose it. First of all, it is important to use time at the enterprises. If managers of all levels become more engaged in managing personal time, then in the future, they will have more opportunities to perform important tasks.

The problem of time is often not connected with the time itself. In reality, we simply do not know how to properly manage the time. If you make a personal plan of events, you can develop an individual strategy for a positive change in the habit of using the time. Thus, it is possible to increase the productivity of labour and reduce the number of stressful situations. We will have additional time for more rapid and effective achievement of goals.

Most executives themselves are guilty of lacking in time. To perform routine work, they spend too much time, so that to solve their own managerial tasks it does not remain in them. They take care of everything and therefore cannot deal with important problems of the enterprise.

The pressure factor of time arises primarily because of the inability of managers of all levels to correctly distribute it.

Each employee of an enterprise can change positively. This should primarily concern managers at all levels. Before requesting changes in behavior, it is necessary to analyze the existing state. For this purpose it is advisable to make a photo of a working day.

Heads of all levels during the week accurately record all that and at what time they did, how often and who interrupted them, to consider which questions they never returned. Recording must be done within minutes.

If you analyze individual records a week, you can quickly identify tasks that lack time, and employees who have most often turned to executives. It will also be seen that performing a large part of everyday small work can be delegated.

A work-day photo helps managers at all levels more effectively distribute their time in the future. They have the opportunity to determine in what hours they can work relatively calmly, and in what they distract especially often. In addition, it becomes apparent that different tasks have different meanings for the enterprise.

When leaders of all levels make up their minds about all the tasks for the next month, you need to define priorities. New goals must be set. Classification of tasks according to their priorities during one day is also important because every day a lot of different tasks must be carried out at work. We can constantly observe at the end of the day how unresolved are very important tasks, and not so important tasks are fulfilled. In the future, it is necessary to delegate the decision of less important tasks.

In order to consistently approach the solution of problems, it is recommended to identify unambiguous priorities. This method has undeniable advantages:

1) purposeful type of thinking and way of action;

2) concentration of efforts on the solution of the most important tasks;

3) execution of the most urgent work;

4) delegation of less important tasks.

In order to assess the importance of tasks, ABC-analysis is the first of all suitable. Practice constantly confirms that in the production process of the first 5-20% of the input parameters provide achievement of 75 - 80% of effective parameters. Other 80-95% of the input values give only about 5-20% of the total result.

At many businesses, for example, we set, for example, that 20% of all customers account for about 80% of the turnover. From this we can conclude that not all customers are equally important. Since the sales staff time is too valuable, they should not be equally engaged with all customers. Personal visits are only allowed for A-clients. Contacts with C-clients should be supported only by phone, since visiting C-clients will be costly.

Procedure for performing ABC-analysis:

1. Creation of a list of all types of activities for the relevant planning period of one month.

2. To organize all tasks by the importance, that is, in their value assessment to achieve the goals set.

3. Estimation of all considered activities according to the ABC scale.

4. Checking personal timetable in terms of meeting the importance of the tasks and scheduled for their execution time.

5. Adjusting the time schedule according to the installation on the A-, B- and C-tasks.

The tasks performed by managers at all levels can be divided into groups:

A-tasks.

As a rule, these tasks can be performed only by the entrepreneur or one of the managers of the enterprise. These tasks, which cannot be delegated, are often very important and complex. A-tasks are usually closely interwoven with other tasks. Failure or too late execution of A-tasks is a big problem. Yes, the entrepreneur must negotiate with wholesale buyers independently.

B-tasks

These tasks are important, but their execution can often be delegated to competent staff. The "average" clients an entrepreneur can visit himself. However, there is no need to personally maintain contact with all these clients. Each entrepreneur must have the ability to be staffed by whom he can entrust implementation of the B-tasks.

C-tasks.

The tasks of this class are, of course, dailty routines that make a small contribution to the achievement of goals. These tasks should be delegated to have more time to perform the most important tasks.

C-tasks include, first of all, administrative and managerial work and part of correspondence work. The entrepreneur, who does not delegate the execution of these works, considers himself to be, perhaps, extremely important. Some entrepreneurs are too low on their employees' ability.

A working day could be fully filled with A- and B-tasks. Such an approach, however, is inappropriate. An entrepreneur should not rigorously plan more than 60% of his working time; 20% of the time an entrepreneur must reserve for the solution of unforeseen issues. These include conversations with visitors, answering bells and unexpectedly emerging problems. 20% of the time remaining should be used, if possible, for creative activity.

Tasks can also be evaluated by criteria of importance and urgency in order to quickly determine the benefits of their implementation. If we choose these criteria, then there are four possibilities

- A-task. This is a very important and urgent task. They must be solved immediately and personally by the person they are dealing with. The rank of these tasks is the highest.

- B-task. These tasks are very important and urgent. they must be solved after the A-tasks are completed, and it is necessary to specify the timing for their implementation. If the entrepreneur does not have time, he should try to delegate them for a timely decision.

- C-task. These tasks are very urgent, but less important. As a rule, they are easy to solve, so it is necessary to delegate as much as possible.

- "Garbage basket".

Entrepreneurs and managers will continue to have more time if they delegate primarily the decision of the B- and C-tasks. By delegating, we understand the reliance on tasks and responsibility for their decision, not on entrepreneurs and managers, but on other employees of the same structural subdivision. It should be borne in mind that in addition to the tasks and responsibilities should be delegated and related rights.

Delegation of decision-making leads to a better motivation and professional development of employees. However tasks should always be delegated only to employees who are directly subordinated to the head of the unit. In addition, it is worth paying attention to the regular control over the implementation of delegated tasks. If the employees have fulfilled the tasks assigned to them, one should express their recognition. This way, the learning process is accelerated and the staff motivation improves.

Delegation of the B- and C-tasks leads to the "unloading" of entrepreneurs and managers. They have more time to consider A-tasks. Additionally, the time won must be used for strategic analysis and creative activity.

Quality groups are considered to be typical for Japanese enterprises, working circles. It has become commonplace several times a month after a working day all the team to discuss issues of improving product quality since early 50's in almost all Japanese enterprises. Over time, quality circles in Japan have departed from their original purpose.

Employees are no longer confined to quality improvement issues, but develop serious proposals for streamlining production.

The Japanese quality clubs found in Japan have also been used in Europe. Given the success of the Japanese model of helping workers themselves, implemented at large German enterprises, small and medium-sized enterprises should also implement this model of Far Eastern management. This form of mutual motivation gives the company great advantages.

With the help of quality circles in German enterprises, great success has been achieved. In some enterprises, however, there are two barriers to their implementation. The management of the company and employees often shares the high wall. The consequence is that the worker identifies himself with his union rather than with his enterprise.

This is also due to the fact that the representatives of the employed at some enterprises boycott the introduction of quality circles. In some cases, managers interfere, because through the introduction of quality circles in the enterprise, the space of decision-making and action for lower-level employees is expanding, although the introduction of quality circles in the enterprise gives impetus to the learning process, which is useful both for the management of the enterprise and for the employees.

European enterprises should take into account Japanese achievements. The higher productivity of Japanese enterprises is primarily a result of better motivation of Japanese workers to increase productivity and quality. Some European entrepreneurs are trying to

explain the successful advancement of the specialist labor conditions on the global market for competitors from the Far East: an extended working day, reduced leave, a higher level of automation, and people's interest in work. Having studied the situation more carefully, we must admit that motivation as the leading principle of Japanese management is the key to success in the market.

The quality circle consists of a group of workers who, volunteering, about an hour a week or a month, discuss quality problems at the enterprise. If the causes of the problems are found, proposals for their solution are being developed. Thus, workers at work can reveal a creative and innovative style of thinking.

The quality circles should, as far as possible, comprehensively examine and analyze the problems and the causes of their occurrence. If this does not happen, the group may swing a lot when choosing a solution. In this case, there are often very useless suggestions.

The work of the quality circle cannot be limited to discussion at a round table; it is worth collecting information. In addition, it is necessary to hold negotiations with interested parties on the ground. Practical experiments or the creation of samples, as well as a series of test inspections, can help to better understand the nature of emerging issues. Thus, the approaches to the solution will be more likely to be found. Such activity stimulates employees in the group.

For each quality circle, the leader who coordinates the work must be identified. The leader can also distribute tasks within his group. An additional working group is formed to solve special problems.

The goals of quality circles are diverse. Along with the motivation of the positive aspects of introducing quality circles is the increase in productivity and higher economic benefits. An additional goal is the formation of responsible independent creative thinking of employees of the enterprise.

Thus, the goals of the quality circles are as follows:

1) improvement of motivation;

2) improvement of quality by means of awareness of its value;

3) productivity growth,

4) increase in economic benefits;

5) improvement of employee relations to work;

6) responsible collective thinking of employees;

7) stimulation of independent thinking in solving problems;

8) presentation of constructive proposals;

9) awareness of employees of the category of value;

10) increase of responsibility of employees;

11) increasing the flexibility of the management of the enterprise;

12) improvement of relations to management;

13) increase voluntary activity of employees;

14) enhancement of customer orientation;

15) reducing costs by reducing the shortage;

16) reducing costs by reducing the number of claims;

17) reducing downtime due to better staff training;

18) increase in productivity due to faster detection of defects;

19) elimination of weaknesses due to own rationalization proposals;

20) improvement of the psychological climate at the enterprise through intensive joint work.

The requirements for the recognition of the quality category, the flexibility of employees and the result-oriented behavior should increase. The willingness to assume responsibility, the ratio of employees to the company and understanding the cost category can also be improved.

At the initial stage of the work, quality circles are involved in improving product quality and workplace issues. Quality team members discuss manufacturing problems together and are looking for opportunities to do their work better and at lower cost. Along with the issues of quality assurance we are talking about its control. In the future, key issues will shift into the field of technology and organization.

In the technical sphere, it is primarily about new equipment, tools, methods and means of production. In addition, quality circles are intensively engaged in education and training, providing cleanliness and security at the enterprise, as well as improving the organizational structure and production processes.

Thus, the subsequent shift in the work on improving the quality goes in the direction of the workplaces to a higher degree of automation and perfection of the organization. In the emergence of such a trend plays a significant role in the reliability of the workplace.

The next course of thought is always traced when discussing issues in quality circles:

1. a higher level of automation
2. better product quality
3. satisfied customers
4. strong market position
5. a reliable workplace

At some enterprises, the leadership at first was not inspired by the idea of creating quality circles. But after success, most entrepreneurs changed their minds. The reason for the change was more often in the rapid decline in the size of the marriage. Previously, in one enterprise, more than 10% of the defects revealed at the initial control. Today, only 2% of goods are spoilage.

Of course, success does not come on its own. Previously, employees had to familiarize themselves with new ideas. Leaders of quality circles should be prepared to solve their new tasks. Without intensive training, the quality circle is far from over.

Like all organizational innovations, quality circles undergo several stages of development. At many enterprises, measures taken by quality circles lose interest after initial enthusiasm, if the members of the group do not always motivate and the management of the enterprise does not support them.

Therefore, at the stage of introducing quality circles, group work is often required.

Almost every enterprise has all-knowing people poisoning the atmosphere in the group. Pessimists also interfere with their work with their comments about the fact that the proposed will not be implemented. Theoreticians can hinder practical work at the enterprise. Some practitioners are known in advance for ready-made solutions. Therefore, the process of forming a group is not easy. Only later satisfactory composition of the group from different departments can be found. Unobtrusive work can be labour-intensive. The learning process is often long.

The group should become a single whole and independently solve its tasks. Quality circles are created for a long time, which leads to higher requirements of the group members. They often require for their activities in these circles quality and work in the company of better education and advanced training.

At first, it is especially difficult to explain to participants what topics (issues) are suitable for discussion in quality circles. We recommend distinguishing the following issues:

1) the problem that the working group can independently find and solve;

2) the problems to solve which quality circles it is necessary to find help from other working groups;

3) problems for which the working circle does not affect the elimination.

The first two groups of problems are suitable for discussion in quality circles. The interest of the participants depends, first of all, on how quickly individual proposals are implemented in everyday work.

The leader determines the course of events in the group. At many enterprises, the role of leader takes on the senior master. The leader may be an employee of the same level as the members of the circle of quality. Some companies find this solution the best.

The choice of leading quality circles should not be given exclusively to the group, as in all cases this may not be possible. The qualities with which a good lead group is endowed is not always inherent to an employee who is appreciated by everyone.

The leader takes an important position within the group. He establishes the course of events in the group and on the success or failure of the work of the circle of quality depends largely on him. The desire to preserve a leading position may hinder the search for new ideas. If the authority of the leader in the group is not recognized by other members of the group, this can affect negatively the outcome.

First of all, leading quality circles should learn from video techniques how to organize discussions and summarize their results in short reports.

At some enterprises two-day trainings are arranged for the leaders. At other enterprises, the leaders of the groups regularly raise their qualifications. In this case, they master various methods of group work: ABC-analysis, the development of technology creativity and brainstorming.

Heads of groups explain, for example, that there a lot of problems caused just by few reasons. Therefore, leaders must learn to identify factors whivh can lead to serious consequences. It is a question of having an important A-problem, which can lead to high costs. If employees in the quality circles have good knowledge of ABC-analysis, then the company can avoid high costs.

Table 5.3.

The cordinator's tasks

1. The choice of the topic	Survey of the departmental staff and formation of a list of priorities
2. Information	Data collection and preparation Intermediary talks
3 Laedership	Experience exchange
4. Supporting of the interest	Reconciling conversations Improving motivation
5 Intermediary activities	Management of the enterprise Managers Employees
6. Support	Management of the enterprise Departments
7. Trainings for the leaders	Assignment of tests Conducting of experience Collection of evidence
8. Reports	Training inside and outside the enterprise Group training ABC analysis Techniques of creativity development
9. The functions of the control	Monthly reports Presentations Meeting dates Harmonization of the work of the group Controlling the result

In the future, the leaders must undergo annual training at seminars held outside the enterprise. It is also useful to have a regular exchange of experience at the enterprise itself.

Costs that arise when conducting a conscientious study of the lead, are quickly bought up, because quality circles can then work much more efficiently. From all this we can conclude that at the stage of the introduction of quality circles, it is important to add a systematic training.

If there are several quality circles in the company, it is useful to appoint a coordinator who coordinates the topics of the circles and provides the necessary information. Functions of the coordinator can be exercised, for example, by the controller.

The tasks of the coordinator are comprehensive, and for their execution, such employee is required who believes in the need for quality circles and capable of responsibly enthusiastically addressing emerging problems.

The coordinator is a connecting link between the management of the company and the circle of quality. He should also take on the role of mediator between the other departments and the management of the enterprise.

The functions of the coordinator are numerous. Along with the harmonization of topics for quality circles and the provision of information to them, the coordinator should actively assist in the development of tests and research, to support employees in the interest

of quality circles, train leaders and staff, as well as to continuously monitor the daily work of quality circles.

For most of the enterprises, the work of quality circles is successful and economical. Along with the material results that can be unequivocally measured, there are non-material aspects that indicate the introduction of quality circles.

Targets are usually achieved. Along with the decrease in the number of defects in quality and increase its warranty, as a rule, the motivation of employees at the enterprise improves.

The circle of topics that the quality circles work on expands later on. At some enterprises, quality circles are already accepted to perform tasks previously related to the technical field, for example:

1) analysis of places of origin of the defects;

2) drawing up maintenance plans;

3) observation of production methods;

4) improvement of working instructions;

5) preparation of control tests for equipment testing.

Along with the permanent circles specialized quality circles can be organized. Permanent quality circles after successful implementation of the developed proposals turn to new topics. Specialized quality circles deal with issues that need to be resolved in a limited time and work as a project team. In specialized clubs of quality, staff are constantly changing, and these circles are dispersed after the solution of the problem.

The success of the quality circles essentially depends on how good the management of the company has prepared for this work of managers and employees at all levels. The management of the company and managers often need to convince themselves in favor of quality circles before instructing the lower-level employees how they should deal with the new idea.

For some basic rules when entering into an enterprise quality circles, it is worth paying attention to ensure the rapid success of this idea.

a) Staff development.

The management of the enterprise should make a clear decision whether to promote the development of personnel at the enterprise. In quality circles, the ability of some employees who do not find application and reveal unused reserves of others can be shown.

b) Setting goals.

The goal is to be determined precisely. Moreover, the main value, along with the improvement of motivation, is to raise the quality standards and reduce costs.

c) Voluntary.

Quality circles are only then of interest to employees when this work is carried out on a voluntary basis. It is difficult to succeed if the company's management determines who should cooperate in quality circles.

d) Working meetings.

All working meetings of quality club members should be held every 2 or 3 weeks. Groups consist of 5-10 employees.

e) Work in group.

Quality groups assume group work, therefore, this is not a forum for the performances of individual fighters. Each member of the group should have equal chances for cooperation.

e) The success of the group.

The overall result is decisive. It is not about the contribution of individual members of the group. their initiative should generally be maintained and defended by other actors.

g) Proximity to practice.

In quality circles should be considered the problems of their own enterprise. Group members are real experts only in their areas.

h) Management of the enterprise.

The management of the company and managers must know and support the concept of quality circles. Only the company management decides whether to implement individual proposals developed in quality circles.

i) Production council.

From the very beginning, the production council of the enterprise should be informed about the goals of quality circles. Before introducing quality circles, the production council should endorse this new idea.

k) Training.

Leaders of quality circles should be systematically trained. They are responsible for ensuring that all members of the team can obtain special knowledge and necessary information.

l) Coordinator.

The coordinator should be responsible for the constructive work of the individual quality groups. His task should be clearly defined and brought to the attention of all participants.

m) Testing stage.

First of all you need to agree on a trial "start" circle of quality. As soon as this trial phase is over, all participants must check again qualitative and quantitative results of their work. Then it is necessary to establish whether the circle of quality should continue working. The group may also decide whether to expand the quality circle or bring it in line with the changed conditions.

n) Presentation.

Each group should submit proposals for solving problems with the management of the enterprise. Of course, the work of quality circles does not end on the presentation. The group should show ways to control success.

o) Control.

The team should check whether its proposals are implemented in practice and whether the expected achievements have been achieved. If successes do not meet expectations completely or absent, the group should once again take up these proposals. Thus, the advantages and

disadvantages of the measures are revealed, and continuous improvements are made in the technical and organizational spheres.

p) Succeeding.

Quality groups can successfully operate in an enterprise if they are fully supported by management. Thanks to this, employees begin to identify themselves with the company. Interest in work is constantly growing at the expense of active joint activities for the implementation of proposals in the workplace and the elimination of violations. Close interaction with management also leads to elimination of misunderstandings at the enterprise. Employees involved in the work of quality circles can be easily “fixed” to the company because they identify themselves to the company.

When creating quality circles, there may be various problems. But after the successful introduction of quality circles, there are always issues that need to be addressed. You must adhere to certain rules when looking for such solutions.

These are most common problems at an enterprise in the work of quality circles.

a) The management of the enterprise shows a weak interest in the introduction of quality circles.

In order for the idea of quality circles to be successful it is imperative that the company management to show the full support of the idea. Without a positive attitude of the management of the company to the quality circles, their introduction is inappropriate. In many cases, the management of the company changes its position if it presents

reports on the experience of working circles of quality at other enterprises.

b) The Production council is against quality circles.

Before introducing quality circles, the production council should be convinced that this is a good idea. If you have difficulty, then you can visit other companies that already have a positive experience of quality circles. Without the advice of the company, the introduction of quality circles cannot be started.

c) The number of volunteers is too small.

The reason for the very small number of volunteer participants is often that information about the positive aspects of the activity of the circles is not sufficient. Therefore, it is worthwhile conducting a seminar for a few hours with the participation of employees, masters and unit managers. Information should be directed purposefully from top to bottom and vice versa.

d) Too many employees want to participate in quality circles.

When entering the quality circles it makes sense to start with the formation of experienced groups. First of all you need to select carefully participants for specific topics. It is worth paying attention to the good work of the participants so that the first topics are successfully processed and brought to the end. Other participants should only cooperate in the following quality circles.

e) For processing in quality circles there are not enough suitable topics.

Among managers and masters it is necessary to conduct a survey on suitable topics, noting that the solution of problems should be relatively simple and clear. Groups should not immediately deal with the most difficult problems. After the survey, you need to catalog the themes. Themes should be ordered according to priorities.

e) The quality circle has chosen too complicated topic and does not find a convincing solution.

When choosing the group, it is necessary to pay attention to the fact that at first a selection of more simple topics should be done for which possible solutions are reviewed. If the topic turns out to be too complicated and it is not possible to work out a convincing decision, then such a topic should be postponed and perhaps later reviewed again.

g) The group does not agree on the sequence of topic processing.

When selecting topics in a group, you need to pay attention to the democratic methods of voting.

The sequence of topics processing should be determined taking into account the following criteria:

1) interest in the topic;

2) urgency of its development;

3) the degree of complexity;

4) the possibilities of realization.

h) The enthusiasm of the group members is slowly diminishing.

First, you need to identify the causes and correct the errors. Members of the circle of quality need to be motivated again. The group may come new members and leave some members.

i) Some members of the group are of low interest and are often absent.

With individual members of the circle of quality you need to conduct individual conversations. It is worth finding reasons for insufficient interest. Other members of the circle who ignore the work are recommended to be excluded it from the specified time.

k) Those who are not involved in the work intercept the proposals of quality circles and submit them themselves as their own proposals.

When introducing quality circles in a production agreement, it should be discussed that during the year after the performance of the circles of the quality of presentations on all chosen topics a ban is imposed for individual proposals.

l) Quality circles solve only imaginary problems. To avoid misunderstandings and to come up with a systematic solution to selected problems, each group should act according to the following scheme:

1) clearly identify the problem;

2) to look for the causes of this problem;

3) carefully analyze the reasons and seek justification;

4) develop alternative solutions;

5) evaluate individual decisions;

6) choose, if possible, one solution;

7) control the achievement of success.

m) Quality bands lose orientation and do not move further.

For all quality circles you need to set up a specific meeting procedure. After each meeting, a short report is compiled, which must contain the following points:

1) the number of attendees;

2) the topics of the meeting;

3) state of affairs;

4) planned stages of work;

5) the date of the next meeting.

n) The quality team makes a proposal to solve problems, which is also approved by the management of the company, but not implemented.

The management of an enterprise must ensure that approved proposals are implemented as soon as possible. After all, quality circles are required for real success. You do not need to start a new topic until the results of previous work have been confirmed. It also makes sense to assure members of quality circles in accepting proposals for solving problems.

o) The management of the enterprise rejects the quality of the proposals made by the circles for solving problems.

If the proposal is rejected by the decision, the management of the enterprise should personally explain to the members of the group why these proposals are not adopted or can be implemented in the future. If the company's management constantly receives information on the

status of proposals, then the case should not be brought to the rejection of the presentation. In this case, the management of an enterprise may in advance affect the formation of the situation.

XYZ-analysis

Along with the ratio of the number and value of the subject studied in the ABC analysis, other criteria may be used to estimate volumes. Knowledge about the structure of consumption of certain types of materials is also important when XYZ-analysis materials are distributed in accordance with the structure of consumption (Table 5.4).

Table 5.4.

XYZ-analysis of the structure of consumption

Material	Structure of consumption
X	The consumption is regular
Y	Consumption tends to increase or decrease or is subject to seasonal fluctuations
Z	Consumption is irregular

Information on materials is classified according to the structure of consumption and the best decision making tools for each procurement activity (Table 5.5). It should be borne in mind that for X, Y, Z-materials, different conditions will apply to purchases.

Table 5.5.

Procurement activities

Material	Terms of procurement
X	
Y	
Z	Individual purchase orders

Further classification can be carried out according to the forecast accuracy of consumption (Tab.5.6).

Table 5.6.

XYZ-analysis for prediction accuracy

Material	Prediction accuracy
X	High
Y	Middle
Z	Low

The results of ABC- and XYZ-analysis can be combined. If we combine data on the ratio of the amount and value of ABC-analysis to the data on the ratio of the number and structure of consumption of XYZ-analysis we will obtain the planning, control and management tools for the system of material resources.

The combination of ABC- and XYZ-analysis allows obtaining additional information about the materials used in the enterprise (Table 5.7).

Table 5.7.

The combination of ABC- and XYZ-analysis

	A	B	C
X- material	High consumer value	Middle consumer value	Low consumer value
	High degree of reliability of consumption forecast	High degree of reliability of consumption forecast	High degree of reliability of consumption forecast
Y- material	High consumer value	Middle consumer value	Low consumer value
	Average reliability of the forecast of consumption	Average reliability of the forecast of consumption	Average reliability of the forecast of consumption
Z- material	High consumer value	Middle consumer value	Low consumer value
	Low degree of reliability of consumption forecast	Low degree of reliability of consumption forecast	Low degree of reliability of consumption forecast

5.3. Methods of Strategic Analysis

In controlling strategic and operational spheres of decisions are distinguished. For each of these areas you can apply different methods that help managers in managing the enterprise.

Strategic methods are used, first of all, to identify and improve future business chances and risks, that is, to search for, expand and maintain the potential for success.

Strategic goals include, in particular, developing new products and offering new services, creating new and expanding existing capacities, introducing new technologies, training personnel, attracting additional capital, developing new markets, improving the organizational structure, increasing market shares and creating new sales channels. For rapid and qualitative achievement of these goals the management of an enterprise should apply a number of strategic methods.

Strategic Controlling covers the long-term period of 4-5 years. Before developing new strategies, the company management should deal with early warning indicators. Changes in the environment affect strategic control.

The success of an enterprise depends on the ability of its management and managers to timely identify and analyze in-house problems. You can then quickly identify ways to solve problems. Information needed for decision-making should be prepared and transmitted to the managers at the appropriate time. Effective controlling is an important prerequisite for decision-making by

managers, because the controller should regularly analyze and apply the methods of information management guidance.

Operational and strategic control should not be strictly separated, since there is a close interplay between the two spheres. Operational planning depends heavily on the strategic and, in turn, gives impetus to change the strategic direction of the enterprise. Thus, operational and strategic control form a single control circuit.

The following methods of strategic control analysis can be used to improve the situation in small and medium-sized enterprises.

The curve of experience is related to the learning process. In the results of empirical studies it is proved that, when repeatedly performing repetitive tasks, costs are reduced, as employees acquire the skills to perform these tasks. The effect of the learning process was first observed in the US aircraft industry.

As a result of systematic observations, it was found that, with each doubling of the growing production volumes, the cost per unit of products related to the newly created value and cleared of the influence of prices, potentially decreased by 20-30%. The doubling of the growing volume of output and, thus the potential reduction of costs come faster than the steeper growth curve for the product (Fig. 5.6).

The curve of experience is therefore related to the newly created value. The effect of streamlining production is higher if the newly created value is higher. The newly created value represents the difference between the value of the products made and material costs (goods and services consumed in the production process):

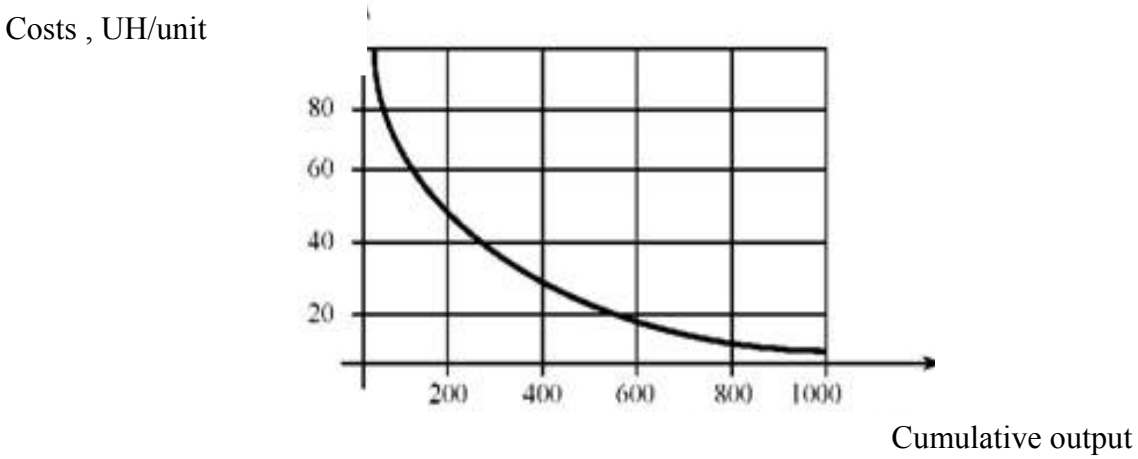

Fig. 5.6. The curve of experience

Total value

\- **Material costs**

= **Newly created value**

Total production result

\+ **Other incomes**

= **Value of the production**

Raw materials

\+ **amortization**

\+ **Other costs**

= **Material costs**

At different enterprises, the newly created value goes out in different ways. In trading firms, it is significantly less than that of industrial or service enterprises (Table 5.8.).

Table 5.8.

Value of newly created value

Type of the enterprise	Share of the newly created value, %
Trading	20-30
Industrial	40-50
Service	70-80

The magnitude of the effect of the curve of the experience is influenced by various factors. Often, this is a combination of many factors that lead to lower costs for the enterprise. In practice, it is often difficult to decompose the cumulative effect of the experience curve into components. Undoubtedly only that the result may be a reduction in the cost of the enterprise.

The magnitude of the effect of the curve of experience is influenced by the following factors:

1) the effect of individual and group training of employees;

2) improvement of organizational structure and organization of processes;

3) introduction of information and control systems;

4) creation of an effective planning system;

5) effective control;

6) conducting purposeful regulatory measures;

7) improvement of methods of work organization;

8) improvement of coordination of production processes;

9) introduction of an effective system of maintenance and repair of equipment;

10) increase of efficiency of warehouse economy;

11) improvement of production;

12) increasing the productivity of staff by systematic training in the workplace and at the expense of repetition of work;

13) economical consumption of materials;

14) reduction of waste volume;

15) improvement of work control;

16) reducing the number of hours of overtime work;

17) introduction of new production processes;

18) reduction of energy consumption;

19) improvement of production processes;

20) intensive study of modern methods of industrial production;

21) the use of new production technologies;

22) purposeful improvement of the design of products:

23) reduction of the number of precious items in the products;

24) the exclusion of individual parts of the products if necessary;

25) standardization of products;

26) reducing the number of changes in products;

27) increasing the number of repetitive processes in production and sales;

28) optimization of the size of the parties;

29) better equipping workplaces with tools and devices;

30) optimization of equipment loading;

31) optimization of equipment placement.

The effect curve of experience does not work automatically. The management of the enterprise should constantly work to ensure that with increasing production improvements were in continuous progress in all departments. Altogether in aggregate toit will lead to reducing costs. Thus the effect of the curve of experience is implemented in reducing the cost per unit of output by 20-30% only if the qualifications of the personnel are constantly increasing and the enterprise constantly introduces new concepts, technologies and methods of production.

The main point is that the leadership should stimulate the continuous quantitative and qualitative learning process in the enterprise. With an increase in volumes of production, it is also possible to proceed with the implementation of measures to optimizing the production.

The effect of the curve of experience relates to variable and constant costs. Increasing production capacity requires rationalization measures. Especially at the stage of growth of the product life cycle, the company needs large production capacities, which, in turn, will cause changes in the spheres of production, warehousing and sales. Most companies have significant reserves of declining variables and fixed costs. These reserves can be realized within the framework of a competent cost management system. Thus, the competitiveness of the company is not only stored, but also increases.

The effect of the curve of experience is particularly evident in the commercial and technical spheres of the enterprise.

a) Commercial sphere.

With the growth of output, the success of rationalization in the commercial sphere of the enterprise is achieved by:

- improvement of the sales system;
- increasing the effectiveness of marketing activities;
- improvement of the organizational structure;
- more cost effective materials;
- better use of energy;
- better service and repair of the equipment;
- improvement of the organization of work;
- the best conditions for the purchase of materials;
- increasing the effectiveness of the information system;
- improvement of products;
- more precise planning, quick control and more effective regulation.

b) Technical sphere.

If the equipment of the enterprise has a high technical level, then variables and constant costs can be reduced by:

- increase in equipment productivity;
- improvement of production methods;
- increase loading of the existing equipment;
- continuous increase of labour productivity in separate divisions of the enterprise;
- improving the use of existing equipment;
- changes in technological processes;

- current improvement of products;

- acceleration of mechanization and automation of production processes;

- reduction of waste and defects;

- standardization of production processes.

Logistics is increasingly mentioned when it comes to business practices. At the same time, it mainly means only one sphere of logistics, i.e. "production on time". The strategic importance of logistics is often not taken into account or underestimated. It has been established that logistics costs for many enterprises are still too small.

Logistics must ensure that the necessary materials and products (finished products and semi-finished products) will be available at the time, in the right place, in the required quantity and desired quality. Thus, logistics performs a service function at the enterprise.

Logistics is shere of knowledge that studies commodity flows that begin with suppliers of raw materials passing through the enterprise and ending with buyers, i.e. processes of moving and storing goods, it coordinates such functional areas of the enterprise as supply, production and sales (Fig. 5.7.).

Logistics allows you to optimize flows of goods and information inside and outside the enterprise and creates different opportunities for streamlining production to reduce costs.

Logistics requires a comprehensive approach in various areas of the enterprise. At the forefront there is the optimization of loading all

its capacities. The problems of logistics should be weighed together in the areas of R & D, supply, production and marketing.

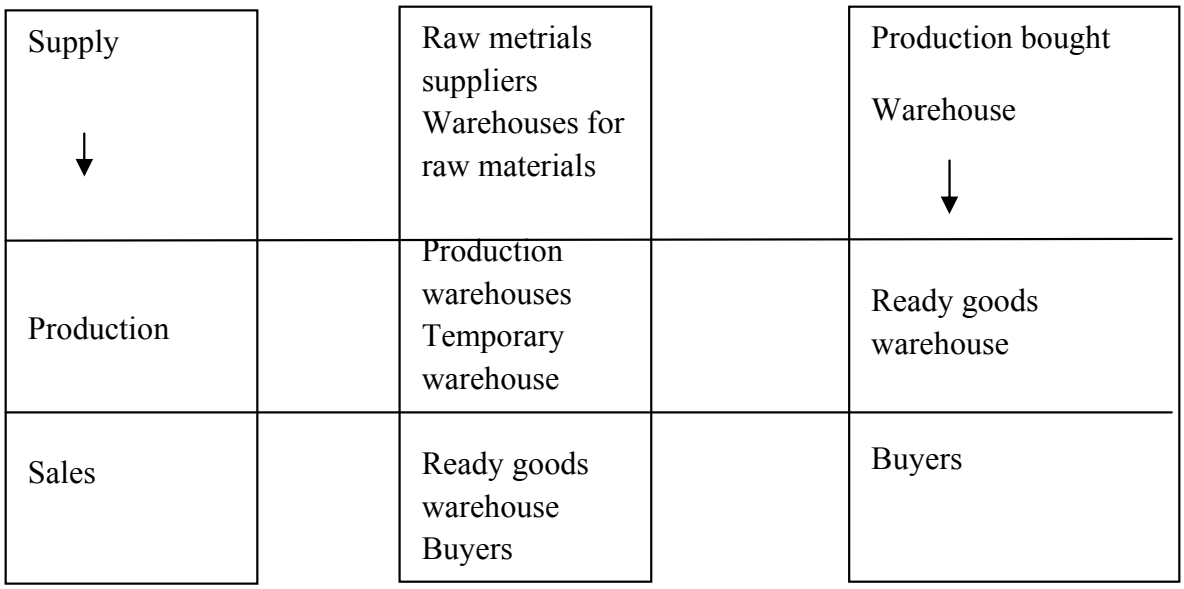

Fig. 5.7. Movement of goods at the enterprise

In logistics it is, therefore, about in-house optimization of the materials and goods flows associated with production and purchasers. Along with this, logistics is engaged in questions of optimal reduction of warehouse capacities, stocks of raw materials and materials, as well as reduction of the number of warehouses of finished products. It is becoming increasingly important to create the best opportunities for waste disposal.

A systematic approach, implemented with the use of an integrated planning, control and regulation system, is important for successful streamlining of materials and goods. Optimization of flows of materials and goods depends primarily on market conditions, production, warehousing and transport facilities at the enterprise.

Creative management of logistics is becoming more and more important. Creating the EU internal market forces companies to think about new logistics concepts. A single European logistics network can help accelerate material flows.

Suppliers, warehouses of raw materials, manufacturers of parts, units and end products, distribution centers and regional warehouses are connected to a single network. Logistics networks are increasingly expanding and internationalized. This applies both to procurement and production, and to sales. National networks need to be thoroughly investigated and largely restructured. Regional warehouses need to be improved or eliminated. Customers should be more fully serviced from one center. Points of the reinforcement of the logistics network are allocated on Fig. 6.8 in the form of circles with crosses.

German companies are increasingly serving their European clients directly from Germany. However, these tasks can also be transferred to an external specialized firm. System logistic thinking becomes typical.

Logistics covers various divisions of the enterprise. Particular attention is paid to the relationships between suppliers and buyers, thus new potential for streamlining can be found.

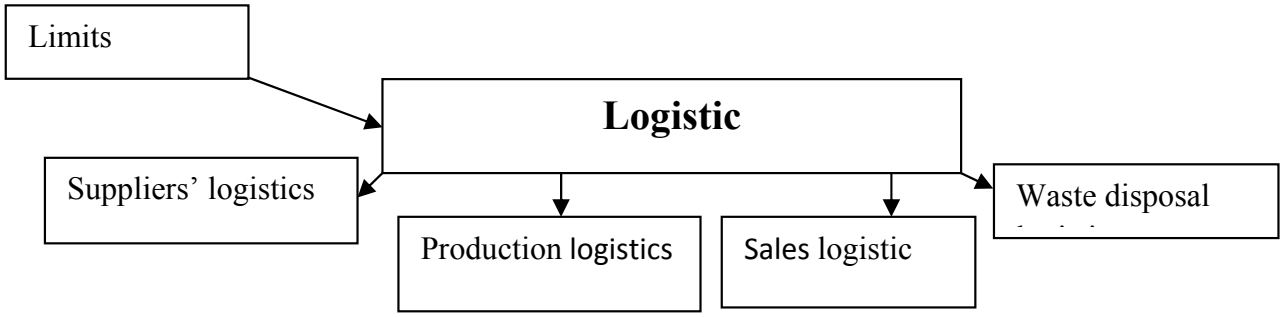

Fig. 5.9. Logistics management

Effectiveness of the company's activities can also be improved by implementing the concept of logistics. The consistent implementation of the principles of logistics ensures higher availability of goods, better customer service and lower investment.

Creating an effective information system is essential for the planning, control and regulation of logistics processes. Detailed information and good communication are therefore prerequisites for economic logistics and logistics that meets market requirements. Creating information and technical relations with suppliers and buyers increases the efficiency of logistics.

The optimal structure of commodity and information flows is based on the links of market partners that go beyond the boundaries of the enterprise. Instead of the confrontation of suppliers and buyers which is often encountered, cooperative thinking must come which can increase the competitiveness of the enterprise in the long run.

An integrated information system enables users to receive the same information from the entire chain of goods movement. This explains the increasing importance of information and communication.

Only a relatively small number of suppliers make direct exchanges with key buyers. Therefore, in many medium-sized enterprises there are problems with the implementation of the concept of logistics. Direct access to data will allow enterprises to reduce the number of levels of production and reduce costs. The exchange of data will also allow synchronization of production processes and sales of goods at enterprises.

Reserves for further rationalization of production are largely exhausted. Suppliers, especially large enterprises, need to intensify the concept of deliveries "on time". More and more logistics know-how are becoming more valuable, as markets will change more and more quickly. Along with large enterprises, small and medium-sized enterprises, as well as trade and service enterprises must meet these requirements.

The cost of logistics is much greater than some managers think. The share of logistics costs in circulation is on average about 20-30%.

Only some entrepreneurs make calculations for logistics costs. Many of them plan to keep an accurate account of these costs in the future because they think that the success of the company will be largely determined by logistics.

By means of production and supply "on time" it is possible to reduce material reserves by almost 80%, to reduce warehouse space by almost 60%, and to reduce the cost of equipment (equipment) by almost 50%. With the growth of the productivity of logistics systems, it can thus significantly increase the profitability of the enterprise.

The costs of logistics need to be systematically taken into account and evaluated. These are costs associated with the procurement, placement, storage, transportation and distribution processes. The number of logistics operations should also be planned and monitored.

In accounting for costs and results, the company management can use indicators that are oriented to logistics.

1. Supply.

1.1. Number of orders to suppliers.

1.2. Supply costs for orders.

1.3. Number of suppliers.

2. Placing orders.

2.1. The number of contracts with customers.

2.2. Costs for one accommodation.

2.3 Operations for placing on one authorized person.

3. Warehousing.

3.1. Number of storage moves.

3.2. Costs for each storage transfer.

3.3. The number of warehouse shipments per employee.

4. Transportation.

4.1. Number of vehicles.

4.2. Costs per transport operation.

4.3. Costs per kilometer of transportation.

5. Distribution.

5.1. The number of contracts.

5.2. Expenses for one contractual position.

5.3. Costs per employee.

By reorganizing the production space the costs of the plant's intangible flows can be reduced. Optimization of storage facilities also helps to reduce costs. Warehouse equipment that takes up space can increase the productivity of warehouse work. Creating central warehouses leads to further cost savings. Automated warehouse equipment significantly reduces access time to production materials.

Since the need for an intermediate buffer in storage in the future will disappear, it will be possible to reduce the time from the supply of parts to the release of finished products for up to 10 days. This, in turn, will reduce the cost of storage by 20%. Enterprises will be able to respond more flexibly to market changes and more quickly meet customer specific needs.

This point of view is becoming more widespread in many industries. Companies operating in narrow market segments against a large number of competitors are forced to constantly use the potential of logistics, which gives them competitive advantages.

From the point of view of the calculation of costs and results, one must also carefully consider the problem of own production or supply from the outside. The management of an enterprise should decide whether the company should independently carry out all work in the field of logistics or to execute it by a third party.

Services in the area where the company interacts with the market, can be partially or fully acquired on the side. Specialized firms that make logistics services take on, for example, warehousing, transportation and marketing activities. The management of an enterprise must first check whether it is more profitable for the enterprise to carry out logistics work independently or to acquire logistic know-how for this purpose. Every decision "to do it yourself or to buy on the side" allows you to somewhat reduce fixed costs.

Logistics is intended not only for large enterprises. Medium-sized enterprises, due to their flexibility, can also, by consistent use of logistics structures, disclose significant rationalization reserves.

Establishing in 1993 the EU internal market confirms that enterprises need to be more involved in logistics. A huge European market will primarily affect the logistics of purchases and sales. Numerous requirements of the EU internal market force companies to better plan, control more precisely and more efficiently regulate their logistics. The EU internal market has created a new region without internal borders, in which products, services, capital and labour resources can be exchanged without restrictions. The new institution however does not lead to homogeneity of markets and buyers. The diversity of needs is increasing. The same applies to competition, which becomes even more aggressive and will penetrate other areas. Logistics will become even more important in the future, as the structures that provide the distribution of goods will change. Thus, the EU internal market places new demands on logistics. The reasons for this are:

a) harmonization of norms and standards which also promotes the concentration of production and the resulting synergistic effect allows reducing the cost of production and services;

b) liberalization of conditions of transfer of services and capital, which causes increased competition in the market of forwarding services, which leads to a reduction in the cost of transportation of goods and the expansion of the spectrum of services provided by freight forwarding firms;

c) the termination of border control, which leads to time saving for customs formalities, which significantly accelerates the movement of goods and reduces waiting time.

Creating the EU internal market will accelerate the development of logistics and lead to faster implementation of planned logistics measures.

Enterprises must make sure that they need a comprehensive logistics orientation, which will reveal significant cost savings and acquire long-term competitive advantages.

The logistics chain extends from suppliers to the end buyers. A link between the manufacturer and the consumer may still be trade and logistics companies. Integrated logistic thinking thus covers the horizontal integration of the logistics chain. Integrated logistics organization requires the inclusion of such functional areas of activity as purchasing, placement, warehousing, planning and regulation of production and sales.

Most of the enterprises strictly delineate separate areas vertically. Each functional unit aims to optimize the loading of its own capacities. However, such a concept, however, does not take into account market requirements as the most important factor of success.

Integrated thinking, on the contrary, coordinates individual organizational units horizontally to respond quickly to changing market demands. Thought, focused on complex processes, requires going beyond the scope of the individual enterprise and including the suppliers into the horizontal communications. Close cooperation will

allow strengthening the competitiveness instead of confrontation between suppliers and the enterprise in the long-term.

Many entrepreneurs are already aware of the benefits of logistics, but nevertheless despise logistics in developing their strategic plans, which can create problems with future competitiveness.

In connection with the intensification of international competition, special attention should be paid to logistics. Entrepreneurs should ask themselves how fit they are for the future. Only in this case, they are able to respond flexibly and quickly to market changes. The faster the entrepreneur implements the principles of logistics at his own enterprise, the better he will be able to withstand in the future competition. An entrepreneur needs a comprehensive concept, not an isolated logistics solution. The concept should cover the entire range of solutions from transportation, warehousing, organization of material flows to providing services to customers.

Logistics as a result of globalization of markets and shortening the life cycle of products becomes a strategic factor for success in the competition. The managers and managers of the enterprises should understand that complex problems of logistics concerning the whole enterprise should be solved as soon as possible. However, many entrepreneurs have not yet realized the importance of logistics as a factor in reducing costs and increasing competitiveness.

Logistics in the future will become the key to success. Companies that despise logistics will face markets with great difficulty. The best logistics system will in the future be the best weapon in competition in

the fight for market shares. Without logistics, no enterprise will be able to succeed in the long run. Entrepreneurs who do not realize this fact will quickly be pushed out of the market.

After analyzing such areas of responsibility as procurement, production, distribution and utilization, one can establish the growing influence of logistics on the competitiveness of the enterprise in the future. The strategic importance of logistics is seen in the following prospects:

1) logistics will then be central to entrepreneurial thinking;

2) logistics should come with a higher qualification frame;

3) in the organizational structure logistics will also take place at the upper level of the hierarchy;

4) logistics will reduce the supply of goods and reduce the time of delivery;

5) the use of progressive information and communication technologies will increase the value created again;

6) complex logistics will require a greater depth of cooperation;

7) costs for logistics at enterprises will be reduced;

8) the profit of enterprises due to the consistent use of logistics will increase.

Portfolio analysis is a new method that allows you to improve strategic planning at the enterprise. This method involves analyzing enterprise strategies in the long run. Based on the results of portfolio analysis, the company's management can make more informed decisions about future business directions.

As a result of continued growth and relatively high profitability of business in the past, business strategies were mainly focused on market expansion. However, as a result of falling market growth, increased competition for market shares and falling profitability, many businesses were forced to consolidate their business. In order to survive in the long run, the company had to overcome structural problems.

The management of an enterprise should answer the following questions:

1) What is the situation with competition?

2) Is there a balanced food safety program available on existing markets?

3) Are they offering their own products on attractive markets?

4) Doesn't operate an enterprise at too many local markets?

5) At what stages of the life cycle are the individual product groups?

6) How big is the profitability of individual product groups?

7) Which product groups should be stimulated?

8) Which product groups should be excluded from the assortment program in the future when they become unprofitable?

9) Do you need to introduce new products to the market in the future?

10) What cash flows can we expect from the future product groups?

11) What investments should be made in the future for individual product groups?

12) Which strategies should be followed to improve the company's position in the future?

Portfolio analysis is a suitable method for answering the questions posed.

With the help of portfolio analysis, the enterprise is divided into strategic business units and analyzes them separately. Strategic business units that can be used in short-term planning are particularly suitable for product groups. For different product groups, different strategies can be developed in the future.

The concept of the portfolio analysis came from the financial sector and was originally used to analyze the financial investments in securities. However, in the future, the concept of portfolio analysis and planning extended to the product program of the company, which was evaluated according to special criteria.

Strategic business units operate (position) in strategic business segments (business segments). The enterprise consists of separate strategic segments of business, analyzed on the basis of their mutual influence. The strategic business segment is a product-market mixture for which you can develop an independent development strategy. The chances and risks of each strategic segment of the business depend on the determinants of success.

The strategic business unit covers homogeneous product and service programs for a single specific market with a single competitive situation. In practice products, product groups or service sets are often accepted as strategic business units. By creating strategic business

units, transparent and independently planned product groups should be created that represent the potential of the company's success.

In the formation of strategic business units in the enterprise there are the following advantages that increase its competitiveness:

1) heads of the enterprise are unloaded;

2) special managers obtain the responsibility and authority to manage these business units;

3) cooperation of functional services of the enterprise is developing in the course of making market decisions;

4) flexibility increases due to the decentralization of food and market solutions;

5) the motivation of managers increases due to their involvement in the development of strategies;

6) the identification of the managers to the objectives of the enterprise is increased;

7) the responsibility of managers for achieving the planned results increases;

8) functional organizational forms are kept;

9) planning, control and regulation at the enterprise improve.

Indicators of market share and market growth suit well as criteria for the analysis of individual product groups of the enterprise. Portfolio "Market Growth - Market Share" allows conducting a simple analysis of enterprise products in order to develop specific strategies in the future.

Portfolio mapping is based on strategic success factors:

1) relative market share;

2) the future growth of the market.

The most well-known in practice is the Boston Consulting Group developed a clear portfolio matrix "market share - market growth"

Market growth and relative market share are selected as the most important criteria for the market success of the enterprise. If we contrast the two criteria in the matrix, then we will have for analysis four strategic segments in which individual strategic business units can be positioned. These segments allow you to make causal conclusions about the potentials of success.

A particular advantage of a matrix representation as a strategic tool is that a complex subject can be described by only two parameters. Thanks to this management, companies and managers have the opportunity to get a simple and vivid idea of the complex interdependence.

The product groups are positioned in four segments of the matrix based on the criteria of occupied relative market share (X axis) and market growth (axis Y).

For specific segments you can develop special strategies.

As the curve of experience shows, the relative share of the market is of particular importance. With the growth of the market share, potential costs per unit of output are reduced and, consequently, the potential share of profit increases.

Each company should try to increase its market share in order to improve its competitive position and increase its profitability. The

higher the relative market share, the lower the cost of the enterprise will produce products. A high relative market share is a sign of enterprise strength.

*Relative market share = market share of the company / market share of the market leader * 100%.*

There is a direct link between profitability and market share. The use of the experience curve shows that, with each doubling of the accumulated output, the costs per unit of output, which are related to the newly created value and cleared of price influence, are reduced by 20-30% potentially.

Thus, the profitability of a product depends on the size of its market share.

Investments in the expansion of market shares are particularly profitable in fast-growing markets. High market growth also facilitates the achievement of a higher market share, as competitors, in spite of the relative loss of their market shares, can also increase their turnover. Therefore, the resistance of rivals to increase the company's market share is not as strong as in foreclosure competition on the stagnant markets.

Market growth

Growth in the market can be determined by the average growth of the gross social product, or even established from more pragmatic understandings. It is not about the precise definition of market growth, but rather about the projected trends.

The high capacity of the market accelerates the effect of the curve of experience and leads to a significant reduction in costs per unit of output. An enterprise that, by increasing its market share, will seize market leadership faster than its competitors will reduce costs and at the same market prices will provide a large share of profits.

Strategic business units of an enterprise should be positioned in separate strategic segments of the portfolio matrix. This task can be solved on one of the in-house workshops of managers.

After a brief introduction of managers grouped into several groups, it is expedient to select from 4 to 6 products that are already successful in the market, both problem and new, and to position them in separate strategic segments of the matrix in the portfolio analysis problem. As a result of the work of individual groups, discussions are organized. At the end of the seminar, managers are given the opportunity to discuss different approaches to analysis and develop new strategies for product groups.

According to occupied positions on the life cycle curve and market positions, product groups are divided into certain portfolio categories, discussed below.

a) Teens

This category includes grocery groups with relatively low market shares, but with a high market growth rate. Teenage products should be analyzed in more detail because they can be both successfully introduced into the market and torn by the market.

b) Stars.

Star products have a relatively large market share and market growth indices above the average. They have the potential of a market leader until the saturation stage. Such products are the most important for the company, because they provide its future.

c) Money cows.

This product group has a relatively high market share, but with insignificant chances for market growth. It is positioned on barely growing or already stagnating or even on collapsing markets.

d) Poor dogs.

These are grocery groups with small market shares and low market growth rates. For the enterprise, such product groups are not of interest because they do not have a significant market potential and do not have particular competitive advantages. These product groups occupy positions at the edge of stagnant markets and collapsed markets.

The management of an enterprise should remember that after the introduction of a new product, it passes consistently through all strategic segments. Teenage products should turn into stars, then become cash cows and, finally, poor dogs and leave the market.

In order for business managers to better understand the value of individual product groups, groups need to indicate the positions of product groups in strategic segments. This can be done by setting the diameter of the circles of the share of each product group in the turnover of the enterprise.

The sooner the individual circles move into the area of poor dogs over time, the greater the risk for the company to be squeezed out of the market. After conducting a portfolio analysis, managers can immediately assess how great a threat to the company's existence is.

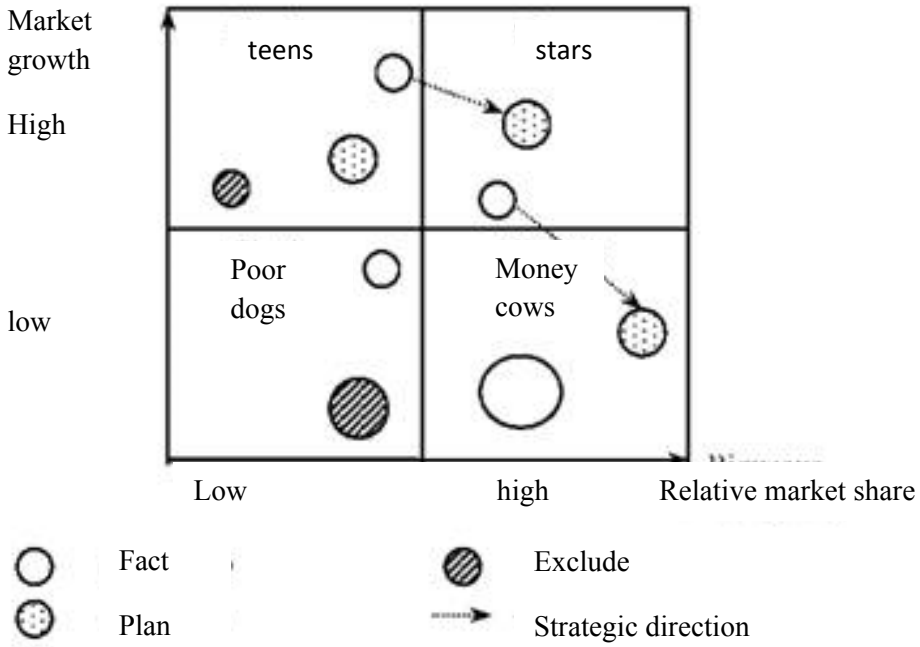

Fig. 5.10 Actual and target portfolio and strategic directions of development

If the product portfolio of the enterprise is unbalanced, efforts should be initiated to restore balance between individual strategic segments. To do this you need to develop and implement new strategies.

Since graphic images are better perceived by staff than tables, it is advisable, in addition to the actual positions of strategic business units,

to be presented in the portfolio matrix and their target positions so that it is visible and which product groups should be excluded in the future from the portfolio and which strategic directions of development to outline for other product groups (Fig. 5.10).

Managers and managers of the enterprise should know what cash flows can be expected in the future from individual product groups and portfolio as a whole. Therefore, all four portfolio categories should be analyzed in terms of their profitability.

a) Teens

In order to provide a relatively high market share for the product group at the first stage of the life cycle, and thus reduce costs in line with the experience curve, significant investments are required. Due to small initial turnover, the costs will be higher than the income, and the cash flow of adolescent products will be negative.

b) Stars.

These grocery groups could take leading positions in the growth stage. However, revenues from them should be invested in the expansion and protection of market positions. Thus, the cash flow of star products is zero.

c) Money cows.

The hope for a positive cash flow for these product groups is greatest because their market share is relatively high and they are in the stage of maturity. In this situation, competition has stabilized, the relatively high market share has led to the lowest costs per unit of output and thus to a high proportion of profits. As the market is barely

growing or even stagnant, these product groups do not require much expense to expand their capacity. Therefore, the cash flow of cow products is particularly high.

d) Poor dogs.

These product groups represent a problem for each business, because they are in a phase of market collapse, with relatively low market shares. With these product groups, the company often has a zero cash flow or even a loss.

Analysis of money flows is presented in table 5.9

Table 5.9.

Cash Flow Analysis

Relative market share	**Money flow**			
	Stars		Money cows	
High	Incomes, outcomes	+ +	Incomes, outcomes	+ + +
	Money flow	0	Money flow	+ +
	Teens		Poor dogs	
Low	Supplies, Payments	+	Supplies, Payments	+ - (-)
	Money flow	-	Money flow	0 (-)

If the company management and managers know the positions of individual product groups on the life cycle curve, you can accurately determine the actions for the future. In deciding on future investments, product groups that promise success in the market should be taken into account to a greater extent. All divisions of the company are thus included in the strategic concept of the enterprise.

Through portfolio analysis, in practice, develop and implement the best of possible strategies. Positioning product groups in the portfolio, thus facilitates making the best decisions on the rational investment of capital in the enterprise.

In order to avoid the wrong investment decisions for each portfolio category, you can adopt differentiated strategies.

a) Teens

The standard for teenage products should be a strategy for investing in order to acquire a higher market share. Financial means for this should provide cow products that bring a large cash flow.

When this product group has been successfully introduced to the market, it needs to be supported further. If it is established that this product group is failing on the market, then it is necessary to disinfect and bring it out of the market.

Teenage products require large investments. They do not have liquidity until the company provides them with a high relative share of the market. If they become stars, they will provide growth in the future. Thus, teenage products require the introduction of large volumes of capital into the market.

Distinguish the following regulatory strategies for individual portfolio product categories:

1. Teens: Stimulate growth or exclude from the program.
2. Stars: speed up growth.
3. Money cows: milking.
4. Poor Dogs: Exclude.

b) Stars.

For stars, the regulatory strategy should consist of additional investment, in order to acquire an even larger market share. In this case, the turnover can be further increased.

These grocery groups, as a rule, themselves finance their further growth. They give a cash flow that needs to be reinvested to maintain and increase market share in a fast-paced market. Stars provide growth in the present. By lowering the growth rate of the market they become cash cows and then bring in a lower investment cash flow for the future. These products, therefore, suffer from growing costs at significant financial cost.

c) Money cows.

Normative strategy for cash cows is their "breeding". As their market is no longer growing, the cash flow they bring should be directed towards developing new products and supporting teenage products.

Cash cows generate high incomes, far exceeding the costs necessary to protect their market positions. Thus, they provide a cash flow in the present for the entire enterprise. In this regard, cash cows determine the market for products that provide high financial results.

d) Poor dogs.

For these product groups, a regulatory strategy is to be used to transfer their capacities to teenage and starter products, as the latter, due to their rapid growth, need additional capacities.

Poor dogs are problematic food groups and, as a rule, not only do not generate profits, but also bring losses. Therefore, these product groups should be excluded as soon as possible from the production program. they can be offered on the market and further, unless they are necessary to replenish the range of sales. In this case, instead of own production, dog products can be purchased on the side and included in the program.

The investment decision should be thoroughly prepared and implemented. Since the financial capacity of most companies is limited, investments need to be made in products promising market success.

All investments should be targeted to increase the return on investment. Portfolio analysis allows you to check the success of individual investments.

If, as a result of portfolio analysis, there will be a change in the position of product groups over several time intervals, then it is worth checking and, if necessary, adjusting the investment plan of the enterprise.

The return on investment capital is only possible when investments are expedient and effective. False investments only lead to an increase in fixed costs, which, in turn, negatively affects the amount of return on capital.

The following types of investments should be made for individual portfolios:

1. Teenagers: investment in expansion.

2. Stars: investment in rationalization.

3. Money cows: investment in rationalization.

4. Poor Dogs: Disinvestment.

Potential analysis

A company's success in the market depends on many factors that can be explored through potential analysis. Such an analysis reveals weak and strong sides of the company. Enterprises are more competitive, the better they use all market chances and the faster they eliminate their weaknesses.

Once a year, company management and managers should conduct a capacity analysis to systematically determine the extent and effectiveness of its use. To do this, it is first necessary to establish the most important criteria for assessing the potential needed for successful market operations in all functional areas of the enterprise, primarily marketing and sales. To make a list of criteria and to rank them according to the degree of importance can be on the internal firm seminar of the managers of the enterprise.

As an example, let's list the following criteria:

1) the breadth of the assortment program;

2) the structure of buyers;

3) sales organization;

4) distribution of goods in trade;

5) orders processing;

6) the program of additional services;

7) cost control;

8) logistics;

9) advertising;

10) production equipment and technology;

11) innovative ability;

12) loading capacities;

13) sales program;

14) readiness for deliveries;

15) flexibility in decision making;

16) quality;

17) regional sales office.

After developing the list of criteria, each criterion needs to be evaluated, the best - in comparison with the market leader, on a scale from 1 (very good) to 9 (very bad).

In analyzing the potential, all managers of the enterprise must participate, each of which must answer the questionnaire questions. It is better if the profile is anonymous, it emancipates managers and increases the objectivity of the answers.

Estimates of the requested are summed up and averaged. Sharing reflects the actual company profile. From the graphical representation of the results of the analysis of potential, it is evident on what criteria a market leader surpasses our enterprise. The results of this analysis determine the actual and required capacity for the enterprise.

In practice, it often turns out that a market leader surpasses your business in many ways. The market leader has, for example, the best

personnel, offers the market the best products, thereby more intensively uses market chances.

To make the distinction between your own business and the market leader more visible, you need to identify the most important criteria. These include, in particular, the sales program, advertising, product quality, and the qualifications of external sales staff. It is also necessary to check the breadth of the assortment, the program of additional services, readiness for deliveries and the innovative ability of your own enterprise. Distribution of goods in trade can be of great importance for some enterprises. It is also necessary to take into account the flexibility of the decisions, since it is a cooperative management style. The structure of consumers, production technologies and logistics also refer to the most important criteria by which a market leader can surpass your enterprise or give it to him.

First you should interview your own managers. In some cases it is advisable to interview the most important clients (A-clients). Evaluate the responses of managers and clients separately.

The management of the company and managers must first analyze the parameters in which their enterprise is significantly inferior to the market leader. Next, measures should be developed to improve these parameters with clearly defined deadlines and responsibilities. Of course, it would be silly to strive to improve all the parameters right away, it would only lead to the spraying of forces and would have succeeded in questioning. First, you have to solve the most important problems. The staff of the enterprise should, within a short period of

time, see that the problems discovered are systematically analyzed and weighed.

Competitors' actions and demand trends affect changes in industry, trade and services. Therefore, new market situations are constantly emerging, which enterprises, if they want to succeed, must study thoroughly again and again.

Capacity analysis needs to be conducted more than once, and whenever possible annually, since enterprises must continuously compare themselves with competitors.

On the basis of the results of the potential analysis, special measures are being developed to forcibly strengthen the identified strengths of the enterprise and gradually eliminate the weaknesses. Since individual enterprise parameters identified during the potential analysis can be improved only for a sufficiently long period of time, it is necessary to develop and implement new strategies. Thus, the results of the analysis of the potential directly affect the strategy of the enterprise.

The results of the potential analysis should also be used to test and correct strategic objectives related to the competitive situation and the development of markets. Appropriate strategies are used that are transformed into action plans with defined deadlines and personal responsibility for achieving goals. With the help of the computer is processing data to control the level of achievement of goals.

Analysis of strengths and weaknesses of the enterprise (ASW) is an essential tool of strategic planning. With the help of it, you can

quickly and simply determine the managers' opinion about their own enterprise. Well done analysis of strengths and weaknesses of the enterprise (ASW) increases the understanding of the problem by a team of managers. Participants in the discussion quickly grasp the information about the weak and strong sides of their enterprise. This cognition is particularly important for developing suggestions on issues that need to be addressed in the future.

To assess strengths and weaknesses determine criteria for all major areas of responsibility of the enterprise. After that, make up a corresponding questionnaire. Criteria can be set on an in-house seminar for managers.

Proposals of managers and managers of the enterprise on the criteria of evaluation are reduced to a catalog, which includes, for example, the following positions:

1) prices;

2) product design;

3) repairability of products;

4) ease of operation of products;

5) an additional services program;

6) product quality;

7) the price / quality ratio;

8) packaging,

9) life span of products;

10) ease of use;

11) application possibilities;

12) safety standards;

13) quality of raw materials;

14) prices for raw materials and materials;

15) production costs;

16) service;

17) technical level;

18) know-how;

19) marketing;

20) market share;

21) image;

22) terms of delivery;

23) distribution system;

24) terms of payment of products;

25) accounts receivable;

26) economic relations;

27) productivity;

28) creativity;

29) R & D.

Then the developed criteria can be grouped according to the areas of responsibility and evaluated on a certain scale.

Then, alternative options for future development are being formed. It is worth keeping the transparency of all processes and operations associated with the development of the scenario.

The script is an important auxiliary tool for strategic planning at the enterprise. For each scenario option, you can make alternative

strategic plans. In case of having some event happening and it was envisaged in the scenario, the company's management can act quickly and in accordance with the situation. The results of the implementation of the scenarios should facilitate and improve the quality of future business decisions. Such decisions include, in particular:

1) expansion of marketing organization;

2) own production or supply from the side;

3) the structure of the assortment;

4) trademark policy;

5) cooperation;

6) alliances.

With the help of scripts, they try to predesign some imaginable pictures of future development. In doing so, all the necessary prerequisites and possible changes in the influencing factors are taken into account and mutually agreed upon. The results of the implementation of the scenario allow the company to make important conclusions.

Thus, you can see alternative pictures of the future, as in the script. The description begins with the current state and ends with a possible future situation.

The development of a script begins with a thorough analysis of the actual situation for the subject of study. All quantitative and qualitative information is taken into consideration and processed. For the main influencing factors, the hypotheses are formulated. Also possible outrageous events are also mentioned.

The present is determined by the infrastructure, knowledge, laws, technology and behavior of consumers and market partners that are weakly changing in the short run. Outrageous events do not play an appreciable role. Operational planning is determined to a large extent by the structures of the present.

If we look into the future, then the influence of the present gradually decreases. The spectrum of opportunities extends like a funnel, in which different pictures of the future fit.

The script development team needs to include managers with a broad outlook in relation to market development, knowledge of individual products and features of competition. Members of the group must clearly express and defend their opinion and to withstand professional criticism from others without any special problems.

The script development process includes the following main steps:

1) definition of the subject of research;
2) identification of the environment;
3) description of the initial state;
4) development of hypotheses of future development;
5) definition of outrageous events;
6) script development;
7) formulation of the strategy of the enterprise.

Control questions

1. How are deviations from norms classified?
2. What is the purpose of comparative analysis?

3. What is the ultimate goal of factor analysis?

4. What is cost differentiation and what is its application in controlling?

5. Describe the main methods of cost differentiation.

6. What is ABC analysis and what is its field of application?

7. How can you determine the optimal amount of orders?

8. What is the sequence of strategic cost analysis?

9. What is the "break-even point" and in what ways can it be determined?

10. What is marginal income and what is the method of calculation of coefficient of marginal income?

11. What are the ways of determining the result of the impact of changes in costs, price and volume of sales for profit?

12. What is a "hypothetical unit of production" and in what cases is it calculated?

13. What are the features of the analysis of the relationship "costs-volume-profit" in the conditions of multi-product production?

14. What are the assumptions underlying the analysis of the "cost-volume-profit" relationship?

15. What is the purpose of uncertainty and sensitivity analysis?

16. What criteria are the basis for making management decisions balanced?

17. What is the purpose of analyzing the use of marginal income?

18. What is marginal revenue per limiting factor and when is it used?

19. What is a "time horizon" and what is the scope of controlling methods in relation to it?

20. What is the ultimate goal of operational and strategic methods of controlling?

21. What exactly refers to operational methods of controlling and what performance indicators do they affect?

22. What is the relationship between operational and strategic controlling?

TOPIC 6. EXPERT DIAGNOSTIC OF ECONOMIC AND FINANCIAL STATE OF THE ENTERPRISE

Content

6.1. Essence of expert diagnostics of financial and economic conditions of the enterprise

Expert diagnostics is a procedure of obtaining information about the state of the object of research and its evaluation by specialists-experts for further decision-making. Expert diagnostics of the financial and economic state of the enterprise is caused by the need of constant control of management of the enterprise by the ratio of income and expenditure, as well as internal and external factors of influence on these indicators.

The main objective of the analysis of the financial and economic state of the enterprise is preparation of information for making effective decisions at all levels of enterprise management. Diagnosis can be done using a wide range of specially designed strategic and operational methods (Figure 6.1).

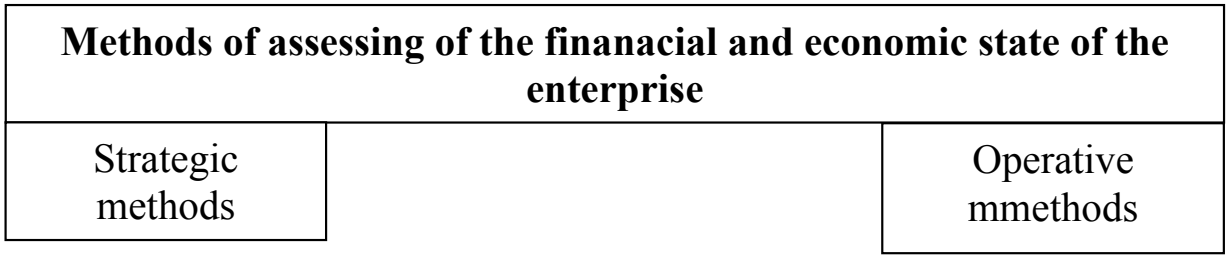

Fig. 6.1. Methods of diagnostics of financial and economic condition

Before starting an expert diagnosis, it is necessary to define clearly its goals and formulate the appropriate task for the work of experts. The objectives of the diagnosis of financial and economic status are divided into three main groups (Table 6.1).

Table 6.1.

Groups of goals of diagnosing of the financial state of the enterprise

Groups	The main goals of diagnosing of the financial state of the enterprise
I Group	- objective assessment of the results of commercial activity; - comprehensive identification of unused reserves; - mobilization of reserves to increase the economic efficiency of production in planned periods
II Group	- constant control of rationality of functioning of economic systems; - control over the implementation of plans and budgets; - control over production and sales processes
III Group	- forecasting of economic activity; - scientific substantiation of perspective plans; - assessment of the reality of the plan

The main objectives of the diagnostics of the financial and economic state of the enterprise have made it possible to concretise and formulate for the expert analysts the following tasks, presented in Fig. 6.2.

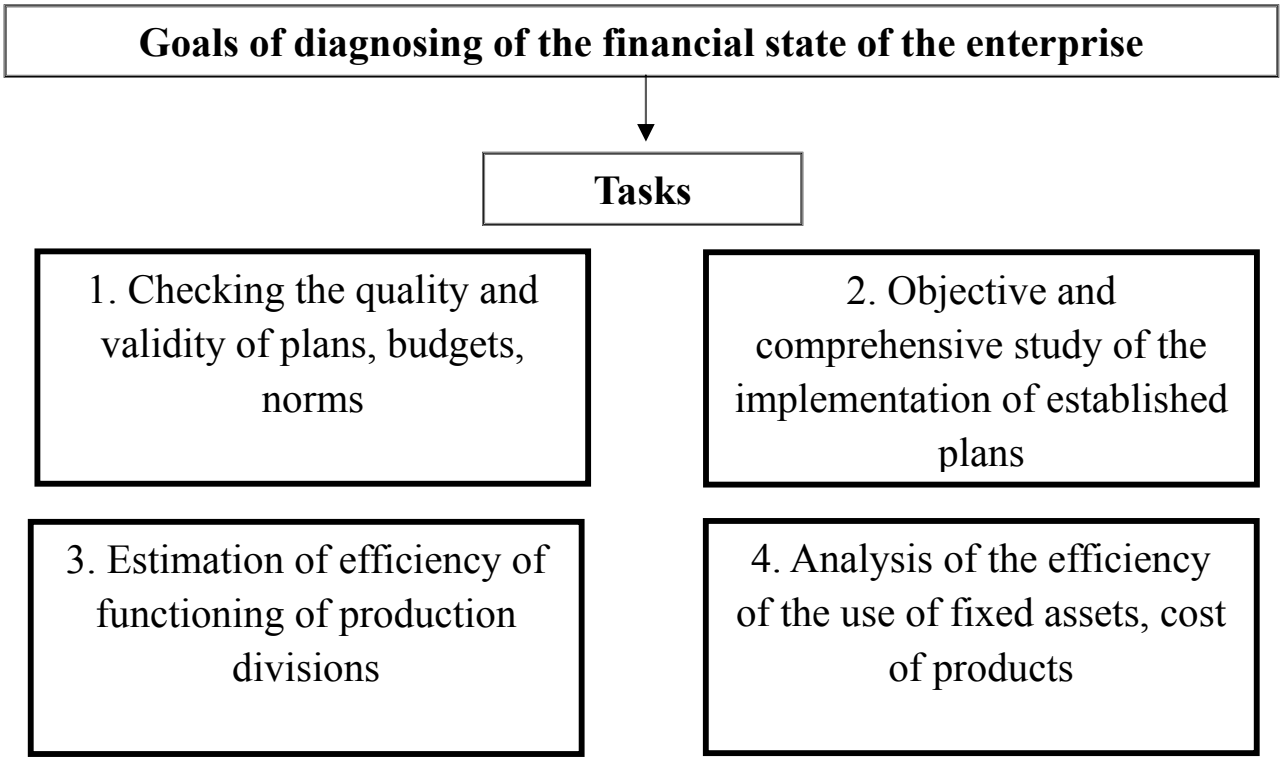

Fig. 6.2. The main tasks of diagnostics of financial and economic state of the enterprise

The content of expert diagnostics of financial and economic state includes a diversified analysis of all areas of the enterprise:

- analysis of marketing events;
- analysis of production and sales opportunities;
- analysis of the supply-demand ratio on the market;
- analysis of internal, external and general economic situations affecting production and sales;
- analysis of suppliers, consumers;

• analysis of expenditures of living and settled labour with their details;

• commercial risk analysis;

• analysis of the final financial results of all types of activities;

• analysis of the validity and implementation of plans and budgets.

Analysis of the financial and economic activity of the enterprise is impossible without providing the experts with the relevant planning and normative data. Information sources for expert diagnostics are:

1) accounting sources: accounting, statistical and managerial accounting and reporting;

2) non- accounting sources: revision materials, internal and external audit; data of laboratory and medical-sanitary control; results of inspections of the tax service; materials of production meetings, meetings of the labor collective; mass-media; internal documents and correspondence with third-party organizations.

6.2. Methods of strategic diagnostics

Strategic diagnostics of the financial and economic status of enterprises is aimed at identifying problems in the functioning of the system, as well as analysis of the causes of their occurrence.

Strategy is a set of interconnected and mutually cuased elements, united by a single global goal – creation and maintenance of a high level of competitive advantages of the enterprise. The theory and practice of management has produced a large number of types of

strategies that depend on the direction of activity and the results sought by the enterprise.

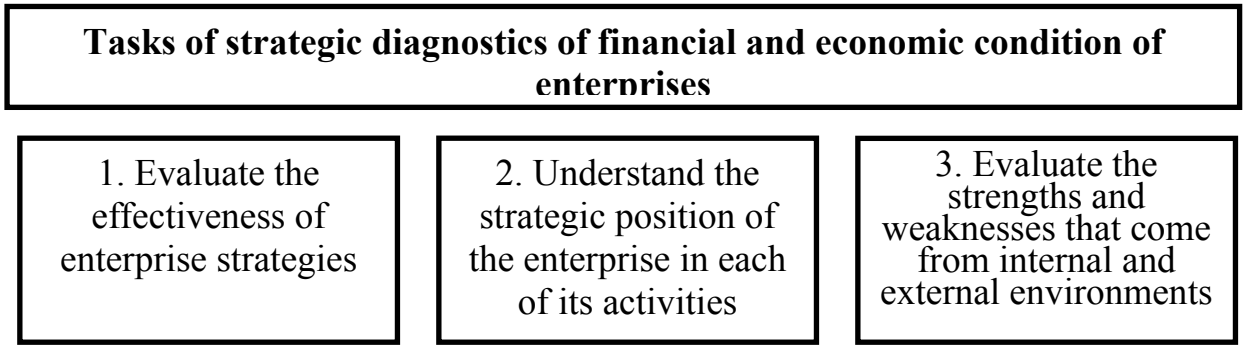

Fig. 6.3. Tasks of strategic diagnostics of financial and economic condition of enterprises

Consider the main methods of diagnosing the strategic position of enterprises in controlling (Figure 6.4).

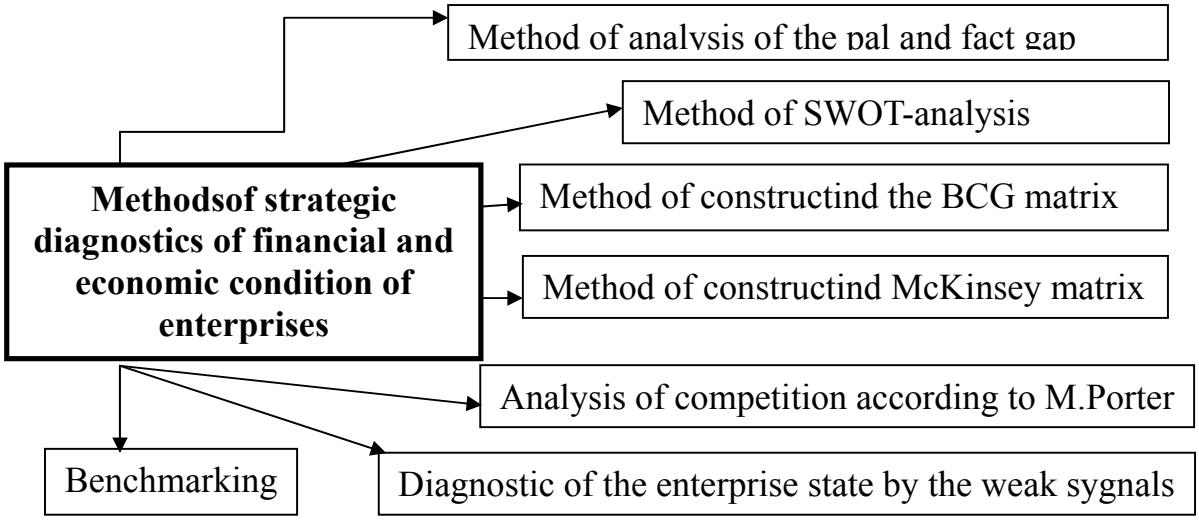

Fig. 6.4. Methods of strategic diagnostics of financial and economic condition of enterprises

I. Method for analyzing the gap between plan and fact. One of the most important tasks at the stage of expert diagnostics of the

financial and economic state of the enterprise is the analysis of deviations. This methodology is intended to detect deviations, evaluate them, and analyze the causes that were caused (Fig. 6.5).

Algorithm for analyzing the gap between plan and fact

1. Determination of the enterprise priority indicator as described in the strategy

2. Detection of real opportunities of the enterprise in terms of current and future state

3. Determination of the desired trend of changes in a specific indicator of the strategic plan

4. Establishing the difference between the indicators of the strategic plan and the opportunities caused by the real state of the enterprise

5. Development of special programs and methods of action needed to bridge the gap

Fig. 6.5. Algorithm for analyzing the gap between plan and fact

The gaps between the plan and the fact may arise from the parameters set, for example, in the budget:

- cost parameters: costs, payments, income, inflows, margin, receivables or accounts payable, capital, etc .;

- parameters of construction of an organizational structure: distinct units (centers of liability) – places where expenses arise;

- timelines – days, weeks, decades, months, quarters, half-years, years, etc.

Another way to analyze the gap is to determine the difference between the best expectations and pessimistic forecasts. For analysis of the gap, the profile of the enterprise is formed, where all the most

important characteristics of the enterprise strategy are evaluated in points and grouped into a consolidated table.

II. SWOT-analysis. In 1963, at a conference on business problems at Harvard, American professor K. Andrevs was the first to offer the SWOT-analysis method. This is a strategic planning method that identifies internal and external factors and divides them into four main categories: strengths, weaknesses, opportunities, threats. Strengths and weaknesses are the factors of the internal environment of the object of analysis, that is, those factors that the object itself may affect; opportunities and threats, as environmental factors, can affect the object from the outside and are not controlled by the object. The task of SWOT-analysis is to implement a structured description of the situation in relation to which the development of managerial decisions is required (Fig. 6.6).

Strenth (S) 1. 2. 3.	**Weaknesses (W)** 1. 2. 3.
Opportunities (O) 1. 2. 3.	**Threats (T)** 1. 2. 3.

Fig. 6.6. SWOT-аналіз

The result of the SWOT-analysis is the construction of the SWOT matrix, in which the establishment of chain relationships between the

main factors of the external and internal environment of the organization are shown (Figure 6.7).

	Opportunities (O) 1. 2. 3.	**Threats (T)** 1. 2. 3.
Streangth (S) 1. 2. 3.	**Field S–O** field of strengths and opportunities	**Field S–T** field of strengths and threats
Weaknesses (W) 1. 2. 3.	**Field W–O** field of weaknesses and opportunities	**Field W–T** field of weaknesses and threats

Fig. 6.7. SWOT-matrix

The matrix focuses the attention of analysts on the construction of four areas to be used in the future strategy. The following groups of indicators are subject to joint analysis:

Field S-O is a strategy for using the company's strengths to realize potential opportunities.

The S-T field is a strategy for using strengths to eliminate threats that can damage an enterprise's performance.

The W-O field is a strategy that minimizes the impact of weaknesses through the capabilities of the enterprise.

Field W-T is a strategy that has a negative impact on the organization's activities and requires effective solutions to eliminate them.

The analysis carried out and the constructed matrixes contribute to the search for threats and ways to eliminate them, as well as the disclosure of potential opportunities.

III The matrix of the Boston Consulting Group (BCG) was created by Bruce D. Hendersen. It was done in order to analyze the relevance of company products on the market. There is the model of the product life cycle at the heart of the matrix according to which the product in its development takes place in four stages: the entry into the market of a new product (the conventional name of the stage Wild cats), the growth of demand for a new product (the so-called "Stars"), maturity and stable demand for goods (Stage "Milky Cows") and a decline in demand (the "Dogs" stage) (Figure 6.8).

Two criteria are used to assess the competitiveness of certain types of business in the BCG matrix: the growth rate of the sectoral market and the relative market share. The BCG matrix allows us to determine the strategic position of the enterprise for each direction of its activity, and based on the analysis of this position, choose the correct strategy of the company's operations on the market and an optimal strategy for redistribution of financial flows between different activities.

The BCG matrix, based on the growth rate and market share of a particular product, offers four options for the strategy:

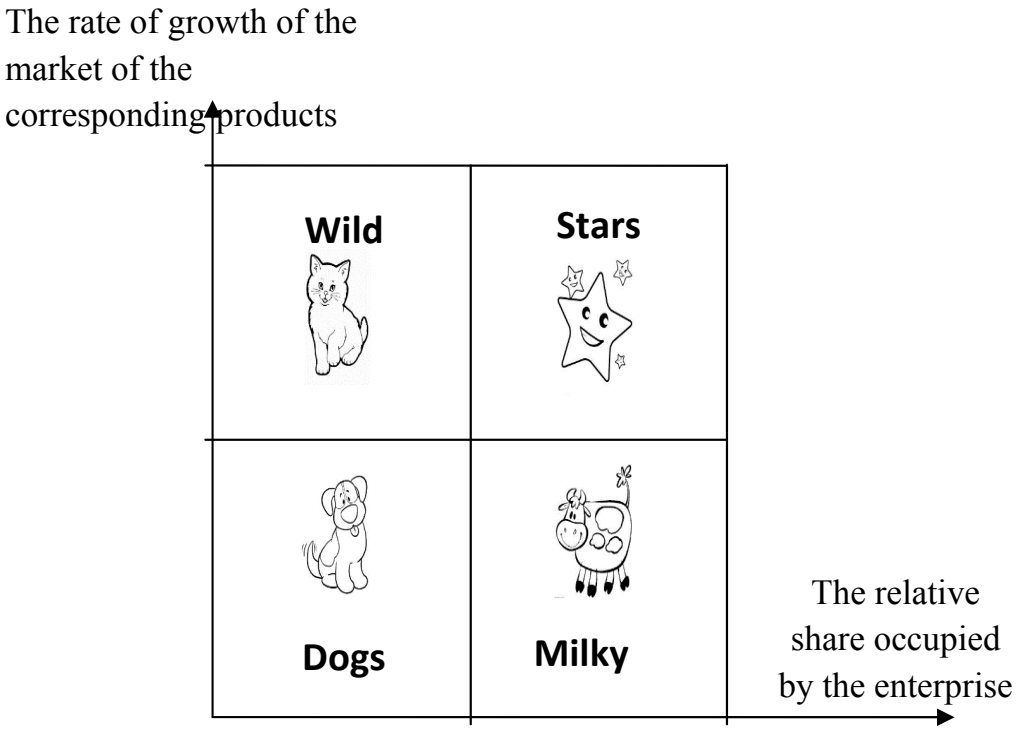

Fig. 6.8. Matrix of Boston Consulting Group

1. "Stars". This is an ideal case that combines high prospects of growth in demand in the market with strong positions of the enterprise. "Stars" should be protected and strengthened.

2. "Milky cows". This is a case where the company has strong positions in the mature market. These directions of activity bring the company a high stable profit, although growth is not expected here. The main purpose of the enterprise in relation to "Excessive cows" is to obtain maximum profit for a short period. The investment here is limited to the minimum required.

3. "Dogs". This a situation where the weak position of the enterprise is combined with the tendency to reduce the growth rate of the market. Such directions of activity are not prospective, and therefore in the general case the enterprise tries to get rid of "Dogs", that is, to stop the production of goods for which there is no demand.

4. "Wild cats". This is the direction of activity, where the company's position is not stable, but the prospects for growth in demand and development of the market are quite attractive. They are sometimes also called "question marks" or "difficult children", which, with increased attention, can go to the "Stars" stage.

IV. The McKinsey Matrix. The multi-factorial portfolio McKinsey matrix is similar in content to the BCG matrix, reflects the relevance of the categories of "attractiveness-competitiveness", but it has a broader scope and a more flexible approach to strategy formation. The developers of the model were experts in the consulting group McKinsey and General Electric Corporation.

Market attractiveness

Winner 1. Investment	**Winner 2** Growth of production	**Medium business**. Receiving of incomes
Winner 3. Growth of production	**Medium business**.Receiving of incomes	**Defeated 2** Receiving income, reducing activity
Profits generator. Receiving of incomes	**Defeated 2** Receiving income, reducing activity	**Defeated 3**. Leaving the business

Competitive advantage at the market

Fig. 6.9 The McKinsey Matrix

This matrix is used to assess the attractiveness of individual strategic business units on the basis of two coordinates (Fig. 6.9): the X axis characterizes the strength of the positions of the strategic business unit in the industry, and the Y axis is the industry's attractiveness. Each of these coordinates is determined taking into account several parameters.

Indicators used in the McKinsey matrix (market attractiveness and competitive status of an enterprise) are aggregated indicators that take into account different quantitative characteristics.

The complex indicator of the attractiveness of the market is calculated by the formula:

$$Kmark.attr = \alpha G + \beta P + \gamma O + \sigma T \qquad (6.1)$$

Close up market is a complex indicator of market attractiveness;

G - Integral indicator of growth prospects;

P - a complex indicator of profitability;

O - complex indicator of market opportunities;

T - complex indicator of hazards (threats);

α, β, γ, σ are weight coefficients, provided that

$$\alpha + \beta + \gamma + \sigma = 1 \qquad (6.2)$$

Depending on the stage of the life cycle, where the enterprise or individual product is located, the degree of significance of the weight coefficients changes. So, at an early stage, growth rates are important, at the stage of maturity, indicators of profitability.

The resulting component is calculated after a preliminary analysis for each aggregate element (6.3-6.6).

In calculating the integrated indicator of growth prospects, the growth rate of the relevant industry, the growth of the number of consumers, the degree of aging of products and the restoration of technology, the dynamics of geographical expansion of the market is estimated.

$$G = \sum g_i k_i^g \qquad (6.3)$$

g_i - evaluation of the i-th component of growth prospects in balls;

k_i^g - significance (weight) of this component of growth prospects.

In order to determine the complex profitability indicator, fluctuations in prices and sales volumes, cyclicality of demand, saturation of the market in comparison with production capacities of the industry are taken into account in order to determine the downtime, the duration of the product life cycle, the costs necessary to enter the market, the prospects of movement of prices in the markets of resources, time and cost development of new products, etc.

$$P = \sum p_i k_i^p \qquad (6.4)$$

p_i – evaluation of the i-th component of the profitability in points;

k_i^p – significance (weight) of this component of profitability;

Complex indicators of opportunities and hazards are calculated based on the SWOT-matrix.

$$O = \sum o_i k_i^o \qquad (6.5)$$

o_i – an estimation of the i-th component of the points in points;

k_i^o – significance (weight) of th component of the possibilities;

$$T = \sum t_i k_i^t \qquad (6.6)$$

t_i - evaluation of the component of the hazards (threats) in balls

k_i^t - significance (weight) of the component of hazards (threats).

Complex competitiveness index or indicator of the competitive status of an enterprise depends on three main components: the level of investments, the chosen strategy and the potential of the enterprise. In this case, the assessment of the level of capital investment is based on the assumption that there is an optimal and minimal level of investment, in which, in the first case, the return on investment capital is maximal, and in the second – the profit can not be obtained at all.

$$K_{competit.} = \frac{I_f - I_k}{I_o - I_k} \cdot \frac{S_f}{S_o} \cdot \frac{C_f}{C_o} \qquad (6.7)$$

$K_{cometit.}$ – complex indicator of the competitive status of the enterprise

I_f, I_k, I_o – actual, critical (minimum allowable) and optimal investment levels respectively;

S_f, S_o – Assessing the current and optimal strategy accordingly;

C_f, C_o – actual and maximum possible potential of the enterprise, respectively.

Determination of aggregated indicators of market attractiveness and competitiveness of the enterprise allows graphically defining the segment in which the enterprise is located at a certain time interval and determining with strategic prospects and directions of activity for the future.

V. Competitive analysis by M.Porter. Among the various environmental factors affecting the company, the key is distinguished – an industry in which competition is being conducted. The structure of the industry has a significant impact on the formation of the rules of competition, as well as potential strategies of the enterprise. To analyze the state of the company in a competitive environment, the model of the five forces of Michael Porter is used. The matrix is designed for markets with slower growth or those in stagnation and based on the fact that for profit to be above average, an enterprise must have strong positions in relation to its competitors due to cost leadership or the uniqueness and attractiveness of the goods from the buyer's point of view.

The state of competition in the industry depends on such competitive forces as the influence of buyers; the influence of suppliers; the possibility of new competitors; the existence of substitute products; the actions of competitors in the middle of the industry.

The model of the five forces of competition M.Porter allows determining the correspondence between the internal state of the enterprise and the forces of action in the external environment.

The rivalry between existing competitors or the level of competition is due to the fact that one or more companies have the opportunity to better meet the needs of the consumer in a certain type of product or service.

The threat of the emergence of new competitors is characterized by the possibility of entering the market of start-up entrepreneurs or enterprises from other industries, which will have significant resources and production capacities, as well as the desire to establish themselves in this market. Favorable conditions for this may be low barriers to entry and a reduction in the capacity of existing market participants.

The existence or possibility of the emergence of substitute products exacerbates competition. The impact of substitute goods on competition in the industry is carried out in two main aspects: through the price and through the level of innovation, when the quality of the substitute goods improves in the competitors so much that diverts the attention of a significant part of consumers from the goods of the enterprise.

The market power of suppliers is manifested mainly in the prices and quality of supplied resources, as well as in terms of service. The power of suppliers grows when:

- the supplier's products are differentiated and it is difficult for the buyer to replace the supplier;

- the products of suppliers occupy an important place in the production and economic process;

- customers are not part of an important customer category for resource providers.

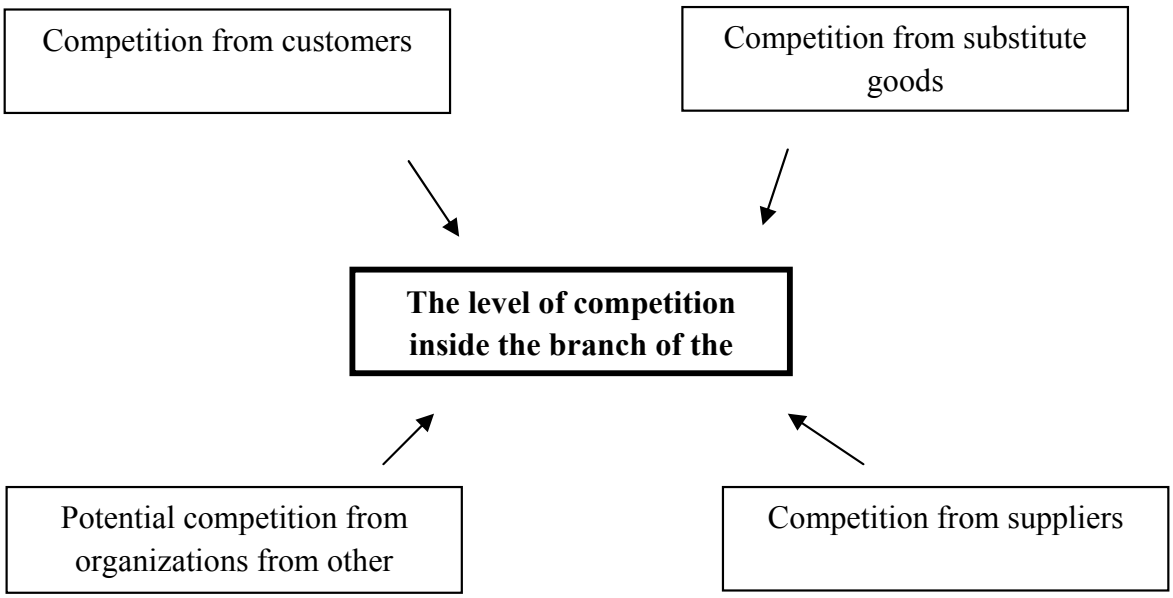

Fig. 6.10 Model of five forces of competition M.Porter

The market power of consumers, as a competitive force, increases with increasing of their ability to influence the prices and quality of goods, the level of service, etc.

Potential competitors and substitute products are a direct competitive threat, and consumers and suppliers are indirect, which depends on their ability to dictate their terms.

After analyzing the field of forces, an enterprise can choose one of the best strategies: cost reduction, differentiation or focusing.

The strategy of cost reduction or strategy of price leadership is realized by saving on scale of production, simplification of choice (without significant losses of quality), increase of efficiency of the

production process. This creates high barriers to the entry of competitors into the target market. The disadvantages of such a strategy are the possible narrowing of sales volumes, price wars, complications with low cost maintenance over a long period of time.

The strategy of differentiation is realized by creating products that are more in line with the demand of specific groups of consumers than the products of competitors. This increases the attractiveness of goods or services for the consumer and the image of both the product itself or services and the manufacturer. Issue of unique, individualized products taking into account the specific requirements of each group of consumers translates competition into the quality plane and technical properties of products. The main disadvantages of the strategy of differentiation include high costs, the possibility of functional competition, higher prices for differentiated goods compared with conventional counterparts.

Focusing or concentration strategy involves focusing on one segment of the market focusing on the specific requirements of this particular segment. The risk of choosing a focus strategy is that the product may lose its attractiveness for the selected market segment.

VI. Diagnosis for weak signals.

The task of the control system in ensuring the process of making managerial decisions is to choose the appropriate reaction of the organization to the constant change of external and internal conditions of its activities. A characteristic feature of modern business life has

been the significant growth of instability and the constant threat of the emergence and development of crisis situations.

The crisis situation is characterized by: the threat of failure to achieve the goals of the organization, the effect of suddenness of occurrence, acute shortage of response time. In such a situation, managers work under pressure from circumstances with a shortage of time required for situational analysis and decision-making. Consequently, the controlling service in organizations is an element of the crisis management system.

Problems that arise in unexpected situations can be explicit and hidden, and information about them can come in the form of strong or weak signals. The obvious and specific problems and threats identified by monitoring the environment are called "strong signals". They have already arisen and clearly defined. Other problems that just begin to appear in the form of early and inaccurate signs are called "weak signals".

The management of weak signals is based on the assumption that any adverse phenomena or the prospect of the growth of opportunities do not occur suddenly, but are caused by the appearance of precursors or "weak signals".

There are many problems in the organization and often managers do not pay attention to weak signals. Managing "by weak signals" involves the need for monitoring and taking into account the levels of instability of the environment. Controlling service, focusing on "weak signals", should prepare appropriate alternative solutions in advance.

Some "weak signals" have the ability to amplify, turning into a category of "strong signals" and require more and more effort and cost needed to overcome them with a shortage of time to make decisions and actions. If the firm is working with the "weak signals", then it has time to prepare the appropriate measures until the new threat or its opportunity is highlighted to the fullest.

In conditions of uncertainty and risk, one of the most common methods for assessing the instability of the environment is the use of a scale developed by American scientist Igor Ansoff (Table 6.2).

The method of diagnostics is to timely identify weak signals (early and inaccurate signs of crisis situations) and respond in a timely manner to them. The need for diagnosis for weak signals occurs in a situation where the level of instability of the enterprise environment is extremely high.

Thus, in order to react in a timely manner to the signals received from both the outside and the internal environment, within the system of controlling, there should be organized monitoring of a large number of parameters characterizing the living conditions of the enterprise.

The most appropriate direction for organizing control over the parameters of the external and internal environment is the organization of monitoring – the continuous systematic monitoring of the parameters of the external and internal environment of the enterprise, collection and analysis of incoming information. Monitoring "detects" strong and weak signals coming from the internal and external environment.

Table 6.2.

Assessment of the organization's environment instability

Scale of instability	**The foreseen changes**	**Have such events ever happened before**	**The possibility to forecast the results**
1 grade	Repeating	Familiar	Similar to the past
2 grades	Forecasted	Familiar, have analogies in past	Extrapolation method
3 grades	Coresponding to the reaction of the organization	Unexpectable, have analogies in past	Prediction of new challenges and opportunities
4 grades	Partly forecasted	Unexpectable, have no analogies in past	Partial forecast by "weak signals"
5 grades	Happen faster than the reaction of the organization	Unexpectable or absolutely new	Forecast by "weak signals"

There are two options for responding to external circumstances:

- reaction on the basis of regular planning;

- reaction to an emergency situation, when the established procedure is canceled and "targeted teams" are created for the adoption of rapid, appropriate measures.

The choice of the method of reaction depends on the speed of the development of a particular situation in the external environment and on the available information – the level of awareness of the enterprise. Consequently, at a high level of instability, when internal and external situations change very quickly, the enterprise lacks the time for timely

decision-making, i.e., the pace of change is much higher than the reaction of the enterprise to these changes.

Table 6.3.

The actions of the controlling service in managing "weak signals"

The power of the signals from the external environment is higher	The nature of the measures to be taken					
	Observation of the environment, its monitoring	Determination of the relative "signal strength" and the nature of their changes	Development of measures to reduce external strategic vulnerability	Improved flexibility and mobility of the firm's internal structure	Development of preparatory plans and implementation of preventive measures	Implementation of practical measures to eliminate hazards
	1A	2B	3C	4D	5E	6F
Level 1	The danger or its ability is realized					
Level 2	Sources of danger or new opportunities become clear					
Level 3	The scale of danger or new opportunities gains specific features					
Level 4	The problem is completely determined					
Level 5	Results of planned countermeasures are foreseen					

Thus measures are being developed that managers need to build on the investigation of the control service, which determines the strength of the signals coming from the environment. The activity of liquidation of crisis phenomena increases with increasing level of danger. The main advantage of the technique of using weak (and strong) signals is the ability to provide preparedness in advance, early warning of the possibility of a dangerous situation and the development

of proposals for its elimination or mitigation of negative consequences. An enterprise thus receives additional time for an appropriate response to eliminate hazards.

VII Benchmarking (from English benchmarking, starting point, point-of-fact-point) is an effective tool for controlling the system used to determine the status of its own company in comparison with other organizations, similar in size and scope.

The concept of "benchmarking" first appeared in 1972 during the research advisory group of the Institute for Strategic Planning Cambridge. Then the basic principle of benchmarking was formulated: "in order to find an effective business solution, it is necessary to know the experience of the best competitors who have succeeded in such conditions". The first practical application of the theory of benchmarking was the company Xerox's project to determine the quality of manufactured products in comparison with the most successful at that time Japanese counterparts. It was "Benchmarking the competitiveness of products". Benchmarking is sometimes called legal industrial espionage. In modern terms, benchmarking, in terms of controlling, is a continuous systematic search and implementation of the best practices of the most successful competitors that will lead the organization to a more perfect form of business and better quality products.

It is applied in all spheres of the enterprise activity – in production, in marketing, in personnel management, etc. The practice of using benchmarking in controlling brings significant results in

introducing innovation, improving product quality and increasing the competitiveness of the enterprise.

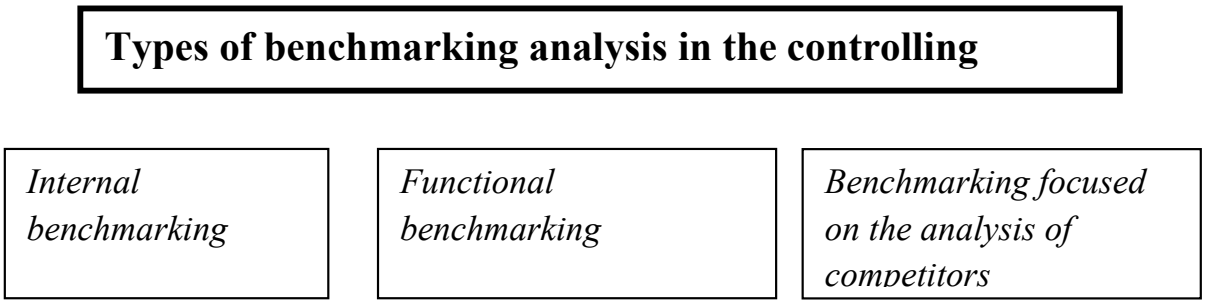

Fig. 6.11. Types of benchmarking analysis in the controlling system

There are three types of benchmarking (Fig. 6.11):

1. Internal benchmarking involves analyzing and comparing the performance indicators of different departments of one enterprise.

2. Functional benchmarking analyzes individual processes, functions, methods and technologies in comparison with other enterprises. Companies that use similar methods, techniques or technologies and are not competitors, willingly go for a mutual exchange of primary information and are interested in implementing joint projects aimed at improving those or other comparable transactions.

3. Benchmarking focused on the analysis of competitors is focused on comparative analysis of goods (works, services) and other parameters of the investigated enterprise with similar characteristics of competitors. It is believed that the best analogue for comparison is the "market leader". Identification of the factors leading to the backlog of

the investigated enterprise from the leader makes it possible to develop recommendations for reducing the backlog.

The evaluation of individual characteristics is carried out expertly, i.e. the scale for the grade assessment is selected. After that, a "web" of benchmarking, which consists of concentric circles, is divided into sectors by rays. The number of rays corresponds to the number of characteristics for which an expert evaluation is carried out.

Thus, benchmarking, as a highly effective and cost-effective method of strategic diagnosis of financial and economic status of an enterprise, requires increased attention and control over the observance of the technology of its organization. For all its simplicity, accessibility and convenience, benchmarking is a serious scientific and practical tool for informational and analytical and feasibility studies on the choice of areas for the formation and implementation of a strategy. It allows, on the one hand, minimizing risk in achieving competitive advantages, and on the other – at the expense of its information basis – to preserve the possibility of risk of ineffective decisions.

6.3. Methods of operative diagnostics

Operational diagnostics of financial and economic activity of the company serves as the basis for the adoption of current, operational management decisions. It monitors and evaluates the main areas of activity of the enterprise and, first of all, analyzes financial condition,

break-even, material and information flows, assesses risk and makes recommendations on risk management.

Consider the basic methods of operational diagnostics of enterprises in controlling (Fig. 6.12).

I. Analysis of the financial state. One of the main tasks solved by the controlling service at the enterprise is the analysis and diagnostics of the financial condition of the enterprise. An analysis of the financial condition allows us to determine how firmly a firm is, whether it is able to pay in time with its creditors, what profit it has received and why. The purpose of financial analysis is assessment of past business activities, the situation at the moment and its future potential.

II Break-even analysis involves analysis of costs, production volumes and profitability of the enterprise. It is carried out in order to determine the number of units needed for sale, or the volume of sales of services that have to pay all costs. It is a method of studying the relationship between costs and income at different levels of production, which is why it is extremely useful at the stage of preparation and analysis of the future project, as well as at the stage of its implementation.

III Analysis of material flows. Controlling material flows involves the use of the method of ABC analysis, which consists in distributing all types of materials into three groups:

- Group A – the most expensive types of materials (20%, which accounts for 80% of expenses according to the principle of V. Paretto);

- Group B – materials of average importance (those that account for 15% of expenses);

- Group C – unimportant material (the total cost of which is 5% of all costs of the enterprise to create material stocks).

The results of the analysis should be aimed at optimizing the company's costs of inventory creation. With the help of ABC analysis, you can focus attention and efforts on those areas where the maximum return is expected.

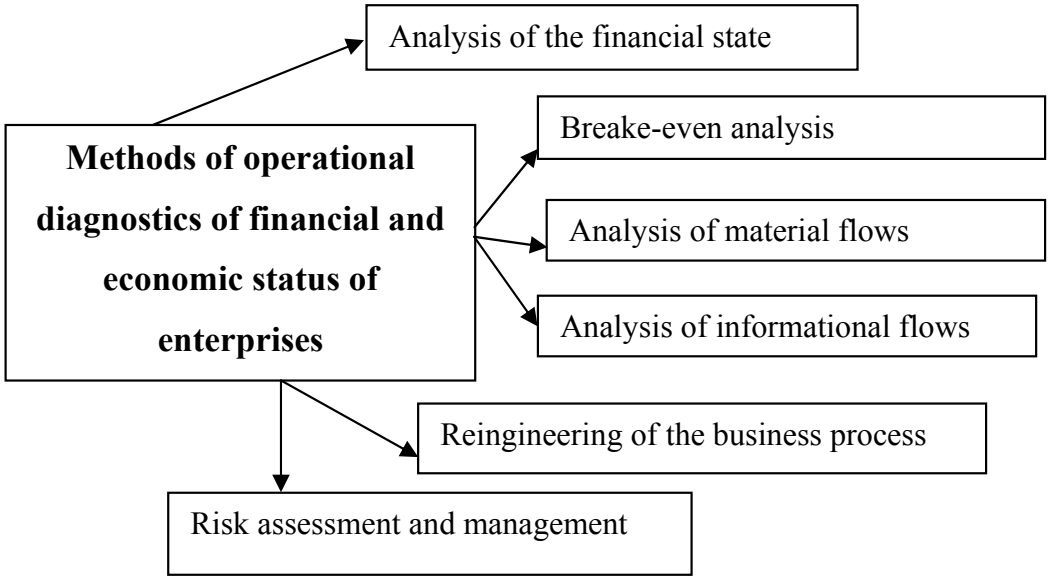

Fig. 6.11. Methods of operational diagnostics of financial and economic status of enterprises

IV. Analysis of information flows. In the process of the emergence of information links and information flows, the controlling office studies the processes of occurrence, movement and processing of information, as well as the direction and intensity of the company's document flow. The purpose of the analysis is to identify areas of

duplication and excess information, shortcomings in the forms and methods of filing, causes of failures and delays.

V. Reengineering of business processes is a complex of organizational-economic, consulting services aimed at overcoming the crisis or pre-crisis state of the enterprise through its reorganization, adjustment of the strategic, investment innovation and personnel policy.

VI. Risk assessment and management. Instability and unpredictability of the environment forms one of the most important tasks of controlling. It is an assessment of enterprise risk management.

Risk is the ability not to achieve planned results, the emergence of negative situations that lead to economic and material losses. The risks of the enterprise can be represented as the possibility of an unfavorable strategic situation caused by a negative combination of factors of the external and internal environment.

Risks can be *net* and *speculative*. Speculative risk can lead both to positive and to negative consequences. Net risk can only lead to losses. Different types and types of risks are closely interconnected and represent an integral system, so when analyzing them, it is necessary to allocate those species that do not overlap in order to avoid double counting.

To reduce the riskiness of enterprises, it is necessary to form effective risk management. It is not possible to completely avoid the risks in innovation activity, therefore, the process of managing them is not entirely excluded from them, but they are minimized or limited.

Risk management must be integrated into the general organization process, have its own strategy, tactics, operational implementation. It is important not only to manage risks, but also periodically review the measures and means of such management.

Risk analysis is the identification of risk factors and the assessment of their significance, that is, the analysis of the probability of occurrence of certain undesirable events and adversely affect the achievement of the objective of production and economic activity.

The risk analysis includes assessment and methods for influencing the risks or associated adverse effects (Figure 6.12).

Risk assessment is a definition of the size (degree) of risk by quantitative and qualitative methods. Qualitative assessment creates an attributive range, quantitative – represents a variation ranges. Variants of such ranges are ordered ascending (or descending), their values are ranked. This makes it easy to determine the min and max values of the sign, the distance between them, and the most frequently used ones.

The assessment of the level of risk is the most complex and responsible issue, since it is from its results that the further actions of the company depend on it. Risk assessment is to compare the level of risk with the level of admissibility. The basis for assigning a risk to a group is a system of parameters that is different for each species.

The assessment methodology must meet the requirements:

- authenticity and objectivity of the conclusions;
- accuracy;

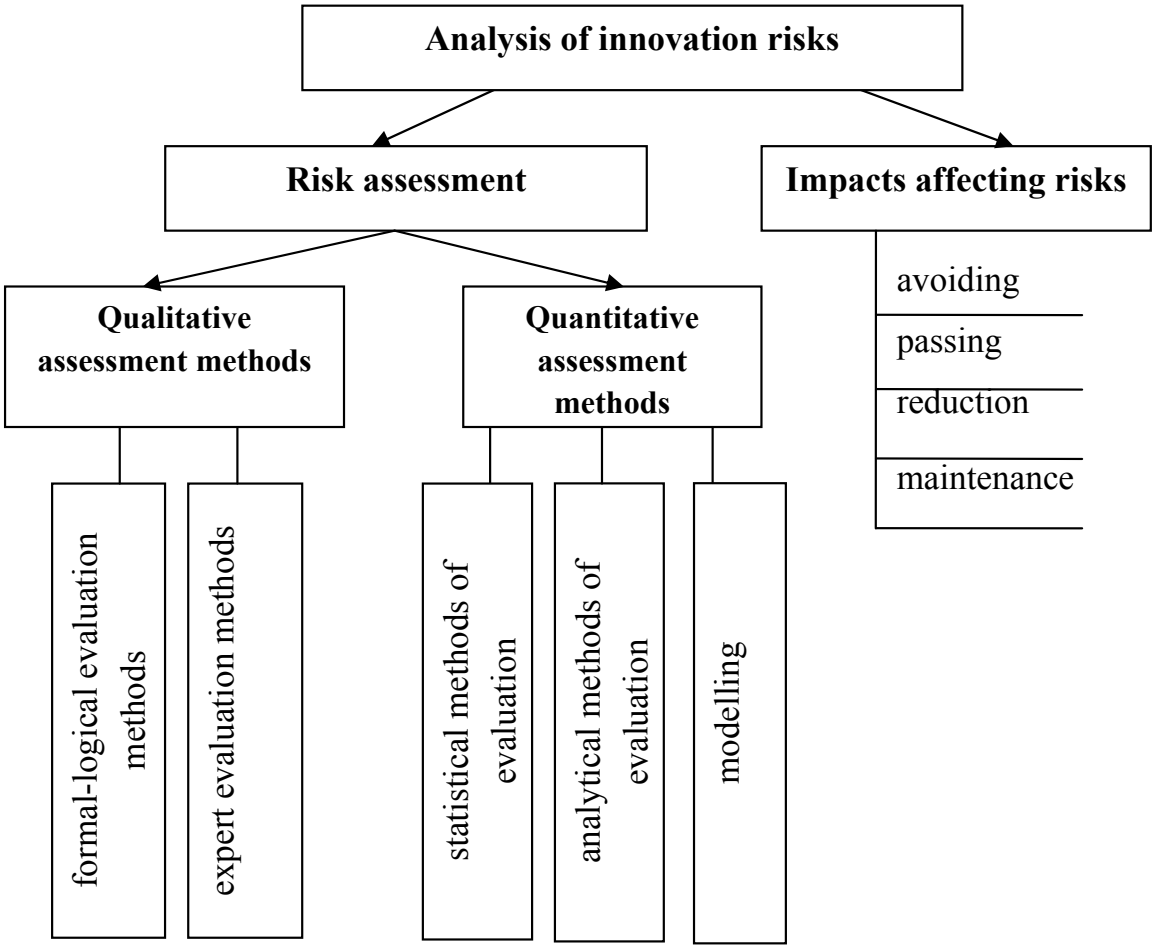

Fig. 6.12. Methodology of enterprise risk analysis

- economic expediency (the cost of conducting the analysis should not exceed the additional income from the use of evaluation results).

The choice of risk assessment methods is influenced by:

- the possibility of quantitative and qualitative assessment;
- simplicity of calculations;
- availability of information;
- ability to evaluate in dynamics.

The theory and practice have developed many methods for determining the magnitude of risks. All these methods are grouped into two groups: qualitative and quantitative risk assessment methods.

The task of qualitative risk assessment is to determine the factors that influence the level of risk, the identification of potential risk areas and identification of risks. A qualitative risk assessment is carried out in the following stages:

1) the classification of risk and the identification of factors that increase or reduce its impact on production and economic activity;

2) determination of the system of risk indicators that meets the main requirements of the assessment;

3) establishment of potential risk areas, i.e. determination of the degree of risk acceptance depending on the expected value of losses;

4) identification of all possible risks.

The qualitative assessment approach is based on the use of subjective data used to determine correlations and to streamline attribute performance. Typically, qualitative indicators are expressed in terms of grades or ranks, which are numerical expressions, logical rules and procedures without mathematical actions are used to obtain them.

The use of methods for qualitative assessment of risk level indicators is based on the following principles:

- subjective values and judgments are used as the estimation parameters;

- these methods are based on more complex and labour-intensive special procedures for processing information;

- for parameters being analyzed, a system of parameters should be developed.

The most common are the following groups of qualitative methods for assessing innovation risks: formal-logical and expert.

The purpose of formal-logical evaluation methods is to identify the factors of risk and their essence. These methods are used by specialists-analysts on the basis of available information and general data on production and economic activity. In practice, the most commonly used methods are morphological analysis, semantic analysis, decomposition and composition, methods based on fuzzy logic, causal analysis, scenario methods, comparative methods, context analysis, reverse engineering, etc.

More extensive use of expert methods, because in practice they are applied in all areas of risk assessment of production and economic activities, in particular, also in quantitative assessment. Depending on the number and readiness of experts, expert methods are divided into:

- mass surveys (questionnaires, interviews, telephone and Internet surveys, statistical surveys, etc.). This represents a superficial assessment of nonprofessional respondents;

- selective research (focus groups, simulation games and training, etc.) are conducted with careful and consistent study of individual thoughts and motives of nonprofessional respondents;

- professional judgments (brainstorming, Delphi method, pair comparison, method of analogy, etc.) involve professional experts to develop specific recommendations and assessments regarding the company's activities based on the life and professional experience of

experts; the results of this assessment are qualitative data about possible risk situations and methods of managing them;

- the establishment of benefits (ranking, pair comparison, different types of voting, etc.) is carried out both by professional and nonprofessional respondents in order to establish qualitative characteristics.

The results of a qualitative risk assessment are the source information for a quantitative assessment, that is, only the risks identified are evaluated mathematically. Quantitative risk analysis involves the numerical expression of the magnitude of individual risks and risks as a whole. When quantified, indicators of mathematical statistics, probability theory, financial analysis are used: index of variation, mean square deviation, variance, index of expected losses, etc. The use of quantitative methods involves the following features:

- objective data is used to determine certain indicators;

- the high competence of analysts in the applied calculation-analytical methods and tools is required;

- based on representative data;

- a possible change in the level of uncertainty.

The main groups of quantitative risk assessment methods are:

1) statistical estimation methods (probability estimation, decision tree, correlation-regression analysis, Monte Carlo method, stochastic methods, etc.), which consist in the analysis of the fluctuations of the estimated indicator for a certain period of time and in the established risk areas;

2) analytical methods of evaluation (fundamental analysis, direct and inverse calculation, stability and sensitivity analysis, factor analysis, calculation of threshold values, method of scenarios, method of equivalents, etc.) allow determining the probability of occurrence of losses on the basis of mathematical models and possible deviations of factors from the baseline levels , as well as identifying weaknesses and strengths;

3) modeling (laboratory tests, economics and mathematical and virtual models, development of models, etc.), the purpose of which is to simulate the real conditions of realization of a certain direction of activity for revealing of weaknesses, risk cents, testing of hypotheses, etc.

Each of these risk assessment methods has its advantages and disadvantages that need to be taken into account when evaluating, as it can sometimes lead to erroneous conclusions: the risk may be underestimated or overestimated.

Consequently, there is no single method that would allow full analysis and give an accurate assessment of innovation risk, since the risk is not stable, absolute, it constantly changes its characteristics depending on the factors of the external and internal environment. Therefore, in practice, when assessing risks, as a rule, use a combination of qualitative and quantitative approach, which allows to determine not only the expected level of the relevant indicators, but also to establish the probability of their achievement. It is necessary to improve the existing and develop alternative methods of risk

assessment of enterprises and sectors of the national economy, which would allow for their effective practical application.

Control questions

1. What is the purpose of an expert diagnostics of the financial and economic condition of the enterprise?
2. Describe the sources of information used for expert diagnostics of the financial and economic condition of the enterprise.
3. List the main tasks that should be solved during the implementation of expert diagnostic of the financial and economic condition of the enterprise.
4. What methods of strategic diagnostics are used in the expert assessment of the financial and economic condition of the enterprise?
5. Name the most common special methods which can be used to analyze the strategic position of the enterprise at the market.
6. What are the methods of operational diagnostics of the financial and economic state of the enterprise?
7. What indicators form the basis of the analysis of the company's financial condition?
8. What is Altman's Z-score and for what purpose is it used?
9. What is the financial stability of the enterprise?
10. What is the difference between the company's solvency and its creditworthiness?
11. Name the indicators of receivables and payables.

TOPIC 7. CONTROLLING OF INVESTMENT PROJECTS

Content

7.1. Features of controlling investment projects

Investment project is a plan or program of measures related to the implementation of capital investments in order to profit. The term "investment project" can be considered as a set of documents containing plans, the purpose of future investment activity or as a set of actions, works, services, management operations aimed at achieving the stated goal. The investment strategy of any enterprise can consist of developing and adopting several investment projects.

Investments – all types of property, material and intellectual property invested in objects of entrepreneurship and other activities, resulting in the creation of profit or achieved a certain social effect.

Investments play a significant role in the development and efficient functioning of the economy, provide a dynamic development of the enterprise and solve the following tasks:

- expansion of own business activity at the expense of accumulation of financial and material resources;
- acquisition of new enterprises;
- diversification as a result of development of new business spheres.

The economic category "diversification" (from lat. *diversus* – different, *facere* – to make a variety, versatile development) can have several meanings:

1) the method of investing by means of their distribution among different types of activities that have different levels of risk, in order to reduce the overall degree of risk of the investment portfolio as a whole;

2) general business practices aimed at expanding the range of goods and services or geographic area in order to address risk and reduce dependence on business cycles;

3) the way of development of the enterprise, which consists of mastering the production of new products, commodity markets, as well as types of services, which involves not just the diversification of product groups, but also the expansion of entrepreneurial activity to new and non-core markets.

The purpose of diversification may be to increase the volume of investment to transition to new markets, increase production efficiency, obtaining economic benefits. ***Investment activity is carried out through the implementation of investment projects***. Any ***project*** is considered as a set of measures aimed at achieving a certain goal. An ***investment project*** is a project of substantiation of investment activity, volume and terms of direct investments into a certain object.

Investment control includes a system for monitoring, assessing and monitoring the implementation of investment projects in order to develop management solutions that best achieve their goals.

Projects exist as long as there is a human society. Humanity is constantly inventing something new, devising, putting forward ideas, developing, planning and executing conceived. Building Egyptian pyramids and space flights, repairing the apartment and obtaining a degree, obtaining higher education – all these are projects that differ only in terms of scale, time and expenses necessary for their execution.

All these activities have among themselves a number of common features that make their projects (Figure 7.1):

1. Each project has a goal or several goals.

Projects are aimed at obtaining certain results, i.e. achievement of goals. They are the driving force behind the project, and all efforts to plan and implement them are carried out in order to achieve the goals. For example, the main purpose of a project related to the manufacture of a new product type may be to develop its production technology, improve enterprise management, and increase its competitiveness. Intermediate goals may be development of technical documentation and software, training of staff.

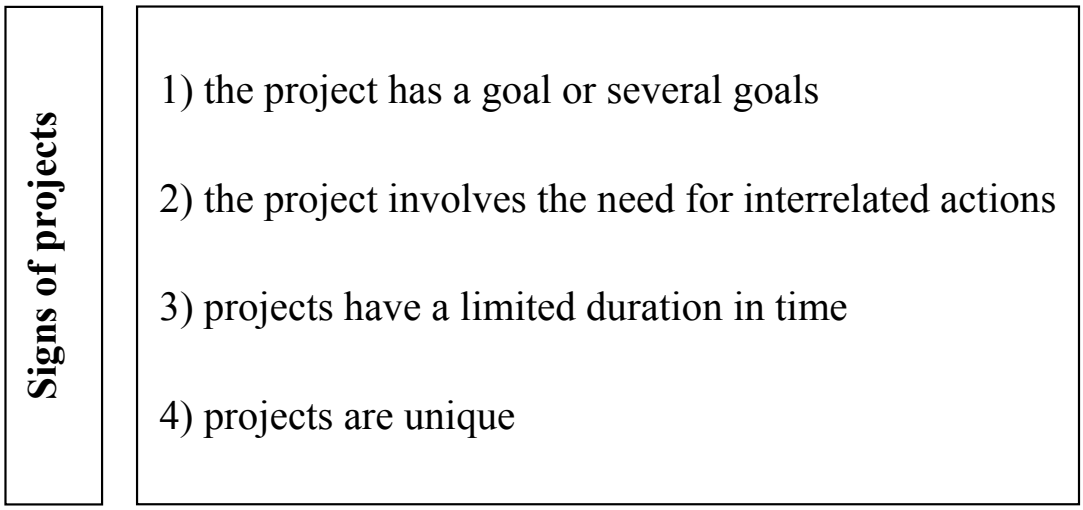

Fig. 7.1. Signs of projects

In the practice of business, each enterprise, which is a complex production and economic system, carries out many specific activities, which on the basis of affinity can be combined into separate main directions.

In accordance with the logic and sequence of stages of the reproduction process, the determining direction of the activity of each enterprise in the conditions of market relations is the study of the market of goods, or situational analysis.

The results of the study of the market of goods serve as the starting point for substantiating specific ways of improving and developing the innovative activity of the enterprise for a long-term period.

The next most difficult in terms of volume and solution of organizational and technical tasks is the production activity of the enterprise, its organization and operative regulation in space and time.

The effectiveness of innovation and production processes, constantly carried out in each enterprise, is determined by the level of its commercial activity, the significance of which in the market conditions increases significantly.

Another important direction of the company's activity, which completes the successive cycle of the reproduction process, is the after-sales service of many types of goods – machinery and equipment, automobiles, computers, multiplication, medical, complex home appliances, and other products of industrial, technical and consumer use.

The integrated business, covering many specific types, belongs to the economic activity of the enterprise. In particular, it includes: strategic and ongoing planning, accounting and reporting, pricing, remuneration system, resource provision of production, foreign economic and financial activities, etc.

Social activity is of great importance, since it significantly influences the effectiveness of all other areas and specific activities (innovation, production, commercial, economic), the effectiveness of which directly depends on the level of professional training and competence of all categories of workers, the effectiveness of the motivational mechanism used, constantly supported at the appropriate level of working conditions and life of the labor collective.

Thus, the project can be considered as planning a way to achieve carefully selected goals.

2. The project involves the need for interrelated actions.

Projects include the implementation of numerous interrelated actions with a well-established sequence of their implementation. For example, when issuing new products, you must adhere to the technological sequence of operations. Some intermediate operations cannot be implemented until other tasks are completed (for example, it is not possible to build a roof of a building in a building until the walls are built). But some operations can be carried out in parallel (installation plumbing and plastering work).

Any project consists of a large number of interconnected actions that require management in their implementation, that is the use of a specialized section of management, called project management.

3. Projects have a clearly limited duration in time.

Projects must be executed within a clearly defined time period. All projects are temporary. They must have a clearly defined beginning and ending. The project ends when its main goals are achieved. Many efforts when working with the project are aimed at ensuring its implementation in due time. To do this, prepare charts showing the start and end time of the project. The project as a system exists exactly as much time as it takes to get the final result.

4. Projects are always unique.

Projects are events to a certain extent unique and one-time. But the degree of uniqueness can vary considerably from one project to another. For example: if a firm builds a second, third, and tenth airplane of the same type, then the degree of uniqueness of the project is reduced. The basic elements, such as the tenth plane, will be identical to the elements of the previous one. It's already streaming production. The main sources of uniqueness can be laid in the installation of more advanced devices, navigation devices, in the use of another material for thermal insulation, in greater comfort of the cabin, and so on. That is what is never done before. The project is full of risk and uncertainty, because past experience can only be limited to suggesting what can be expected with its implementation.

These are four characteristics that distinguish projects from other activities.

Project management is a process of optimizing the use of financial, material and human resources to achieve project goals. The objectives of the project are to obtain the desired result, which must be achieved within a certain time, the required quality and quantity, using limited resources (Figure 7.2).

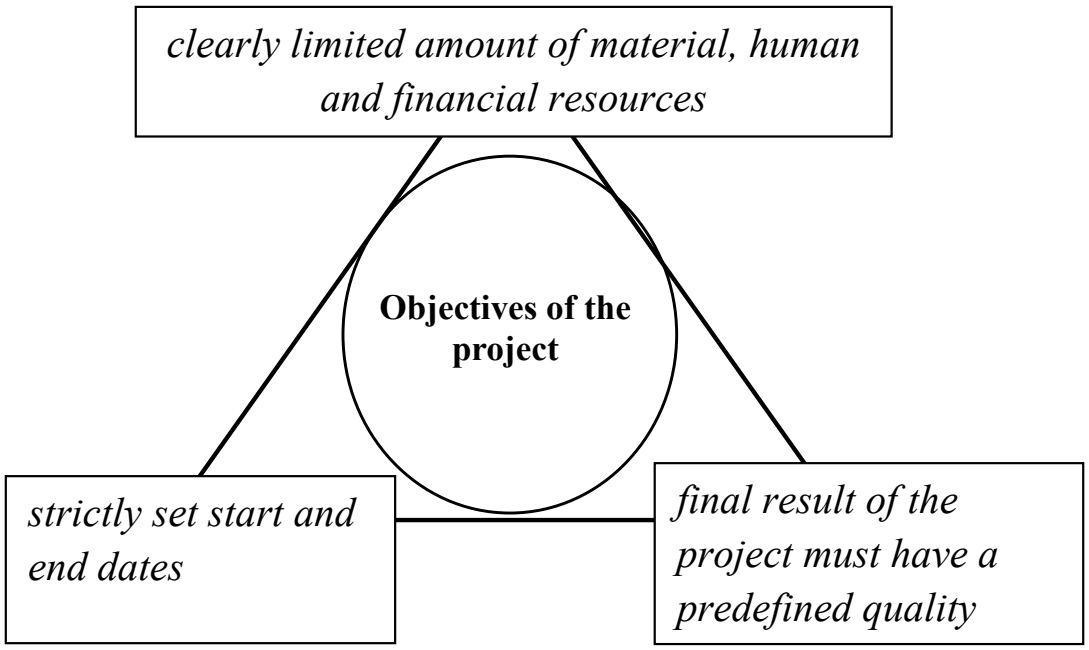

Fig. 7.2. Triangle limiting project goals

In a triangle, the limited objectives of a project in time means that *any project has strictly set start and end dates.*

Limited value means that the project is implemented using a *clearly limited amount of material, human and financial resources*.

The *final result of the project must have a predefined quality*.

An investment project is a long-term investment of funds and other resources for the purpose of obtaining economic benefits, issued as a document that is interconnected in time and space, and coordination of resources for measures aimed at the development of the enterprise.

Objectives of implementing investment projects are presented in Fig. 7.3.

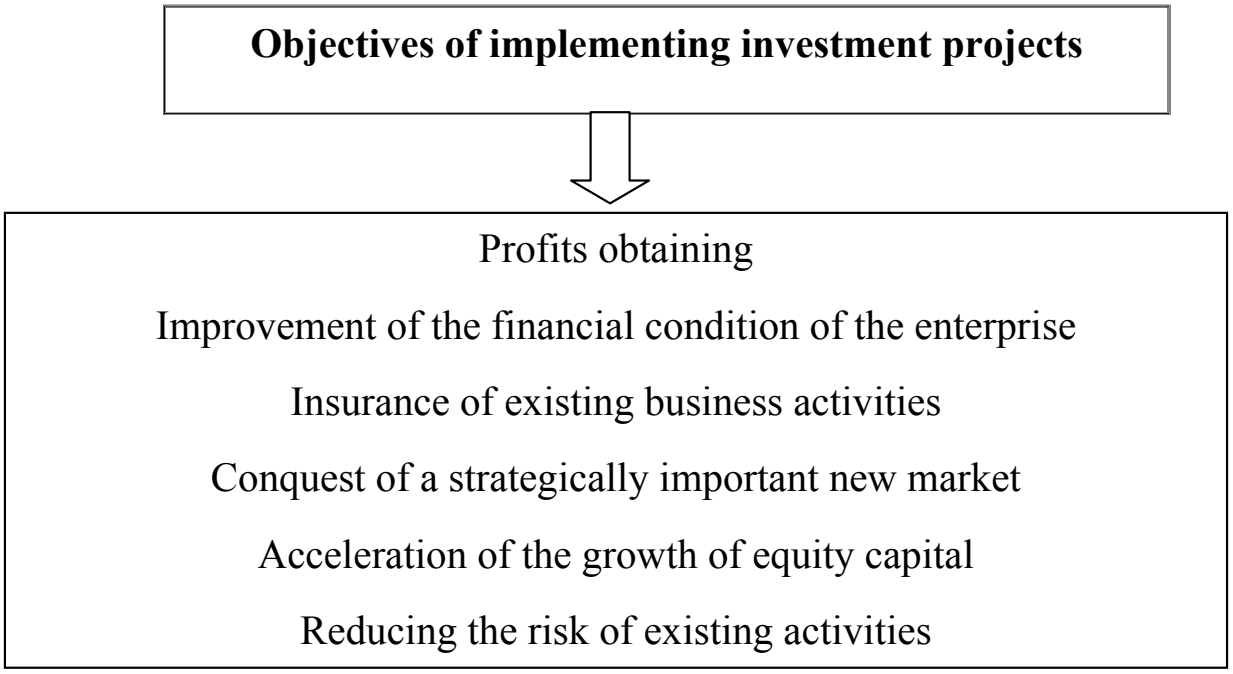

Fig. 7.3. Objectives of investment projects

In controlling projects are categorized as ***tactical*** and ***strategic***. Tactical projects are connected with an increase in volumes of manufactured products, increase of its quality, modernization of equipment. Projects are considered to be strategic if they involve changes in ownership or a fundamental change in the nature of production.

Requirements for the formation of a system for controlling investment projects:

1. Controlling of investments is related to the matrix organizational structure: in each project there is a large number of centers of responsibility involved i, and the manager must ensure their interaction in the process of achieving the goals.

2. Due to the long duration of investment projects, the system of controlling should be aimed at the future goals.

3. The controlling system should be adapted to change the conditions of the external and internal environment throughout the period of management of the investment project.

4. Controlling of investments should cover a wide variety of aspects of the project, as projects are complex.

Controlling of investment projects is aimed at solving a certain range of tasks. The main tasks of controlling investment projects are:

1. Analysis of the methodology of planning the investment projects

2. Development of a system of criteria for assessing the effectiveness of investment projects

3. Coordination of planning and budgeting processes

4. Monitoring of project work

5. Analysis of changes in the environment, assessment of their impact on the project, adjusting plans

6. Analysis of the causes of deviations from plans and budgets

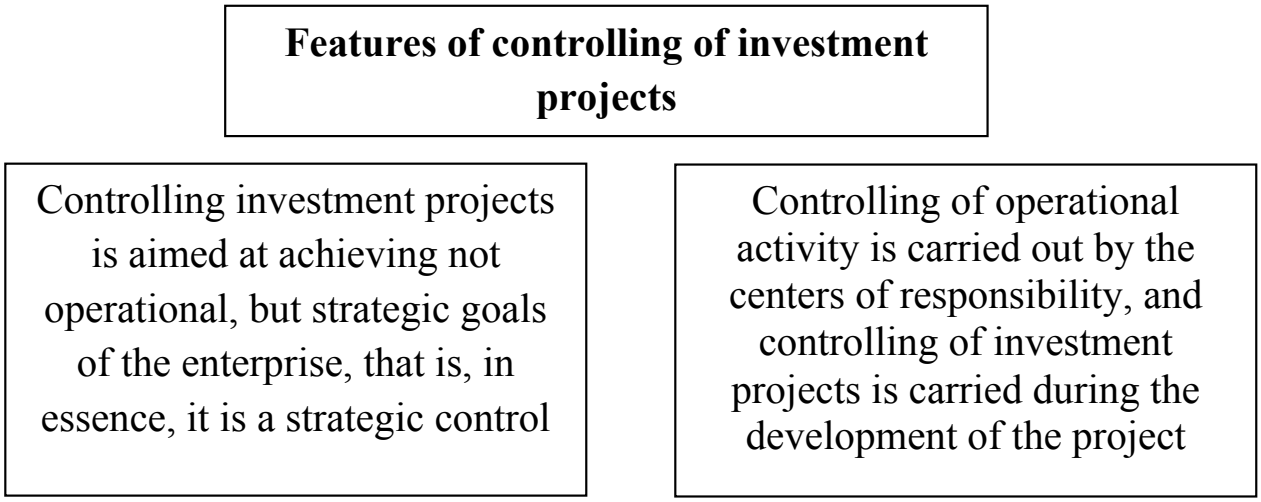

Fig. 7.4. Features of controlling of investment projects

Controlling of investment projects is characterized by a number of features that allow it to be distinguished among other types of controlling (Figure 7.4).

Planning an investment project begins with an analysis of the environment. A project is an open system that exists in a particular environment. Therefore, when designing a project, it is necessary to clearly identify the environment in which the project will exist and wil be completed. The design surrounds the aggregate of environmental factors that influence its preparation and implementation (Figure 7.5).

Controlling of investment projects is at the intersection of managerial accounting, information provision, and investment management. It means it uses all management functions but does not replace them, performs the function of "management of deviations." The essence of this function is based on the condition that the normal implementation of the investment project takes place within the framework of predetermined parameters and that the focal point of the project coordinator is focused on the deviations from them.

It is necessary to study the reasons for the deviations and take appropriate actions to bring the investment project to the norm. In this regard, the project coordinator is particularly interested in the deviation information as it signals the shortcomings, faults in the managed system, the need for urgent intervention in the implementation of the project. Thus, investment control is an attempt to cover all aspects of investment activity so as to be able to detect weaknesses in a timely manner and take measures to avoid a crisis that threatens the successful implementation of an investment strategy of an enterprise.

Consider the 5 main stages of creating a system for controlling investments:

Stage 1. The choice of an investment project in accordance with the goals and strategy of an enterprise involves defining the purpose of the project, identifying the nature, degree of influence of the external and internal environment on the achievement of the goals.

Stage 2 Selection of criteria for analyzing achievement of goals. If the project pursues several goals, the use of a system of criteria may be used. It is important to find out at the outset what parameters influence the selected criteria and what are the levers of influence aimed at achieving them.

Stage 3 Development of criteria for achieving goals and indicators for each center of responsibility. The opportunities and powers of managers who head the responsibility centers are taken into account.

Stage 4 Organizational planning of controlling investments. To do this, a system is being developed for reporting the project, which has to

record the planned and actual indicators of the state of work, terms, costs. It should also indicate the deviation of the actual values from the scheduled.

Stage 5 Development and implementation of the document circulation system enables previous and current control over deviations.

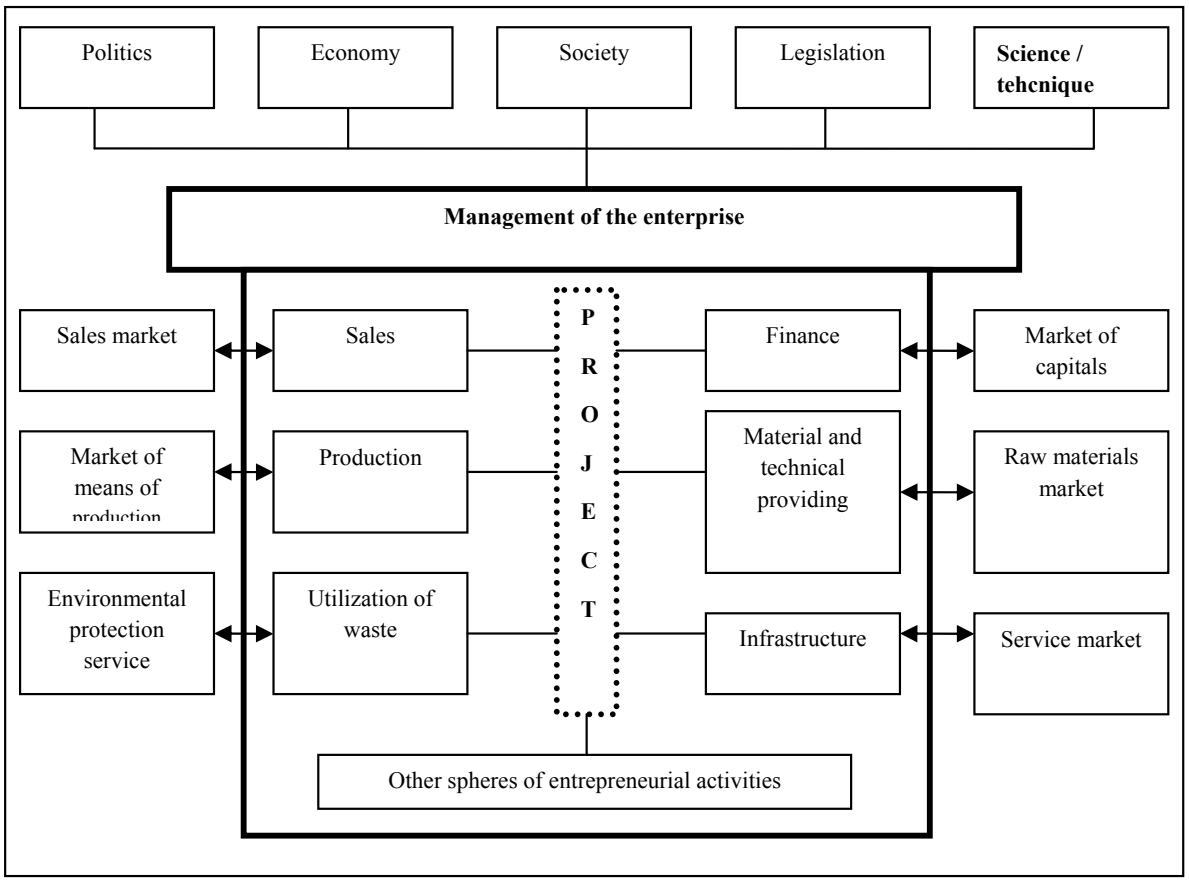

Fig. 7.5. Scheme of investment project environment

There are various systems of indicators of the efficiency of investment activity, as well as methods of their assessment. The main methods of determining the effectiveness of management of innovative activities of enterprises and the implementation of investment projects are presented in Fig. 7.6.

Table 7.1

Algorithm for controlling investment projects

Analysis of the external environment	Analysis of the internal environment
Substantiation of the selected investment project	
Determination of the planned end result	
SWOT-analysis	
Determination of deviations of actual indicators from planned, causes of deviations, identification of responsible persons for each unit.	
Determination of the degree of influence of deviations on the final result of the investment project	
Adoption of managerial decisions	

7.2. Methods of evaluation of investment projects

The methods for assessing the effectiveness proposed in the methodological recommendations of the Public Innovation Fund of Ukraine provide for the determination of the effectiveness of the national, commercial and budgetary. They should evaluate the indicators of innovative projects in a competitive comparison.

National efficiency takes into account costs and achieved results, including in terms of their social significance, environmental and food security of the state. These indicators cannot always be determined in monetary terms, but their inclusion in individual cases may become the most important factor of innovation change:

$$E = \frac{NI}{CI} \cdot 100\% \qquad (7.1)$$

E – National efficiency;

NI – the dimension of the increase in the produced national income;

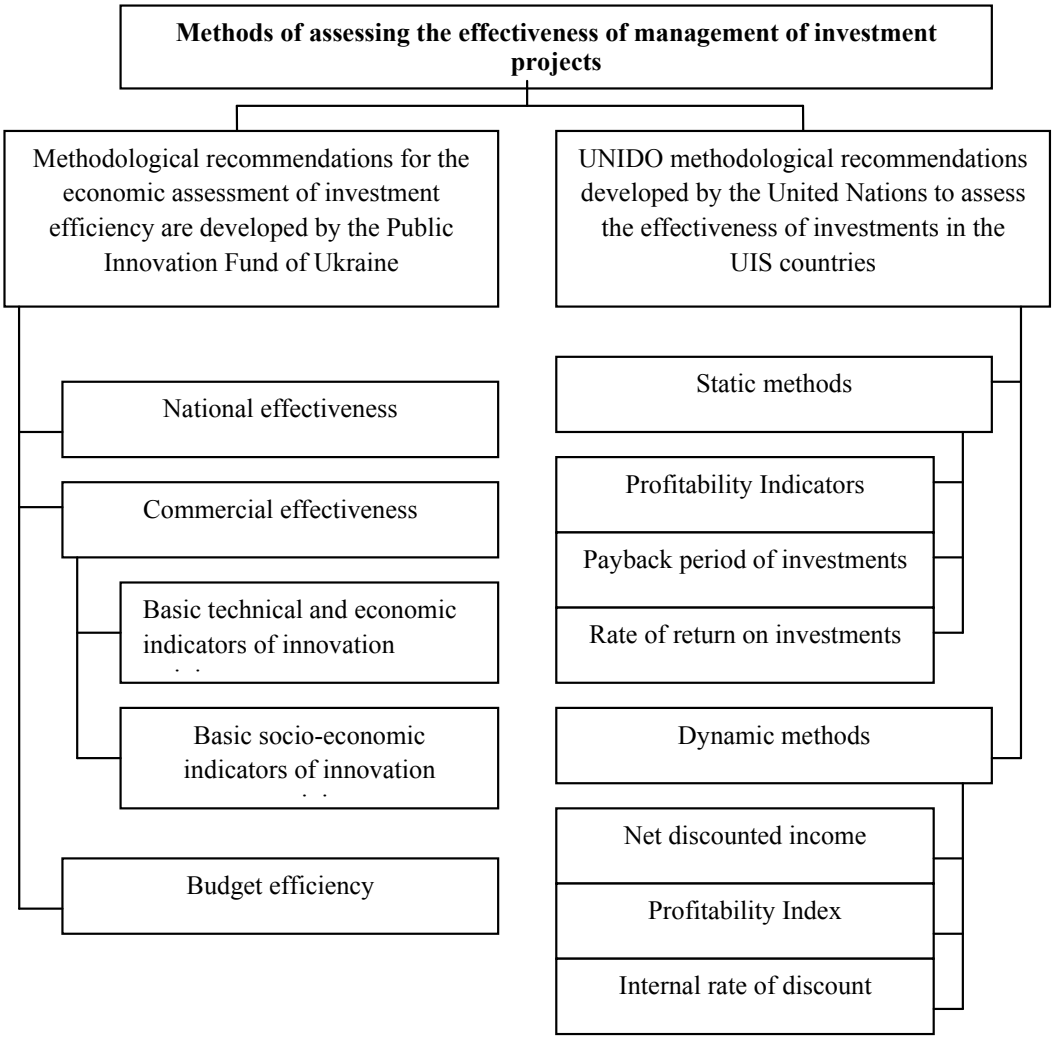

Fig. 7.6. Methods of evaluating the effectiveness of management of investment projects

CI – capital investments on all sources of financing, which caused this increase.

Commercial efficiency at the level of a particular industry evaluates the financial results of enterprises for investors. Traditionally, it is determined on the basis of the calculation of the ratio of expenditures necessary for the implementation of innovative measures,

income during their life cycle, which is formed by obtaining and selling a greater volume of quality products:

$$E_{com} = \sum_{t=0}^{T} (D_t - C_t) \cdot a_t \qquad (7.2)$$

T - the estimated year; D_t - result in t year; C_t - expenditure in the t year;

and t is a discount factor that takes into account the time factor and can be taken in the range of 0.15 – 0.20 relative units.

Budget efficiency reflects the impact of investment and innovation in the management of enterprises and their further development on the country's budget on taxes and rent payments, fees for the use of land, water, other natural resources, revenue from licensing, customs taxes when transporting products abroad.

$$Eb = (Rp + Ravt + \mathrm{Re}\, xc + Rw + Ro) - \sum Cimp \qquad (7.3)$$

R_p – receipt of additional value of the profit tax from the budget of the investment project;

R_{avt} – the budget revenues of the additional value added tax on the investment project implementation;

R_{exc} – revenue to the budget of an additional amount of excise duty from the investment project;

R_w – receipt of an additional amount of deductions from the wage fund from the implementation of an investment project to the budget;

R_o – receipts to the budget of the additional value of other taxes and fees from the investment project;

C_{imp} – expenses from the budget for implementation of the investment project.

The next method of substantiating the effectiveness of implementing investment projects is the method proposed by the structural unit of the UN in the problems of industrial development (United Nations Industrial Development Organization). This set of methods concerns first of all the economic evaluation of investments necessary for the implementation and implementation of planned innovations, taking into account changes in the value (discounting) of time investments (Figure 7.6).

Static methods include profitability, payback and return on investment.

Total profit is defined as the difference between the aggregate cost results and the costs associated with the implementation of the investment and innovation project:

$$П_{\sum} = \sum_{t=0}^{m} (R_t - C_t) \qquad (7.4)$$

$П_{\sum}$ – total profit;

H_t – cost estimation of results (revenues) received during realization of investment-innovation project during t-years;

B_t – aggregate expenses during the realization of investment-innovation project during t-years;

m – the number of time intervals

The profitability of investment and innovation activities is proposed to be evaluated using the profitability index:

$$I_p = \frac{\sum_{t=0}^{T} D_t \cdot r_t}{\sum_{t=0}^{T} C_t \cdot r_t} \qquad (7.5)$$

The profitability index is closely linked to the indicator of commercial efficiency. If the integral effect of E_{Com} is positive, then the profitability index Ir > 1 (investment-innovation project is considered effective) when Ir <1 is ineffective.

The profitability rate represents the discount rate at which the amount of discounted income for a certain number of years is equal to the investment investment.

$$D = \sum_{t=0}^{T} \frac{D_t}{1 + r_t} \qquad (7.6)$$

$$Tcap = \sum_{t=0}^{T} \frac{C_t}{1 + a_t} \qquad (7.7)$$

D – the total result of investment and innovation activity (discounted income);

T_{Cap} – total capital (investment) investments.

Payback period T_0 is one of the most widespread indicators of estimation of investment and innovation activity. The payback period is the time during which investments into innovation can be paid off taking into account initial capital investments:

$$T_0 = \frac{C}{D} \qquad (7.8)$$

T_0 – Payback period

C – total investment costs

Dynamic indicators for evaluating investment and innovation activities include net discounted income, profitability index and internal rate of discount.

Discounted income is calculated according to the formula:

$$I_{disc} = \sum_{t=1}^{T} \frac{R_f^t}{(1+r_t)^t} - \sum_{t=1}^{T} \frac{C_f^t}{(1+r_t)^t} \quad (7.9)$$

R_f^t – financial income of the period t;

C_f^t – financial expenses of period t;

r_t – discount rate.

The Profitability Index reflects the ratio of the amount of discounted financial income from the implementation of investment and innovation project (R_f) to the amount of discounted financial expenses for the implementation of investment and innovation project:

$$PI = \frac{\sum_{t=1}^{T} \frac{R_f}{(1+r_t)}}{\sum_{t=1}^{T} \frac{C_f}{(1+r_t)}} \quad (7.10)$$

The internal rate of discount provides for a condition when the amount of discounted income is equal to the amount of discounted costs:

$$\sum_{t=1}^{T} \frac{R_f^t}{(1+r_t)^t} = \sum_{t=1}^{T} \frac{C_f^t}{(1+r_t)^t} \quad (7.11)$$

The UNIDO methodology involves assessing the investment attractiveness of innovation projects and identifying the benefits of some projects over others.

7.3. Criteria for evaluating investment projects in controlling

In the real investment management system, the assessment of the effectiveness of investment projects is one of the most important stages. The criteria used to evaluate investment projects should reflect the main aspects and conditions for their implementation.

The traditional criteria for evaluating investment projects in controlling include:

- ***payback of investments*** – the term during which the return of capital investments in the form of profit;

- profitability of investments – determine the ratio of profit to the amount of capital investments.

Discounting is a procedure for determining the present value of future cash flows, taking into account the time factor. The criteria for evaluating investment projects with discounting cash flows are:

- Net present value (NPV) is the sum of the estimated values of all cash income and expenses. The net present value of an investment project can be defined as the maximum amount that a firm can pay for the opportunity to invest in this project without worsening its financial position;

- Internal Rate of Return (IRR) – the discount rate at which the net present value of the investment is zero. The internal rate of return on investment project should not be less than a certain minimum that the firm chooses for itself. The internal rate of profitability can be

represented as the interest rate that the investor can pay without losing money;

- the discounted payback shows at what moment of the net present value of the investment will be equal to zero. The difference between the lifetime of the investment and the payback period is the period of time when the project brings economic benefits;

- profitability index (PI) – the ratio of the estimated value of all cash inflows from an investment project to the present value of investment capital. The profitability index shows which economic benefits the investment project will bring for each hryvnia spent;

- annuity – a sequence of identical cash flows that are constantly repeated.

Thus, an important condition for increasing the efficiency of investment activity of enterprises is the decision on the expediency of investing investment funds, based on their substantiation using economic and mathematical models and the application of modern methods for evaluating the effectiveness of investment projects.

The development of investment projects is carried out in conditions of uncertainty. This is primarily due to insufficient information on the basis of which an investment project is being developed. This problem is partially eliminated in the further work on the project by obtaining additional information and making changes to the developed investment documentation. Therefore, as long as investment calculations are carried out under uncertainty, there is a probability of occurrence of adverse situations, which can lead to a

decrease in the efficiency of the project or to the occurrence of additional costs.

In this regard, in order to make the right investment decision, it is necessary not only to determine the size of the expected profit, but also to assess the riskiness of investment decisions by establishing and quantifying the design risk, the nature of its impact on the results of the implementation of investment projects and the degree of coverage of expected returns, the expected risk.

Control questions

t of1. What are the features of controlling investment projects that allow it to be distinguished from other types of controlling?

2. Name the main tasks of controlling of investment projects.

3. On what principles is the system of controlling of investment projects based?

4. List the main functions of controlling of investment projects.

5. What criteria are used in practice for evaluating investment projects in controlling?

6. Name the traditional criteria for evaluating investment projects.

7. What methods do you know of evaluating investment projects in terms of conditions of uncertainty?

8. For what purpose is the Hurwitz criterion used and what does it represent for yourself?

9. What directions of the process of creating a controlling system in investments do you know in?

10. What is the difference between the existing directions of creating a system of controlling of investment projects?

11. What does the process of implementing of controlling of investment projects include?

12. How exactly do the criteria for discounting of monetary flows differ from traditional criteria?

13. List the main stages of building a system for monitoring investment indicators.

14. What are the principles of developmen calendar implementation plans in controlling of investment projects?

TOPIC 8. CONTROLLING IN THE SYSTEM OF DECISION MAKING

Content

8.1. Essential characteristic of managerial decisions and their classification

The most important aspect of the work of any manager is the adoption of managerial decisions, so the most important task of the control system is to support the adoption of managerial decisions.

The process of management contains the activities united in a definite system. They are aimed at achieving the goals of the firm through the implementation of certain functions using management methods.

Typically, enterprise management processes are very diverse, multidimensional and have a complex structure. In the broad sense, the management process consists of general management functions that are combined into control cycles (Figure 8.1).

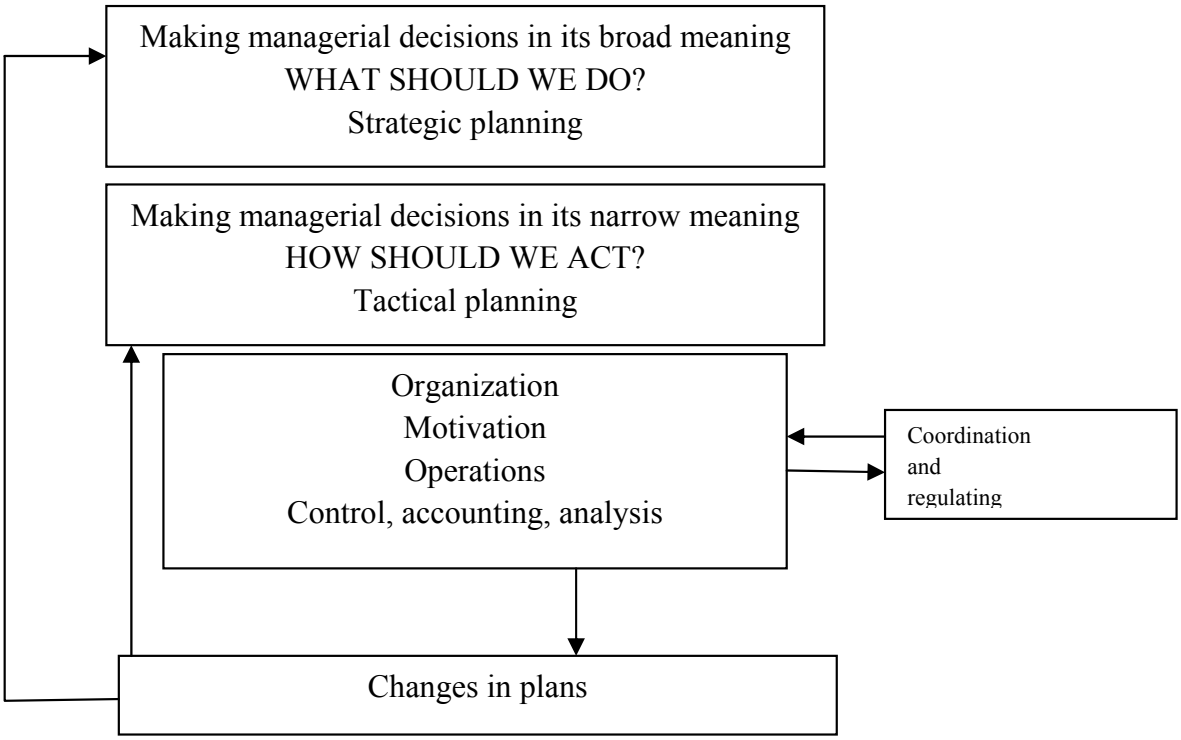

Fig. 8.1 Management cycle

Execution of each of the functions of management forces the manager to solve a number of specific tasks, the most typical of which are:

1) Planning:

- defining the mission of the enterprise;

- finding out the nature of business;

- definition of goals; analysis of changes in the external environment and their impact on the future of the enterprise;

- development of strategy and tactics of achievement of the set goals.

2) Organization of activities:

- rational structure of the enterprise;

- elucidation of expediency of consolidation of blocks of executed works;

- coordination of the functioning of the blocks for their harmonious and consistent work;

- elucidation of the range of tasks, the solution of which at each level of the enterprise should be trusted to people (in particular, managers);

- determining the appropriateness of changing the structure of an enterprise due to changes in the external environment.

3) Motivation:

-to find out the needs of the enterprise and the needs of the subordinates;

- determining the degree of satisfaction of these needs in the course of activity aimed at achieving the goals of the enterprise;

- analysis of the reasons for the increase of satisfaction with the work and productivity of labor subordinates;

- identifying measures that increase the level of satisfaction with the work and productivity of the subordinates.

4) Control:

- the establishment of criteria for measuring the results of work;

- determining periodicity of evaluation of results;

- determination of the degree of achievement of goals;

- defining the reasons behind the lag and making adjustments for optimal achievement of the set goals.

In the scientific literature, there is both an extended and narrow understanding of the decision-making process in management.

In the broader sense the decision-making process is identified with the whole process of management. Extended understanding encompasses not only the decision-making process, but also its implementation and control of the results of its implementation. But this does not correspond to the notion that the ultimate result of a decision is the very solution.

In the narrow sense, decision-making is considered only as a choice of the best solution for numerical alternatives. In the process of narrow-minded analysis, one must take into account that alternatives do not arise themselves. The decision-making process consists not only in choosing the best option, but also in finding alternatives, establishing criteria for evaluation, choosing a method for evaluating alternatives, etc.

In view of this, we can propose the definition of the category of *"management decision-making"*: the decision is a process that begins with the statement of the emergence of the problem situation and ends with the choice of the solution, that is, the choice of action aimed at eliminating the problem situation.

The final result of the decision is the management decision that appears as the initial, basic element of the management process that ensures the functioning of the economic organization through the interconnection of formal and informal, intellectual and organizational-practical aspects of management.

Management solution is an instrument of influence on the object of management and its separate subsystems, an important link in the formation and implementation of management relations in the organization; is the basis for implementing each management function.

The classification of decisions is a process that allows them to be organized and to identify the general patterns and characteristic features inherent in their individual varieties. Consider these criteria in more detail.

1. The importance of the problem for the organization. An important issue is the need for greater clarity, organization in preparation for decision-making, the establishment of effective control, and the coherence between the units involved in its decision.

2. The time aspect of solving the problem. A solution to an urgent problem is usually taken in conditions of greater uncertainty in comparison with another case. If the problem does not require a quick fix, then it is sometimes advisable to gather the necessary information to make the best decision.

3. Preliminary assessment of the effectiveness of the problem. In the case of an obviously insignificant effect, it is expedient not to make large expenses for the search of information, estimation of possible decisions, because even the best solution does not give a big loss. In the case of the expected significant effect, the decision-making process should be carefully thought out.

4. Terms of decision-making, due to the state of the external and internal environment: certainty, risk, uncertainty and counteraction.

5. Nature of decision-making: individual or collective.

6. The model of the problem situation: accurate or approximate. As a rule, the problem situation is described by an approximate model, simple enough to be used. In case of important problems (or when the decision gives a clearly pronounced big effect) it is necessary to describe the situation very accurately. The optimal solution found should be the best for some idealized problem expressed in the model. Often it is more expedient to find a rational, though not always the best, solution for a real problem situation than to spend the effort to find optimal solutions for unresolved problems.

7. The level of formalization of the decision-making process. In decision-making a significant role is played by such factors that are not subject to formalization as: competence, objectivity, authority of the source of information, the psychological state of the decision-maker, the influence of traditions, moral norms.

8. Multiplicity of decision-making: single or multiple procedures. Single solutions, as a rule, are detected over a long period of time and cause great consequences. Very often complex tasks are tasks of making one-time solutions. Multiple solutions, in turn, are divided into periodic and nonperiodic.

9. Type of decision: programmed or unprogrammed. For repetitive or similar problem situations that arise before the organization, as a rule, are developed standard rules, instructions.

It is crucial for the classification of problems and related solutions to relate them either to the standard (routine) problems (in this case

programmed solutions can be implemented) or non-standard (creative) problems that are more relevant to the solutions unprogrammed.

As M. Meskon notes, all types of decisions taken in the management process can be classified according to the following features:

- according to the object of the decision – focused on the goals or means, etc .;

- the degree of reliability of the source information – reliable, risky or unreliable solutions;

- for the timing of the consequences of decision-making – long-term , medium-term, and short-term;

- in connection with the hierarchy of planning – strategic, tactical, operational decisions;

- at the frequency of repetition – random, repetitive, routine decisions;

- by scale of coverage – decisions relevant for the whole organization, highly specialized decisions;

- by the number of decisions in the process of their adoption – static, dynamic, one-and multi-stage solutions;

- with the decision maker – individual, group, on the part of managers, on the part of performers;

- the extent to which data changes are taken into account – firm and flexible solutions;

- in the degree of independence – autonomous and complementary solutions;

- by the degree of complexity – simple and complex decisions.

Schematically, the above classification can be represented in Fig. 8.2

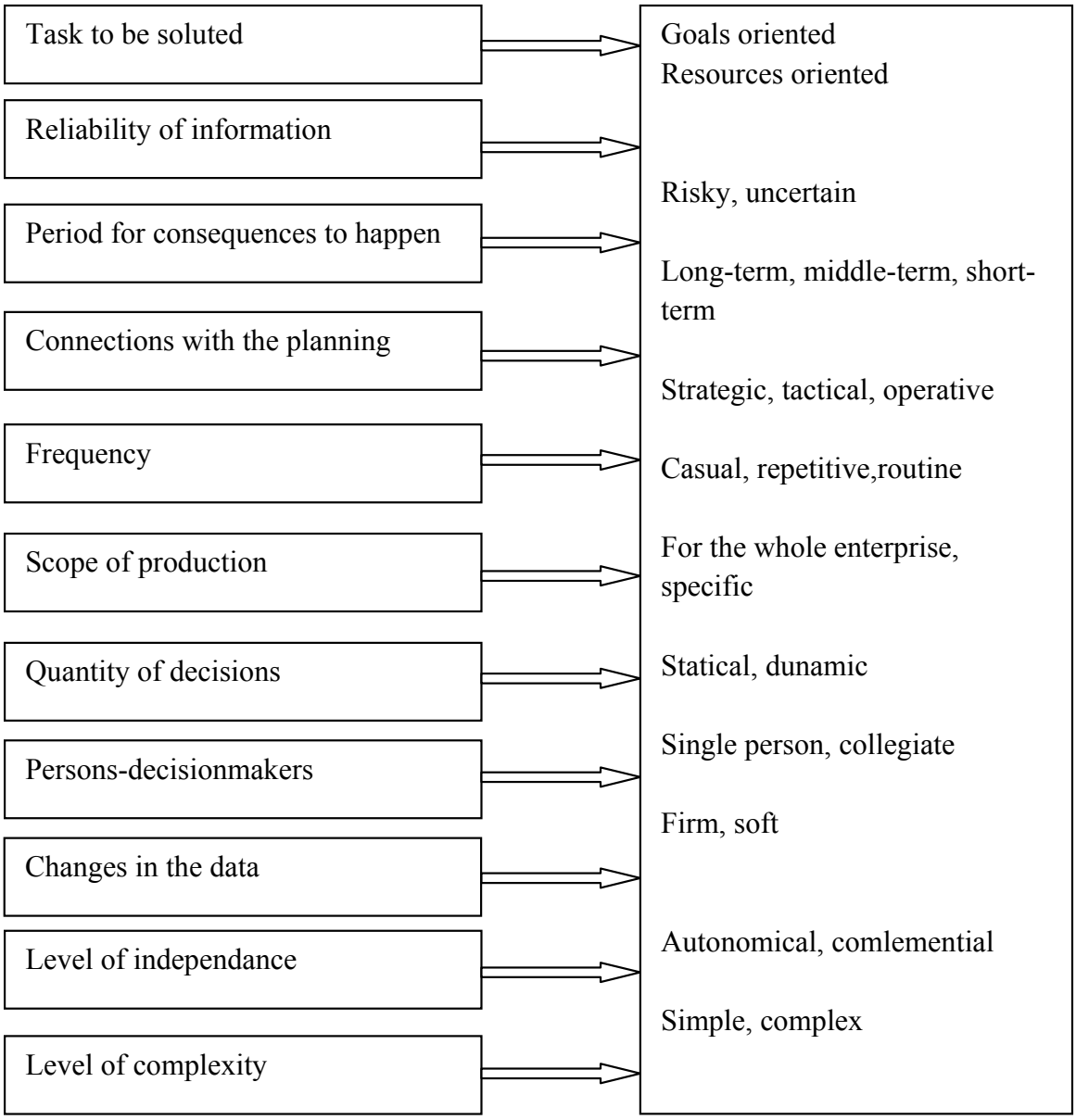

Fig. 8.2. Classification of management decisions by M. Meskon

For controlling purposes, management decisions are classified according to the following features:

1) By degree of standardization.

Projected decisions are made in standard situations in accordance with the finished procedures, traditions, habits. The programmed solutions include such decisions that are already known from the past experience (or known precise algorithm for their reception) and immediately applied or calculated according to the given algorithm in the event of the emergence of standard and well structured situations. Programmed solutions can be simple, adopted "on the spot", and complex, requiring careful elaboration. Examples of programmed decisions can be decisions about the purchase of materials, the level of salary for a new employee, etc. Accordingly, the system of controlling is oriented to standardization, unification of source information and criteria for the adoption of programmed solutions, the development of common procedures.

Unprogrammed solutions are taken in non-standard, weakly structured situations to solve new, unusual problems. The development of non-programmed solutions requires new information, the search for its non-standard combinations, the development and evaluation of previously unknown alternatives, etc. This point is especially important for choosing the right methods for finding solutions to problems, for analyzing and substantiating decisions.

Examples of non-programmed solutions can be the decision to develop a marketing strategy for an enterprise, the investment of

temporarily free financial resources, etc. There are no unprogrammed solutions and there cannot be a ready-made algorithm. Therefore, controlling here has a research, creative character; the source information provided by the controlling system for the adoption of unprogrammed management decisions, as well as the criteria themselves for making such decisions, are primarily based on the specifics of a specific task.

2) Depending on the level of certainty in the environment.

Attributing a problem to one or another class of its decisions depends on the degree to which the influence of uncertainty on these elements. If the problem is so clear that not only its goals, alternatives, costs, criteria, but also the most rational solution are known, then it is standard and can be subject to template rules of decision-making.

Decision in a situation of certainty: manager knows exactly all possible options and the result of using each option (for example, the investment of free funds in solid interest securities);

Decision in a situation of risk: manager does not know the exact result, but knows the probability of each result (for example – the decision of the insurance company to establish an insurance premium at a level that is able to cover the possible losses and bring the company profits);

Decision in situations of uncertainty: manager does not have accurate information about the results and cannot even estimate the probability of possible results (for example, the decision to implement a new science-intensive project).

If the listed elements of the problem are basically clear so that they can be described not only qualitatively but also quantitatively, but the choice of solution from many options is rather complicated, then its adoption is a subject of study of economic and mathematical modeling. It is for standard and well-structured problems that programmed solutions can be developed. In addition, distinguish weakly structured and unstructured problems. In poorly structured problems, goals, alternatives, criteria, costs are known only partially and they should be identified in the formulation and analysis of problems. The method that helps to solve these problems is system analysis.

The most complex problems as the experience shows are unstructured problems that arise when their essence is unclear but the goals are uncertain alternatives to their achievement need to be searched while the evaluation criteria are ambiguous and at the same time contradictory. In solving such problems, the subjective judgments of managers and qualified experts-experts can play the most important role.

8.2. Basic approaches and requirements for making managerial decisions

Managerial decisions are complex. In legal terms a manager making decision expresses his will, realizes his powers and gives him the responsibility for his possible adverse consequences. On the other hand, a managerial decision is a social act, because it is accepted by people and concerns people. Managerial decisions are also psycholo-

gical acts, because they are the result of mental activity of people and their volitional efforts. Finally, from informational point of view, the solution is the result of the processing of information during which a choice is made among the possible variants that are closest to the optimal, that is, is the best.

The final result of the decision is the solution that emerges as the initial, basic element of the management process that ensures the functioning of the economic organization through the interconnection of formal and informal, intellectual and organizational-practical

At *the stage of perception*, the leader perceives information from the external and internal environments as a signal to the action (since the manager never has full and accurate information, he relies on available information). The task of the control system at this stage is in a series of routine events not to leave the most important tasks unnoticed; otherwise the need for a managerial decision will not be understood. In addition, due to the complexity of the environment and the peculiarities of mental activity of a person there is a problem of "information filter": a person perceives and memorizes only the information that formed her beliefs, and information that contradicts existing beliefs and relationships is distorted or forgotten. This phenomenon is often referred to as "selective perception, distortion and memory," and it can not be ignored in the preparation of controlling reporting. Manager seems to be a "tailor" in this case. So the controller must draw the attention of manager to the special, unusual and non-

standard phenomena occurring in the external and internal environment of the enterprise.

At the stage of forming the concept, manager performs the task setting. At the same time, he either chooses a ready-made type of task (concept) based on his experience and knowledge, or forms a new concept (from scratch). Usually a person, as a result of the inertia of thinking tries to find a situation similar to the one formed basing on his own experience and knowledge referring this situation to a well-known group and then acts on a well-known pattern. Thus, the problem statement is often reduced to classification. However, the real situation may not correspond to a "convenient model". In addition, if the old solutions were not optimal the manager will be afraid of old mistakes. Therefore, the controller at this stage may either suggest a possible decision model or play the role of the "devil's advocate" to test one or another model's strength.

At the stage of transformation of the concept, that is the "transforming" of the created in one’s mind model into reality and the search for an exit from the current situation, the controller plays the role of assistant and adviser of the manger. The results of this stage are largely determined by the preliminary steps: the approach to the solution of the problem depends on the problem statement; in addition, the influence of the individual style of thinking of the manager plays an important role (the peculiarities of different styles of thinking are studied by psychology).

Synthesis of all presented approaches has been proposed in the theory of configurations and "incremental" approach to decision-making. According to this "synthetic" decision-making approach is not an action that has a single point, but a long process, carried out step by step, during which the leader often consultes with his employees, sometimes deliberately delaying the stage of discussion in order to obtain support and gather the necessary information uses specially prepared and random information. Planning actions and actions themselves can be arranged simultaneously. After the accumulation of the "critical mass" of the initial material the decisions are made on the jump-like basis similar to the transition from one qualitative state to another.

The process of making managerial decisions is influenced by various factors which join together and form so-called "configurations". Depending on the configuration of the factors, the process of making managerial decisions can be different: systematic, formalized or intuitive illumination. The decision-making process can take place both individually and in the collective consciousness of the entire enterprise the engine of which can be the personality of the manager or organizational culture, the external environment.

Solutions can take the form of perspective or formalized plans, models of behavior, choice of position in the market – everything is determined by the context of a particular situation, and this context itself changes according to certain laws, in accordance with the change of the stage of the life cycle. The theory of configurations asserts that

each of the theories considered can be correct, and the choice of a specific explanation in each case is determined by a set of different factors.

The theory of configurations argues that the choice of model for making managerial decisions depends on a particular situation and is determined by a set of factors that for convenience can be divided into three groups: 1) the external environment of the enterprise; 2) the internal environment of the enterprise and personal qualities of the manager; 3) the features of the problem to be solved (Table 3.1). In different situations, the force of influence of different factors is different, and this is determined by the difference in approaches.

Table 8.1.

Chosing of criteria of decision-making

The main factors	Approach	Criteria of making managerial decisions
External environment: scientific and technical factors, economic factors, natural factors, legal factors Internal environment: costs, terms Tasks: terms, costs, benefits.	Totally rational	Quantitative (profit maximization, stock value of the firm, etc.)
Environment: factors of the cultural environment, demographic factors, political factors, etc. Internal environment: corporate culture (norms, values), hierarchy and authority in organization, personality traits, organizational structure, etc. Task: participants, balance of power, balance of interests, etc.	Totally irrational	Qualitative (conquest of the prestige of the firm, the interests of groups within the company, satisfaction of the head of the ambitions, etc.).

Thus, the theory of configurations does not contradict any of the above theories: it considers the process of making managerial decisions at a new qualitative level, proposing the logic to choose the theory that can adequately describe the decision-making in a particular situation.

Since the configuration theory is the synthesis of all the approaches described above, integrates them into a single whole, we believe that in developing the decision criteria in the controlling system it is advisable to focus on the theory of configurations.

All existing approaches to studying the process of making managerial decisions can be arbitrarily represented in the form of points located on a line between the two poles. On the one hand – absolute rationality, orientation towards predominantly mathematical categories, on the other hand – absolute irrationality, strong emphasis on social and psychological categories. Depending on which pole the head is attracted to, he chooses the technology of making a managerial decision, that is, dividing the process into several interrelated stages.

The simplest decision-making technology is intuitive, which in simplified schematic form is presented in Fig. 8.3.

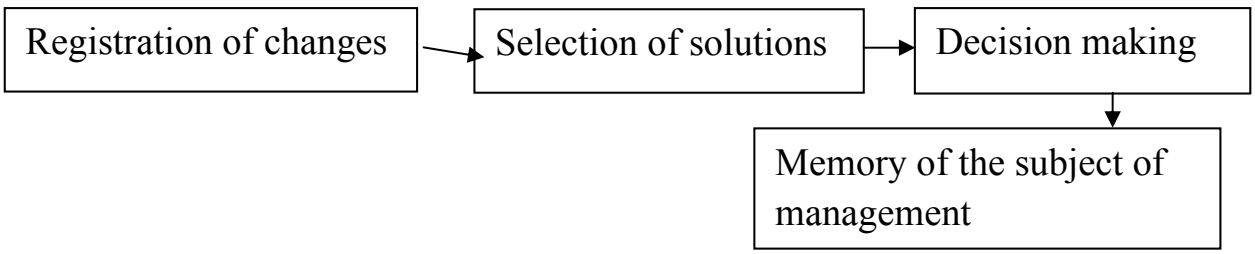

Fig. 8.3 Model of intuitive decision making technology

The change in status states a problem. Then comes the need to get rid of this problemand it requires to make a decision. Intuitive technology is the experience of making decisions in similar situations that has accumulated this subject and determines the decision itself. Consequently, if in the past the subject of the control has never made similar decisions, the probability of making an erroneous decision increases. The advantage of intuitive technology lies in the speed of decision-making, and the main drawback is the probability of a mistake. Simplified model of rational decision making technology is shown in Fig. 3.4.

In the given model the logic of realization of rational decision-making technology is presented, but the specific order of passing of separate stages is not reflected. In the process of preparing a decision often there is a need to clarify or correct the results of the previous stages.

Let's consider the content of each of the stages in more detail, focusing only on key (essentially important) aspects of their implementation.

1. Diagnosis of the problem includes the following sub-steps:

- Identification and description of the problem situation (meaning awareness and reflection in any form of contradiction between the changes in the environment of the organization and its ability to ensure the achievement of its purpose in such conditions);

- Setting the goal of solving a problem situation (determining the desired end result of solving a problem situation);

- Identification of criteria for decision-making (identification of characteristics at which institutions will be evaluated for the solution of the problem situation, as well as the ordering of these features by degree of importance).

2. Accumulation of information about the problem means collecting and processing various information about the problem under consideration. The quality of the solution depends on the quality of the information about it. In turn, the quality of information materials is evaluated using the following criteria:

1) objectivity is an integral criterion, which combines the following partial criteria:

- completeness of information (determined by the availability of information, including contradictory, which is necessary and sufficient to make a decision);

- accuracy of information (degree of conformity of the original information);

- consistency of information (separate parts of the same information should not contradict each other);

- the convincingness of the information (provenness of information, which makes us believe in its reliability);

2) conciseness is conciseness and clarity of presentation of information (achieved through the high collapse of information without losing its necessary completeness);

3) relevance is the correspondence of information to objective information needs;

4) timeliness is the ability to meet the information need in a time-acceptable for execution;

5) communicative is the property of information to be clear to the person to whom it is addressed.

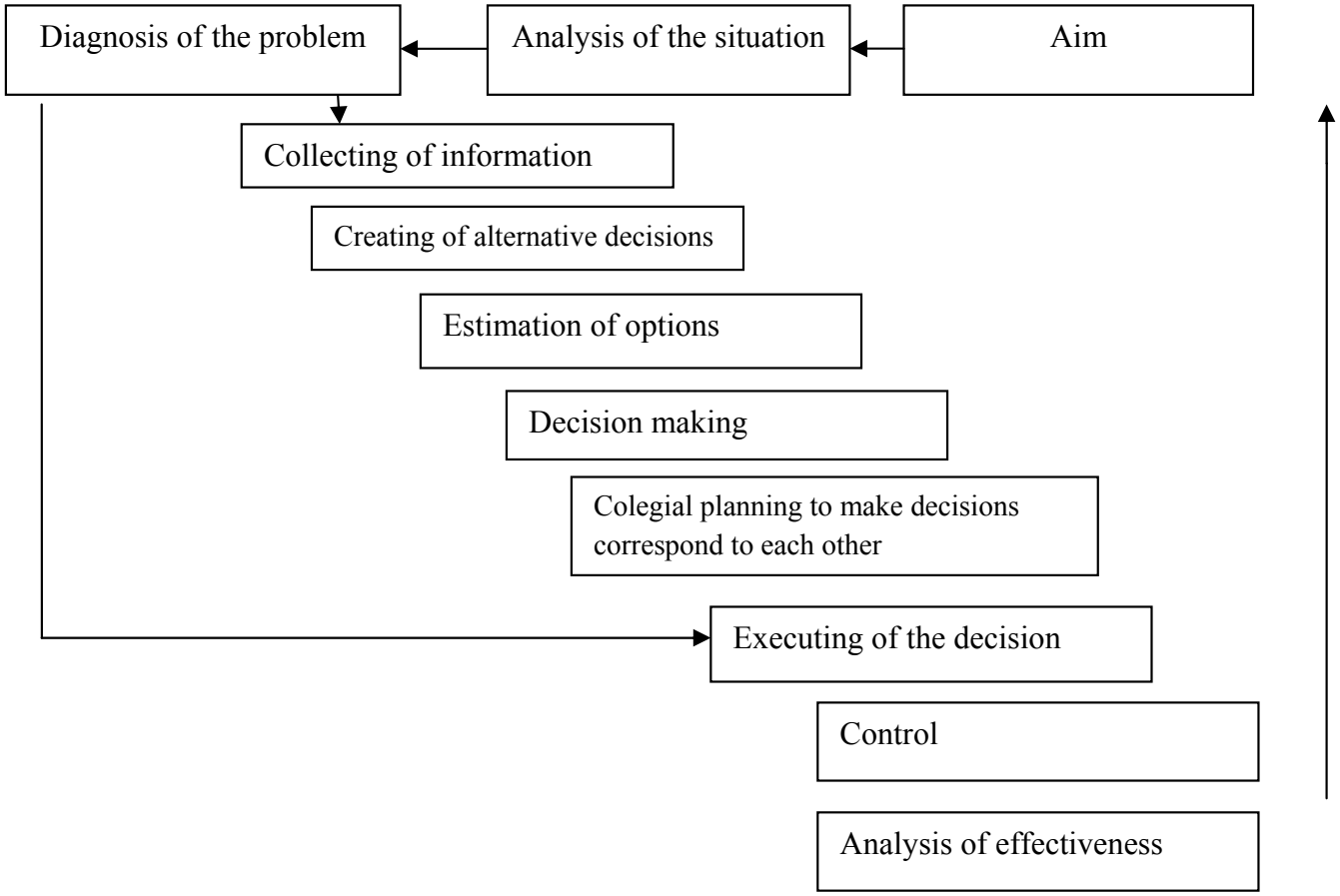

Fig.8.4 Rational technology for the adoption and implementation of managerial decisions

3. Development of alternatives means developing, describing and compiling a list of all possible options for action to solve a problem situation.

In the theory of decision making alternatives are considered exogenous factors. However, the complexity of management lies in the elaboration of the most complete set of alternatives, which contains all

the acceptable action options to achieve the set goal. On the other hand, increasing the number of alternatives complicates, increases the cost and stretches in time the decision making process. Therefore a substantiated reduction in the number of alternatives is a factor in improving the efficiency of the decision-making process.

In the process of developing alternatives in order to limit their number, the following requirements must be taken into account:

- ***the mutually exclusive alternatives***. It follows from the definetion of the category of "decision-making" as an act of choice. Unambiguous choice is possible only when alternatives exclude each other;

- ***ensuring the same conditions for the description of alternatives*** (in order to ensure comparability of alternatives, they must be described under the same conditions: time, resource, external restrictions, etc.). Compliance with this requirement should guarantee the same "starting" conditions for each alternative and take into account the whole complex of the results of their implementation.

4. Evaluation of alternative options. The content of this phase is to check each alternative found by criteria:

- realism is the possibility of its implementation in general, taking into account external circumstances, not dependent on the organization itself. External factors often limit the number of acceptable alternatives. These include, in particular: legal restrictions; opportunities of existing technologies; moral and ethical norms, etc.

- compliance with the resources available to the organization;

- admissibility of the consequences of the implementation of the alternative. The result of an alternative in the general case is a multidimensional phenomenon. The realization of an alternative leads to the consequences of both related and non-realted to the the set goals. If the consequences are not taken into account in the decision-making process, one can obtain a result that completely neutralizes the expected effect. Therefore, in the process of identifying the possible consequences of implementing each alternative, it is necessary to take into account:

- not only the main (related to the achievement of the goal), but also the side effects;

- not only the immediate period of implementation of the alternative, but also future periods.

In order to have the management solution effective, it must meet a number of requirements and be:

- scientifically substantiated, that is comply with the objective laws that operate in the management system, to be applied on the basis of the analysis of reliable and complete information, which gives grounds for a qualified definition of goals, tasks, means of their solution, and to take into account as far as possible all aspects of the issues under consideration ;

- lawful – all management decisions, regardless of their level, time of adoption, etc., are taken with strict observance of the requirements of the legislation.

- actual – the managerial decision should solve the most important, system-relevant problems and issues, the solution of which will create conditions for the most effective functioning of the system as a whole and its individual elements;

- real – the managerial decision must be made. The adoption of unrealistic decisions only causes annoyance of performers, the reluctance to perform them. As a rule, such decisions do not reach the goal and are not executed as planned;

- competent – managerial decision should correspond to the most advantageous, expedient, optimal means, methods of its realization;

- concrete – managerial decisions should have clearly formulated goals, tasks, ways and means of their achievement, which would exclude the possibility of their ambiguous interpretation, with a clear definition of the organizer of execution, terms, performers, as well as some other features;

- uncontroversial – managerial decisions ensure the unity of the goals, objectives, methods and means of their implementation set in the decision, and do not contradict other own decisions and issued by the higher level management body;

- timely – managerial decisions should be made taking into account the state and development of both the subject and the object of management and specific conditions. In other words, the decision depends on the manager's ability to correctly navigate the situation, to analyze the events and make decisions only when it is ripe. The optimal

(for taking on time) is the decision taken at the beginning of the problem;

- informative – management decision cannot be limited to general, descriptive material, presentation of known aggregated, statistical information, which reduces its informational value and leads to blurriness and fuzziness.

Of course, the presented list is incomplete, it can be expanded with other characteristics (efficiency, economy, reasonableness, variation), which however can improve it only insignificantly.

Thus, management theory regards decision making technology as the central element of practical activity. No matter how excellent a managerial decision is, it will inevitably remain only in intentions, if it is not complement by purposeful activities aimed at achieving the goal.

Therefore, in order to find optimal solutions to the problem manager should not seek an immediate solution that is virtually impossible, but should take appropriate measures to study the causes of the problem on the basis of available internal and external information, evaluate in detail the effectiveness of the decision and substantiate the decision.

8.3 Methodological basis for assessing the effectiveness of managerial decisions

The manager as the decision maker is fully responsible for the quality of the decisions made for the organization and society. The subjectivism of the goals and selected alternatives, on the one hand,

and the lack of regulatory rules and procedures that determine the content and procedure of decision-makers in the development of managerial decisions – on the other, leads not always to the best results. And if we take into account the fact that the planned goal may not be reached, the question of decision-making evaluation becomes extremely relevant.

The choice of criteria for making managerial decisions depends on the model for making managerial decisions in a particular situation. According to the classification, all decision criteria can be placed between the two poles: full rationality and complete irrationality.

One can formulate the requirements that the controller must reach for any configuration of the determinants developing a system of criteria for making managerial decisions:

- a full assessment of all economic consequences of the decisions taken in the short and long periods, based on the objectives of the enterprise (i.e. the assessment of all relevant results);

- compliance with the goals of the enterprise system and consistency;

- adaptability to the analysis in conditions of uncertainty;

- objectivity and availability of output data;

- versatility;

- flexibility (i.e. ability to take into account the changes occurring);

- account of the specifics of the problem to be solved;

- compliance with the personality characteristics of the manager and corporate culture of the enterprise;

- clearness and ease of use;

- dimensionality and objectivity;

- orientation towards perspective, possibility of "early warning".

Manager uses the quantitative and qualitative criteria in making managerial decisions. Qualitative criteria determine the individual specificity of a particular situation, and quantitative is a more universal characteristic, so consider the most quantitative criteria for decision-making on the most important issues for any enterprise: short-term planning of the production program; management of material flows; the choice between own production and procurement on the side; setting prices for products.

In the process of making a managerial decision, only relevant costs, that is, the cost of future periods that have an impact on cash flows, should be taken into account. It must be taken into account that the size of profits and cash flows are not identical concepts, but net cash flows provide a net profit. Unrelated costs include:

- past (irreversible) costs;

- future costs as a result of previously made decisions

- costs of non-monetary nature (depreciation).

Relevant costs and revenues are taken into account when evaluating alternatives and choosing the most profitable one. Past (irreversible) costs that already existed are not relevant, since they are no longer impacted. Consequently, the actual costs can not be

attributed to the relevant ones. Actual data are not used by themselves in formulating alternatives; they are only needed as a basis for forecasting costs. This means that on the basis of actual costs you can build a forecast of "behavior" of the future cost.

An alternative is an income that an enterprise lost due to a different decision.

Management decisions only affect the future, so managers are interested in future costs and revenues, which can be influenced by their size.

Relevant costs and benefits arise as a result of choosing a particular option. Relevant revenues include the benefits that an entity might have received, but lost due to the choice of another option. Loss of profit is not reflected in the financial statements, but it is extremely important for decision-making, and therefore it should be taken into account.

Basic criteria for making managerial decisions

1) Criteria for making decisions on the volume and structure of products

To decide on the volume and structure of products you need to know the weaknesses of production and sales: insufficient demand for certain types of products; equipment, the power of which is lower than in other types of equipment; scarce materials; labor shortage, etc. In case of incomplete loading of capacities and absence of weaknesses as a criterion for determining the production program, use the specific

marginal profit – the difference between the price of products (services) and variable costs of production. The production program includes all types of products (services that have a positive specific margin profit).

In the presence of a single weakness at the enterprise, as a criterion the relative marginal profit can be observed. It is the proportion of the distribution of the marginal profit of each type of product (service) to the consumed amount of that production resource. It is a weakness at which the produced types of products "compete".

If there are several weaknesses in the company, it is necessary to determine from which profit (i.e. marginal profit) the company refuses, when it sells others instead of some types of products. To do this, use a linear programming.

2) Criteria for making decisions "to buy or produce".

The choice of criteria depends on the loading of capacities and the use of resources. If the company does not have bottlenecks (lack of work), then the main criterion is the variable cost plus additional constant and variable (relevant) costs. If the company has a full load, then the criterion for making a decision to "buy or produce" is the relevant costs per unit of production plus marginal revenue lost from excluded products.

If the company has a large number of bottlenecks, then it is necessary to calculate the lost profits, which is possible only with the use of a linear programming machine.

3) Special order decision

The decision is related to the consideration of the received proposal for one-time sale of products or services at a price lower than the usual price, or even lower than the cost price. Adoption of such a proposal is appropriate only when the additional income exceeds the additional costs and there is no threat of market deformation. Therefore, the analysis for making such a decision involves: Marginal approach; differential analysis of relevant costs and revenues; taking into account alternative costs in the absence of free capacity; taking into account the possible long-term effects of the adoption of a special order.

4) Decision to expand or reduce the segment

The decision to expand or reduce services, products, divisions and other segments based on an analysis of their profitability. Analysis of information for making such decisions is based on calculation of variable costs, determination of direct and general fixed costs, the comparison of marginal revenue.

5) The decision "to sell or process further"

The decision is related to the possibility of selling products at a certain stage of its production or the continuation of processing in order to obtain additional profit. Additional product processing (or complementing the spectrum of services) can provide new features or functions of the product (or the flexibility or quality of services) and sell it at a higher price. For example, an enterprise may consider an alternative: to implement a tomato harvest or to send a part of the harvest for processing to produce tomato juice. One more solution to

"sell or process further" is the decision on defective products: sell it at a discount or eliminate defects and sell these products at the usual price.

6) Solution for pricing.

It depends on the goals and objectives of pricing. The main criteria for making decisions when pricing: the cost, the price of competitors, the price of goods substitutes, the unique merits of products. However, besides the price of sales volumes other factors may also be affected: the product does not satisfy the consumer in quality; the consumer does not meet the terms of the order fulfillment; the consumer does not know about the existence of another product; the consumer does not meet the payment terms. All calculations should be made on the basis of break-even analysis.

The managerial solution will be effective if it is implemented in accordance with the requirements for it, which are derived from the laws of management. However, in reality, and especially in the implementation of long-term goals, it is difficult to assess the degree of effectiveness of the decisions taken to achieve the final results, the functioning of decision-makers, the management apparatus. Apparently, it would be fair to refer to such procedures as A. Mackenzie's famous statement: "There is nothing easier than to be busy, and there is nothing more difficult than to be productive".

The basis for assessing the effectiveness of the decisions taken is a systematic approach as most developed and tested in practice. Based on this approach, distinguish the following basic principles for assessing the effectiveness of the system of management decisions:

- the priority of the overall ultimate goal of the enterprise for the given period (all other goals and tasks, including specific and functional, are supportive);

- hierarchy (all elements of the system of development, acceptance and implementation of decisions are in the hierarchical relationship of subordination and responsibility);

- unity and connectivity (all elements of the system of management, development and implementation of solutions are in a single connection not only among themselves but also in relation to the external environment);

- functionality and development (joint consideration of the structure of management of the implementation of decisions and functions of structural units with their priority over the structure of the firm, taking into account its development);

- uncertainty and reliability (taking into account the decisions taken and uncertainties and randomness decisions; decisions taken should be ahead of nature, with respect to possible recessions and crises);

- predictability (the decisions taken should be of a predictable nature of possible consequences of the implementation of decisions of economic, social, environmental, etc.).

The result, which evaluates the work of the system of management solutions (SMS), is quantitatively difficult to obtain, because it does not produce products and services. Consequently, it is

necessary to evaluate this result by using the relative efficiency of the SMS according to the following indicators:

- labour costs of decision-makers and management personnel for the development, adoption and implementation of decisions;

- time cost for the cycle of management decision implementation;

- organization of functioning (the presence of crashes and uncoordinated actions between developers);

- the ratio of decision-makers and staff included in the management apparatus;

- establishment of the dependence of the decisions taken on the projected economic, environmental, socio-political and other consequences.

Evaluating the effectiveness of SMS involves the analysis and calculation of its internal and external effectiveness.

Indicators of **internal efficiency** allow us to assess SMS as a management tool, system of activity of the personnel of management. **Indicators of the external effectiveness** of SMS reflect its impact on the organization of the achievement of the end result, the purpose of management and they are the priority.

The effectiveness of the decisions made can be estimated in retrospect, that is, previously accepted, which can be used in the future, although it is quite clear that the same decisions are never made. Effectiveness can be evaluated and predicted (by defining the necessary result of the decision and SMS, by choosing the most appropriate

variant of systemic activity of the personnel for the solution development).

The most effective methods for solving this problem in this case are models creating and complex calculations. As a result, internal and external SMS performance indicators can be obtained, as well as comparative estimates of the various options for the chosen option.

Methods of estimation on the basis of calculations are used to obtain numerical values of the performance indicators of the decisions taken or the functioning of the SMS. For example, the most common method for obtaining indicators characterizing the relationship between the settled and necessary time for solving various tasks of decision-makers is the method of constructing and calculating network charts [83, p. 294].

Methods of comparative valuation are based, in principle, on expert methods. And the effectiveness of the decision-makers and the management personnel in SMS can be calculated according to different methods tested in practice.

The analysis of scientific concepts regarding the assessment of decision-making efficiency, which was considered in the works of such scholars as D. Boddi, T. Gerem, V. Zhigalov, Z. Rumyantsev, M.Meskon, F. Khmel, allows to distinguish the following approaches:

1. Decision-makers are aggregate social workers directly interacting with production, therefore the final results of its activities should serve as a criterion of efficiency. As such indicators are taken numerical values of the final results of activity: profit, costs, volume of commodity products, the volume of sales, payback period.

2. Criterion indicators should reflect the effectiveness, quality and complexity of "living" labor. Such indicators of staff assessment are: labour productivity, proportion of wages, loss of working time, quality of work of workers, the provision of labour, labour intensity, etc.

3. The effectiveness of the work of staff is largely determined by its organization, motivation, socio-psychological climate in the team. Criteria indicators of labour productivity are staff turnover, level of its qualifications, discipline, etc.

Research and analysis of the theory and practice of making managerial decisions shows that within the framework of one or another management mechanism it is possible to apply appropriate methods and means, but decision makers are usually forced to adhere to written and unwritten laws of organization and management that meet the defined goals. This means that managers, possessing modern methods of management and decision-making, cannot always apply them in practice.

Also for choosing management decisions, you need to use reliable tools for their assessment.

If you compare processes that use the same resources, then the better one is the one with the highest result. The same can mean getting an equal result at a lower cost of resources.

Much more complex situations when different effects are achieved using different resources. In such cases, the criterion of effectiveness is often used, which often looks like some relative, specific effect that is the result per unit of resources used. Indicators of this assessment are

many indicators of efficiency: labour productivity, return on assets, material consumption, cost, profitability, etc.

For example, what is better: when labor productivity grows, and capital productivity falls, or vice versa? In what proportions is it possible to change these indicators? Can the process be considered effective when the overall result is reduced, and the specific weight of the enterprise's costs is improving?

And there may be a lot of such issues: when switching to new products, expanding or upgrading production, building new businesses, and developing new markets.

Of particular difficulty is the task of choosing the most advantageous option from many alternatives. The process of solving these problems is based on the use of different criteria and performance indicators, which are divided into two groups:

- indicators of efficiency (laborr productivity, capital productivity, etc.);

- generalized indicators (total costs, payback periods of capital investments, etc.).

What does it mean by the effectiveness of economic measures that it characterizes? In general, efficiency characterizes how well the measure is compared with others. Therefore, it is necessary to evaluate efficiency by way of a comprehensive comparison of the results.

The application of a comprehensive system approach to the calculation of efficiency is expressed in the fact that, along with the calculation of the direct or comparative economic effect of the future

implementation of the project it is crucial to take into account the side effects (complex from the calculation), i.e. formed by increasing (changing) indicators of environmental and ergonomics of the new ' object (result). These indicators include:

- reduction of harmful influence on the air pool, soil, water and other elements of the natural environment;

- increase in the level of automation of production and management;

- reduction of radioactivity, noise level, vibration, etc. These and similar indicators related to the preservation of human life and health, and also aimed at the protection of the environment, should always be taken into account by decision makers in the development and adoption of managerial decisions.

8.4. Management accounting as a source of control system

Modern methods of management of production and economic activity require a more detailed organization of accounting in enterprises. The main task of accounting is the formation of complete and reliable information about the activities of the organization and its property status, which is necessary for internal users of accounting - managers, founders, participants and owners of the organization's property, as well as external - investors, creditors and other users of accounting. The part of the accounting system that provides the need for guidance in information is called management accounting.

Management accounting is the process of identifying, measuring, accumulating, analyzing and communicating information used by the management unit to plan, evaluate and control the activities of an enterprise.

In the process of business planning, management accounting provides information on past events to develop cost and settlement standards that relate to possible scenarios for future events. Reflecting the operations carried out by the enterprise, management accounting accumulates data on the costs and income of the structural units of the enterprise, developed a system of reporting, which makes it possible to evaluate the results of their activities.

Table 8.2.

Comparative characteristics of different accountant systems

Characteristics of different accountant systems	***Accountant system (tax system)***	***Managerial system***	***Financial management***
The main	Public authorities (tax, statistics)	Mangers of the enterprise	Creditors and investors
Tasks	Definition of the tax base	Well-grounded and effective decision-making	Assessment of creditworthiness, liquidity, financial stability and overall economic efficiency of the enterprise
Demands	Compliance with legislation	Completeness and reliability of the presentation of the main financial results	- Efficiency - Flexibility - Sufficiency - Objectivity - Economic feasibility - Understanding the external user
Methodology	Statutory legal public acts	Self-developed (adapted) at enterprises	International Financial Accounting Standards

Principles of managerial accounting, which must be taken into account in the control system: the continuity of enterprises; the only monetary indicator; completeness and systematic accounting; complexity. Management accounting links the accounting process with the management process.

The following functions of managerial accounting are determined.

1. The information function involves providing managers of all levels with information that is necessary for the current planning, control and adoption of the necessary operational management decisions.

2. The communication function provides the formation of information, which is a tool of internal communication between management levels and different structural units of the same level (vertical and horizontal links).

3. The control function includes operational control, evaluation of the performance of internal units and the enterprise as a whole. When performing this function, it is necessary to distinguish centers of responsibility.

4. Forecasting function involves perspective planning and coordination of enterprise development in the future, based on the analysis and evaluation of actual performance.

5. Analytical function provides the analysis of the decision-making system in order to improve it. At this stage, it is important to

understand whether the task was performed or what caused its non-fulfillment. On the basis of managerial accounting, internal accounting reports are compiled. The information in these reports is gathered for the owners of the enterprise and on the basis of which the dynamics of changes in the financial condition of the enterprise is observed.

Control questions

1. Who is responsible for the implementation of the controlling service at the company?
2. How is a specialist selected for the position of controller?
3. What are the requirements for the controller?
4. What are the main functions of controllers and their assistants?
5. What are the main duties of controllers and their assistants?
6. What works are typical for the preparatory stage of implementation of the controlling system?
7. What exactly is carried out at the stage of implementation of the controlling system?
8. How is the assessment of the consequences of activities carried out?
9. What actions (measures) are characteristics of the stage of improving the controlling system?
10. How real is the method of organizing the implementation of the controlling service in relation to domestic enterprises and organizations?

METHODICAL INSTRUCTIONS

INTRODUCTION

The **purpose** of studying the discipline "Controlling" is to obtain the necessary theoretical knowledge and practical skills on the conceptual basis of modern enterprise management on the basis of the latest directions of information and economic development of the enterprise, namely the introduction of a control system at the enterprise to achieve its operational and strategic goals.

The **objectives** of the course "Controlling ": mastering the theoretical knowledge of the concept of controlling and practical skills of using controlling techniques in the management of the enterprise to ensure its profitability and development through the adoption of effective management decisions.

Acquisition of competencies:

Integrated competency (IC): The ability to solve complex specialized tasks and practical problems in the management of organizations or in the learning process, which involves the application of certain theories and methods of the relevant science and is characterized by the complexity and uncertainty of conditions**.**

General competencies:

GC 4. Ability to apply knowledge in practical situations

GC 5 Knowledge and understanding of the subject area and understanding of professional activity.

GC 9 Ability to learn and master modern knowledge

GC 10 Ability to conduct research at an appropriate level.

GC 13 Appreciation and respect for diversity and multiculturalism.

GC 14 Ability to work in an international context

GC 15 The ability to act on the basis of ethical considerations (motives).

Special competencies (SC):

SC 1 The ability to define and describe the characteristics of the organization

SC 2 The ability to analyze the results of the organization's activities, to compare them with the factors of influence of the external and internal environment.

SC 3 The ability to determine the prospects for the organization's development.

SC 4 The ability to determine the functional areas of the organization and the connections between them.

SC 5 The ability to manage the organization and its divisions through the implementation of management functions

SC6 The ability to act socially responsibly and consciously

SC7 Ability to choose and use modern management tools

SC 11 Ability to create and organize effective communications in the management process

SC 12 Ability to analyze and structure organizational problems, form reasonable solutions

SC 14 Understand the principles of psychology and use them in professional activities

SC 15 Ability to form and demonstrate leadership qualities and behavioral skills.

SC 16 The ability to develop and implement projects, identify sources of financing and organize the management of project processes

Program learning outcomes (PLO):

PLO 3 Demonstrate knowledge of theories, methods and functions of management, modern concepts of leadership.

PLO 8 Apply management methods to ensure the effectiveness of the organization's activities.

PLO 11 Demonstrate the skills of situation analysis and communication in different

spheres of activity of the organization

PLO 17 Conduct research individually and/or in a group under the guidance of a leader

PLO 18 Demonstrate the ability to develop and implement projects, identify sources of their funding and manage them.

TASKS FOR PRACTICAL WORKS

Practical work 1. The essence, necessity and types of controlling

Objectives:

- to find out the economic essence and basic principles of scientific and theoretical controlling concepts;
- to substantiate the problems of terminology and carry out a comparative analysis of the most common interpretations of controlling;
- to set the prerequisites of formation and main stages of development of controlling as an information system;
- to investigate the reasons for the emergence of controlling in modern enterprises; to distinguish characteristics,
- to identify features, identify key differences of operational and strategic controlling.

Theoretical task

Questions to answer in writing basing on the material of the Topic 1.:

1. Scientific and theoretical concept of controlling.
2. Problems of terminology (ambiguity of wording).
3. Comparative analysis of the most common interpretations of controlling.
4. Prerequisites for the formation and development of controlling as an information system.
5. Information and management concept model.

6. The reasons for the emergence of controlling in modern enterprises.

7. Operational and strategic controlling

Practical Task:

Describe the areas to use controlling at the agrarian enterprises. Choose enterprise for investigation and well-ground why the controlling is important at the enterprise of your choice.

Make the conclusion

Practical work 2. Organization of controlling at the enterprise

Objectives:

- to learn the basic points of rethinking management functions inmarket conditions;
- to justify the place and role of controlling in the management system of enterprise;
- to establish the basic elements of the relationship of controlling with management functions;
- to study the process of forming controlling information;
- to identify the orientation of controlling on the types of management decisions.

- Theoretical task

Questions to answer in writing basing on the material of the Topic 2.:

1. Fundamental rethinking of management functions in market conditions.

2. The concept of "stage of the management cycle", its essence.

3. Finding out the model of stages of the management cycle.

4. The place and role of controlling in enterprise management.

5. The relationship of controlling with management functions.

6. Formation of controlling information.

7. Stages of formation of controlling information.

8. Orientation of controlling on types of management decisions.

9. Formation of alternative management decisions

Practical Task:

1.Characterize the requirements for the formation of a controlling system of an agrarian enterprise. Put them in writing

2. How can a manager of agrarian enterprise obtain information for implication of the controlling system?

3. There are shemes below of possible information flows (Fig. 1,2,3). Please analyze them in connection to the agrarian enterprise of your choice.

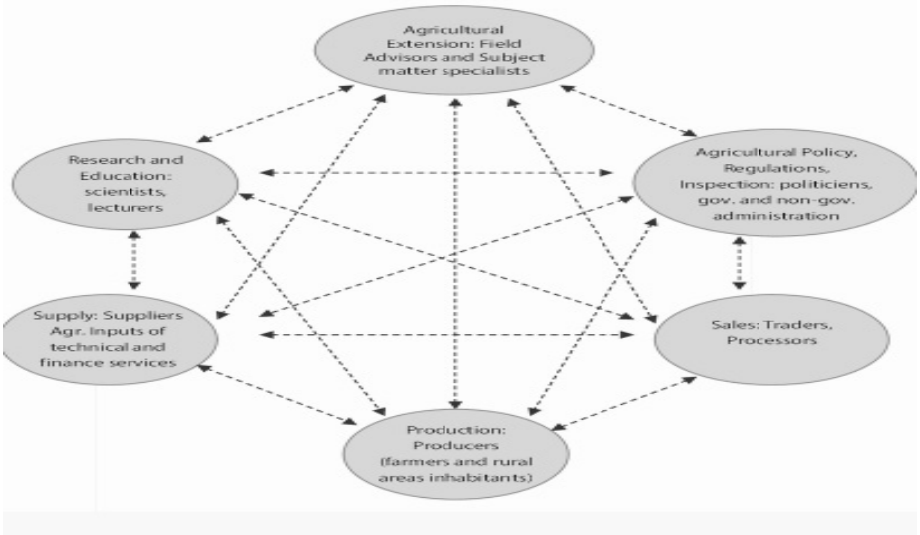

Fig. 1 Sample of information flows

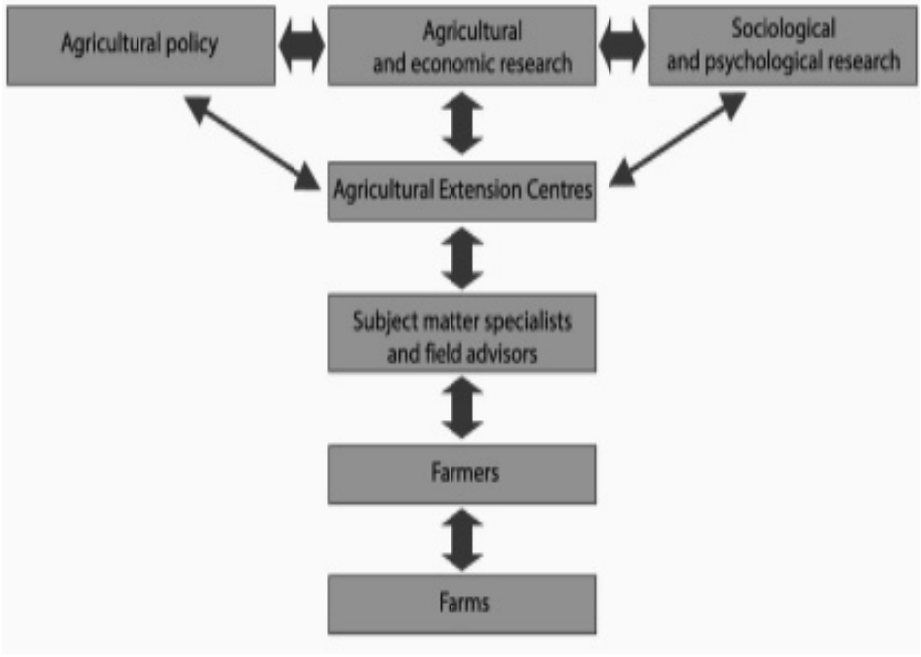

Fig. 2 Sample of information flows

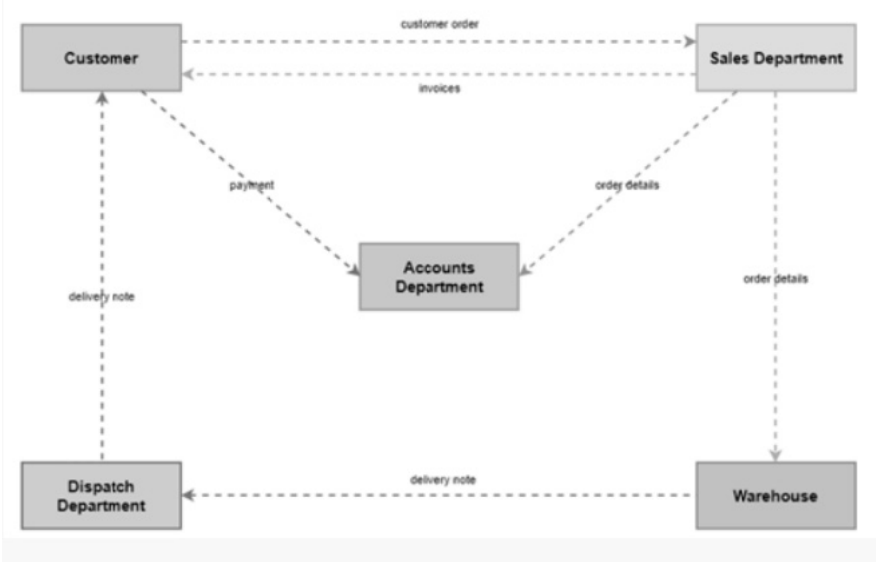

Fig. 3 Sample of information flows

Make conclusion

Practical Work 3. Centers of responsibility as an object of controlling

Objectives:

- to understand the role of responsibility centers;
- to define functions of responsibility centers;
- to determine units which can be determined as responsibility centers

Theoretical questions

1. The concept of responsibility in controlling and the concept of liability centers
2. Classification of liability centers
3. Principles of allocation of responsibility centers at the enterprise and the basic requirements to them
4. The role of responsibility centers

Center of responsibility is a separate unit (segment) of the entity, headed by the head, who is responsible for the results of its activities.

As a rule, there are four types of financial responsibility centers in the financial structure:

1) cost centers;
2) income centers;
3) profit centers;
4) investment centers.

Task : define the functions of each responsibility center

Practical Work 4. Organization of managerial accounting in the system of controlling

Objectives:

- to define the managerial accounting in the system of controlling
- to understand the functions of managerial accounting
- to analyze the system of managerial accounting at the enterprise of your choice

Theoretical task

1.Read the lecture and recommended literature.

2. Assessment of the financial condition of the enterprise, its necessity and importance.

3.The financial condition of the enterprise as an object of economic analysis.

4.Information support for assessing the financial condition of enterprises.

5.Ratio Analysis of the financial condition of the enterprise.

6.Assessment of liquidity and solvency.

7.Analysis of financial stability of the enterprise.

8.Analysis of business activity of the enterprise.

9.Methods of generalizing the financial condition of the enterprise.

10. Using Financial Statement Information

Practical task

1. Provide analysis of cash flows of Enterprise L. basing on the data below find the totals. Make conclusion

Description	**Amount ($)**	**totals ($)**
Cash flow from operations		
Sales (paid in cash)	+30	
Materials	-10	
Labor	-10	
Cash flow from financing		
Incoming loan	+50	
Loan repayment	-5	
Taxes	-5	
Cash flow from investments		
Purchased capital	-10	
Total		

2. The net cash flow only provides a limited amount of information. Compare, for example, the cash flows over three years of two companies. Make conclusion

	Company A			**Company B**		
	Year 1	Year 2	year 3	Year 1	Year 2	year 3
Cash flow from operations	+20M	+21M	+22M	+10M	+11M	+12M
Cash flow from financing	+5M	+5M	+5M	+5M	+5M	+5M
Cash flow from investment	-15M	-15M	-15M	0M	0M	0M
Net cash flow	+10M	+11M	+12M	+15M	+16M	+17M

Practical Work 5. System of planning and budgeting at the enterprise

Objectives:

- to understand the essence of planning and budgeting at the enterprise;
- to distinguish the indicative and directive planning;
- to evaluate the system of budgeting at the enterprise

Theoretical background

Budgeting is a necessary component of financial planning, as the basis of any operational or current financial plan is the system of relevant budgets. As well as current planning in general, budgeting is aimed at the phased transformation of the strategic financial plan into the system of current plans, their consistent implementation in order to achieve the strategic goals of the enterprise.

Within the budgeting system, information is accumulated and analyzed by both enterprises as a whole and centers of responsibility. The formation of the complex of interaction of the centers of responsibility is carried out in accordance with the previously developed strategy, requires a comprehensive analysis and restructuring of the existing in enterprises and other structures of the management system, organizational, production. This is a purposeful work to create not just a set of centers of financial responsibility, but to create a set of interacting (symbiosis) structural units.

Center of responsibility is a separate unit (segment) of the entity, headed by the head, who is responsible for the results of its activities.

As a rule, there are four types of financial responsibility centers in the financial structure:

1) cost centers;

2) income centers;

3) profit centers;

4) investment centers.

Practical Task:

Define the functions of each of the centers of responsiblity presented above.

Make conclusions

Practical work 6. Economic analysis in controlling

Objectives:

- to understand the essence of economic analysis in controlling
- to carry out expert diagnostic of enterprise
- to analyze the gap between the fact and the plan

Answer the questions:

1. What is the essence of the analysis?

2. What is the subject and object of economic analysis?

3. Content of management and financial analysis?

Define:

Analysis -

Synthesis -

induction -

Deduction -

Economic analysis -

Technical and economic analysis -

General economic analysis -

Prospective analysis -

Functional and cost analysis -

Correlation analysis -

Sciences with which economic analysis is connected (list):

Practical Task:

Determine the importance of economic analysis of enterprise of your choice.

Make conclusions.

Practical Work 7. Methodical toolkit of operative controlling

Objectives:

- to understand the essence of operative controlling.
- to determine measures of operative controlling
- to determine ways of implementation of operative controlling
- to appoint responsible persons

Answer the following questions:

- 1.What is the final goal of operational methods of controlling?
- 2. What is a "break-even point" and in what ways it is possible to determine?
- 3.What is the relationship between operational and strategic controlling?

Practical Task

FC = 5 000 gryvnas/month

VC = 3 per a unit

Price = 5 gryvnas

Q min (Break-Even point) = ?

Make conclusions about the break-even point

Practical Work 8. Expert diagnostic of economic and financial state of the enterprise

Objectives:

- to define features of crisis
- to analyze financial state of the enterprise
- to evaluate the financial state of the enterprise on the basis of specific indices

Questions to discuss

1. How to provide expert diagnostic of economic and financial state?
2. What economic indices can you name?
3. How can you determin financial crisis and financial stability?

Practical Task

Case 1

An agrarian enterprise obtains 150 000 gryvnas income in a year. The costs are 120 000 gryvnas including the variable costs (VC) 80 000 and the rest are the fixed costs (FC) - 40 000.

Determine the profit, the critical volume of the incomes and the Index of the incomes' safety.

Inc = 150 000

TC = 12 000

VC = 80 000

FC = 40 000

Inc min (critical) - ?

Case 2.

Firm produces and sells 12 000 units of goods per year. The price for a unit is 250 gryvnas. The costs (thousands gryvas) are these:

1. Materials and raw materials –1140
2. Electricity for production needs – 540
3. Wages for workers - 240
4. Advertising costs - 5
5. Workshop costs – 420
6. Salary of managers – 40
7. Factory costs – 204

Define:

a. Profit if the scopes of sales grow by 10 %

b. Profit if the Fixed costs grow by 10 %

c. How many units should be sold to get a profit of 250 000 gryvnas?

d. What should be the price if having sold 12 000 units we get 250 000 grn of profit?

e. How many units of goods should be sold to reach breakeven point?

Practical Work 9. Controlling of investment projects

Objectives:

-to acquaint students with the criteria of controlling of investment projects;

-to identify features of controlling investment projects;

-to realize that there are long-term deposits of money and other resources for the purpose obtaining economic benefits;

-to understand system of economic calculations for investment projects.

Questions to answer:

1. What are the features of controlling investment projects that allow to distinguish it among other types of controlling?
2. Name the main tasks of controlling investment projects.
3. What are the principles of the investment controlling system?
4. List the main functions of investment controlling.
5. Name the criteria for evaluating investment projects, their advantages and disadvantages.

Practical tasks

Practical task 1.

It is necessary to define future value of investments and the amount of compound interest for the whole period of investing in such conditions:

Initial value of investments (P) = 100 thousands grn;

Discounted rate of return (i) = 12 %;

Investment period (n) = 3 years.

Practical task 2.

It is necessary to define present value of money in three years in such conditions:

Future value = 100 thousands grn;

Discounted rate of return (i) = 12 %;

Investment period (n) = 3 years.

Practical task 3.

According to the Investment project A valued at 30 million grn such money inflows are planned:

= 10 million grn., P_2 = 12 million grn., P_3 = 20 million grn.

Define net present income from the project if the discounted rate of return is 15 %.

For Investment project B valued at 50 million grn such money inflows are planned:

P_1 = 20 million grn., P_2 = 15 million grn., P_3 = 10 million grn.

Define net present income from the project and the payback period if the discounted rate of return is 15 %.

Which project is more attractive?

Practical Work 10. Decision-making in controlling

Objectives:

- to acquaint students with the classification of management decisions in responsibility centers;
- to master the technology of development and decision making;
- to find out the essence of classical, behavioral and irrational models of decision making;
- to identify the main stages of intuitive decision-making technology, its advantages and disadvantages;
- to find out the criteria by which the quality of information used in the decision-making process is assessed;
- to master the methods of evaluating business decisions.

Questions to discuss

1. The nature of the decision-making process.
2. Stages of rational problem solving:
3. The main factors influencing the decision-making process.
4. Expert assessment of situations.

FYI: Management decision is a tool to influence the object of management and its individual subsystems, an important part of the

formation and implementation of management relations in the organization; it is the basis for the implementation of each management function. The solution is to choose an alternative. They are accepted in compliance with the required sequence of stages. New or difficult situations require unprogrammed solutions. In this case, the manager chooses the decision-making procedure. They can be accepted based on intuition, judgment or a method of rational problem solving. A rational approach helps to increase the probability of making an effective decision in a new difficult situation. Stages of rational problem solving: diagnosis, definition of limitations and criteria for decision making, identification of alternatives, their evaluation, final choice. The process is not complete until the actual solution to the problem is proven through the feedback system.

Decision making (in the narrow sense) - choosing the best solution from the many alternatives. It should be borne in mind that alternatives do not arise by themselves, ie the decision-making process consists not only of choosing the best option, but also of finding alternatives, establishing evaluation criteria, choosing how to evaluate alternatives and so on.

Decision-making (general definition) is a process that begins with the statement of the problem situation and ends with the choice of decision, ie the choice of action aimed at eliminating the problem situation.

Practical Task:

Task 1: How does controlling help in decision-making? Illustrate your answer with example of agrarian enterprise of your choice.

Tip for you: Controlling involves taking corrective actions whenever required. In an organisation, first, the manager plans in advance, what is to be done, then through controlling, manager measures the progress and keeps checking that everything is in accordance with a plan or not and if there is any deviation, manager then takes preventive measures to correct that deviation.

In this way, manager facilitates decision-making.

E.g.: Suppose in XYZ Ltd., production is delayed due to lack of resources, then through the controlling function, the manager takes a decision to provide sources on time.

Provide such example and download it to elearn

Task 2: There are tasks in which there are situations where the manager may feel difficult because the decisions made in these situations in some cases do not correspond to the concepts of "justice" and "ethics" in the moral traditions of society, but will be perfectly acceptable in the field of entrepreneurial activity.

Make a decision on each situation and justify it.

1. You are the general manager of a large company for the production of world-famous cigarettes. The company has numerous factories around the world. It has achieved high sales. There is an opportunity to open another factory in one of the CIS countries, and the decision depends on you - to sign a new contract or not. On the one

hand, the construction of this factory will provide new workers with jobs in this region, thus solving the problem of unemployment relevant to this region; on the other hand, it will bring a lot of income to your company. However, in the production and sale of large batches of cigarettes, you have not yet been convinced that smoking causes cancer. You recently received a report on a study that found a direct link between smoking and cancer.

What will be your decision? Will you sign a new contract or not? Why?

2. You are a marketing manager at a home appliance company. With the help of expensive research, the company tried to improve one of the products, namely - a vacuum cleaner. The vacuum cleaner still does not ionize the air, although this is the result we tried to come up with as a result of research. Therefore, the new type of vacuum cleaner has not become an improved novelty today. You know that the appearance of the inscription "Advanced novelty" on the packaging and in advertising of the media will significantly increase sales of such goods.

What decision will you make? Will you make such an inscription or not? Why?

TESTS FOR SELF-CONTROL

The need to introduce controlling in enterprises can be explained by the following reason:

A) obtaining additional information from other departments for analysis and processing of received data

B) allocation of controlling in an independent, independent and neutral service in the management system

C) increasing the instability of the environment makes the subsidiary requirements for the management of enterprises

D) ability to quickly bring information to the attention of senior management of the enterprise

Answer: c

Choose an answer that lists all the principles that characterize the requirements for the formation of a control system of a particular organization

A) Principle of cost effectiveness, principle of complexity, principle of efficiency, principle of optimality

B) Principle of specialization, principle of complexity, principle of parallelism, principle of continuity

C) Principle of cost effectiveness, principle of parallelism, principle of continuity, principle of adaptability

D) Principle of efficiency, principle of optimality, principle of continuity, principle of parallelism

Answer: a

Creating a controlling service one must take into account the following basic requirements

A) allocation of controlling in an independent, independent and neutral service in the management system

B) increasing the instability of the environment makes the subsidiary requirements for the management of enterprises

C) general cultural striving for the synthesis, integration of various spheres of knowledge and human activity

D) changes in the organizational structure

Answer: a

The most important element of the control system in the enterprise

A) Economical contro

B) The system of information flows

C) Hierarchical control

D) ·Flexible controls

Answer: b

What is this stage of controlling at the enterprise - to develop only certain issues that fall within the competence of the controlling services

A) First stage

B) Second stage

C) Third Stage

D) Fourth Stage

Answer: a

The main task of the controlling service at the enterprise is

A) ·to provide general collection and analysis of information for quality management

B) to provide operative collection and analysis of information for the purpose of quality management

C) to control and do analysis of all information

Answer: b

It is a general introduction to the process of the enterprise

A) Preparatory stage

B) The stage of implementation of the controlling service

C) The stage of automation

Answer: a

The physical movement of information from one employee of the enterprise to another or from one subdivision to another

A) Information flow

B) Information security

C) Information storage

D) Information technology

Answer: a

What principle is described by the sentence: “The most rational option for specific production conditions should be chosen

A) Principle of scientific knowledge

B) Principle of efficiency

C) Principle of optimality

D) Principle of multidimensionality

Answer: c

The basics of the organizational structure are plans of the enterprise, which are

A) Inherently changing

B) a. Never change

C) Both answers are wrong

Answer: a

Kinds of activities implemented by different headquaters subdivisions

A) Vertical blocks

B) Horizontal blocks

C) Different levels of activities

D) Spheres of activities

Answer: b

Detalization of subdivisions with the aim of

A) Effectivenes of specialization

B) Avoiding of overloading of management

C) Both answers are correct

Answer: c

For making managerial decisions can be considered only data directly related to this decision

A) The conditions in which the decision is made

B) Target criteria

C) A set of possible alternatives

D) All variants

Answer: d

The basis for the study of information flows is the following sequence

A) All variants

B) Analysis of existing information flows at the enterprise in order to optimize the entire system of information flows

C) Formation of information flows of operational control and their organic inclusion in the system of information flows of the enterprise

D) Development of an integrated approach in the study of information flows in the preparation of a project for automation of accounting, control and analysis at the enterprise

Answer: a

The creation and operation of the system of accounting by responsibility centers assumes

A) Definition of responsibility centers

B) Budgeting for each responsibility center

C) Regular reporting of performance results

D) all answers are correct

Answer: d

Who manages economic activity and makes important decisions in a small business entity?

A) Owner or general manager

B) Materially responsible person

C) Administrator

D) Accountant

Answer: a

The center of responsibility is

A) The head of the division with which information about costs in the enterprise is accumulated

B) a set of functional actions, for the direction and effectiveness of which a certain person is responsible

C) The organizational unit or area of operation where it is appropriate to accumulate information on asset acquisition costs

D) Managers responsible for performance

Answer: b

An effective system of responsibility center accounting is based on such assumptions

A) Managers are responsible only for those activities that are under their control

B) Clear defining of the role of accounting is important for the employee incentive system

C) Managers try to achieve the goals set for them and their departments

D) all answers are correct

Answer: d

It is not a benefit of decentralization

A) Operational decision-making at the appropriate levels of management

B) Top management's ability to focus on global strategic issues and solutions

C) Complication of the coordination process

D) Managers gain management experience

Answer: c

The main task of the accounting department of responsibility centers is

A) Assistance in organizing self-monitoring

B) Control

C) reporting on plans and budgets to evaluate performance

D) The correct answers are "a" and "c"

Answer: d

What would be an example of controlled logistics figures?

A) Delivery time, fullness of the carrier

B) Profitability, sales volume, parties

C) Time of execution of processes, tasks

D) Productivity

Answer: a

What responsibility centers are allocated according to the functional principle

A) Serving

B) Production

C) Admonistration

D) all answers are correct

Answer: d

What requirements should be considered when choosing a method of creating responsibility centers:

A) There should be one responsible person with powers in each center

B) It is desirable to include only direct costs in the centers of expenditure, and the distribution of general economic costs should not be taken into account

C) Since the division of the enterprise into the centers of responsibility strongly influences the motivation of the heads of the relevant centers, social and psychological factors must be taken into account

D) all answers are correct

Answer: d

The objectives of the diagnosis of financial and economic status are divided into … main groups

A) 3

B) 5

C) 2

D) 6

Answer: a

Indicators of internal efficiency of sms

A) allow us to assess the system of management solutions as a management tool, system of activity of the personnel of management

B) reflect its impact on the organization of the achievement of the end result, the purpose of management and they are the priority

C) obtain numerical values of the performance indicators of the decisions taken or the functioning of the system of management solutions

D) reflect the effectiveness, quality and complexity of "living" labor

Answer: a

What is not included in bcg matrix

A) Cats

B) Rats

C) Cows

D) Dogs

Answer: b

Who is not the subject of economic analysis

A) creditors

B) business partners

C) tax authorities

Answer: c

Analytical function

A) provides the analysis of the decision-making system in order to improve it

B) involves providing managers of all levels with information that is necessary for the current planning, control and adoption of the necessary operational management decisions

C) ·provides the formation of information, which is a tool of internal communication between management levels and different structural units of the same level

D) includes operational control, evaluation of the performance of internal units and the enterprise as a whole

Answer: a

Forecasting function

A) involves perspective planning and coordination of enterprise development in the future, based on the analysis and evaluation of actual performance

B) provides the analysis of the decision-making system in order to improve it

C) provides the formation of information, which is a tool of internal communication between management levels and different structural units of the same level

D) involves providing managers of all levels with information that is necessary for the current planning, control and adoption of the necessary operational management decisions

Answer: a

The result, which evaluates the work of the system of management solutions (sms), is quantitatively difficult to obtain, because it does not produce products and services. Consequently, it is necessary to evaluate this result by using the relative efficiency of the sms according to the following indicator

A) ·all above

B) labour costs of decision-makers and management personnel for the development, adoption and implementation of decisions

C) time cost for the cycle of management decision implementation

D) the ratio of decision-makers and staff included in the management apparatus

Answer: a

Methods of comparative valuation are based

A) on expert methods

B) on obtaining numerical values of the performance indicators of the decisions taken or the functioning of the SMS

C) regarding the assessment of decision-making efficiency

D) on expanding or upgrading production, building new businesses, and developing new markets

Answer: a

Indicators of the external effectiveness of SMS

A) allow us to assess SMS as a management tool, system of activity of the personnel of management

B) reflect its impact on the organization of the achievement of the end result, the purpose of management and they are the priority

C) obtain numerical values of the performance indicators of the decisions taken or the functioning of the system of management solutions

D) reflect the effectiveness, quality and complexity of "living" labor

Answer: b

The control function

A) includes operational control, evaluation of the performance of internal units and the enterprise as a whole

B) provides the formation of information, which is a tool of internal communication between management levels and different structural units of the same level

C) involves providing managers of all levels with information that is necessary for the current planning, control and adoption of the necessary operational management decisions

D) involves perspective planning and coordination of enterprise development in the future, based on the analysis and evaluation of actual performance

Answer: a

The communication function

A)provides the formation of information, which is a tool of internal communication between management levels and different structural units of the same level

B) involves providing managers of all levels with information that is necessary for the current planning, control and adoption of the necessary operational management decisions

C) includes operational control, evaluation of the performance of internal units and the enterprise as a whole

D) involves perspective planning and coordination of enterprise development in the future, based on the analysis and evaluation of actual performance

Answer: a

Methods of estimation on the basis of calculations

A) are used to obtain numerical values of the performance indicators of the decisions taken or the functioning of the SMS

B) on expert methods

C) regarding the assessment of decision-making efficiency

D) are used to expand or upgrading production, building new businesses, and developing new markets

Answer: a

The information function

A) involves providing managers of all levels with information that is necessary for the current planning, control and adoption of the necessary operational management decisions

B) provides the formation of information, which is a tool of internal communication between management levels and different structural units of the same level

C) includes operational control, evaluation of the performance of internal units and the enterprise as a whole

D) involves perspective planning and coordination of enterprise development in the future, based on the analysis and evaluation of actual performance

Answer: a

Analysis is:

A) decomposition of the whole into parts

B) the movement of thought from the general to the individual

C) modeling of objects and phenomena

D) combining elements at the highest level

Answer: a

Strategy is a set of interconnected and mutually cuased elements, united by a single global goal –

A) creation and maintenance of a high level of competitive advantages of the enterprise

B) reaching out to more community members

C) strengthening customer service

D) providing opportunities for teams to improve their leadership skills

Answer: a

What is not included in the methods of strategic diagnostics of financial and economic condition of enterprises

A) Benchmarking

B) Method of diagram Gant

C) Analysis of competition according to M. Porter

D) Method of constructind the BCG matrix

Answer: b

After analyzing the field of forces, an enterprise can choose one of the best strategies

A) cost reduction, differentiation or focusing

B) differentiation or focusing

C) cost reduction, differentiation or focusing and increasing of sales

D) improving of service

Answer: a

Assessment of the organizations environment instability have... Grades

A) 5

B) 10

C) 3

D) 12

Answer: a

Types of benchmarking

A) Internal\ Functional

B) internal benchmarking, functional benchmarking, benchmarking that is focused on the analysis of competitors

C) Functional and External

D) No one

Answer: b

A complex of organizational- economic, consulting services aimed at overcoming the crisis or pre-crisis state of the enterprise

through its reorganization, adjustment of the strategic, investment innovation and personnel policy.

A) Analysis of information flows

B) Economic expediency

C) Reengineering of business processes

D) Analytical methods of evaluation

Answer: c

Investments

A) The process of turnover of funds from the moment they are invested in any type of activity to the receipt of income from its implementation

B) all types of property, material and intellectual property invested in objects of entrepreneurship and other activities, resulting in the creation of profit or achieved a certain social effect

C) Free money supply intended for investment in any high-risk project

Answer: b

Which shows at what point the net present value of the investment will be equal to zero?

A) payback of investments

B) profitability of investments

C) discounted payback

D) annuity

Answer: c

Which of the following are NOT the features of the project

A) clearly limited amount of material, human and financial resources

B) strictly set start and end dates

C) planning is the first stage

D) final result of the project must have a predefined quality

Answer: c

The process of optimizing the use of financial, material and human resources to achieve project goals

A) project controlling

B) project planning

C) project management

Answer: c

What determines the effectiveness of innovation and production processes that are constantly carried out at each enterprise?

A) the level of its commercial activity

B) level of its profit

C) qualification of workers

D) number of workers

Answer: a

Signs of projects

A) projects have a limited duration in time, projects are unique

B) projects are carried out only in cash

C) project does not imply the need for interrelated actionsprojects are carried out only in cash, the project does not imply the need for interrelated action

Answer: a

Investments solve the following tasks

A) expansion of own business activity at the expense of accumulation of financial and material resources

B) acquisition of new enterprises

C) all above

Answer: c

A plan or program of measures related to the implementation of capital investments in order to profit

A) innocence project

B) innovative project

C) money projects

D) investment project

Answer: d

Controlling can be defined as

A) a system of checking how successfully the company is moving towards its goal

B) a system of checking how successfully the company is getting profits

C) accounting department

D) there is no correct answer

Answer: a

A complete concept of controlling, the core of which is

A)planning and control

B) only planning

C) only control

D) there is no right answer

Answer: a

Budget for commercial expenses is

A) a forecast of the profit and loss account, which accumulates information from all other budgets and allows you to analyze what income the company received in the reporting period and which received losses

B) the final stage in the planning of business activities of an enterprise or organization

C) a widespread form of state planning for macroeconomic development in the world

D) the budget that includes losses associated with sales of products and marketing activities: market research, sales promotion

measures, advertising, contracting with consumers, transport services, packing costs, insurance, warehousing and storage of goods, etc

Answer: d

Total production budget is

A) a plan document that reflects the overhead costs associated with the production of products or services during the budget period

B) is a plan document, which provides a calculation of the cost of production, which is expected to be made in the budget period

C) is a plan document, which shows the labor costs necessary for the production of goods or services during the budget period

D) is the starting point for budgeting: in the final case, the costs depend on the volume of output, and the volume of output is set on the real sales volume

Answer: a

Investment plan is

A) a pro forma of financial statements, which contains information about future state in the end of the forecast period, is expected as a result of planned operations

B) a planning document that reflects future payments and cash inflows over a certain period

C) a document that reflects future investment costs of the company, carried out not in the form of operating costs, but in the form of one-time capital investment

D) a set of budgets that reflects the planned cash flows and the financial position of the enterprise

Answer: c

The budget is comprised of three types of activities

A) financial, optimal and basic

B)basic, investment and financial

C) basic, investment and optimal

D) optimal, basic and functional

Answer: b

Budgeting is carried out in two main directions

A) functional budgets and standards (norms)

B) implementation budget and production budget

C) financial budget and operational budget

D) budget of capital investments and budget of money volume

Answer: a

Indicative planning

A) is a widespread form of state planning for macroeconomic development in the world

B) is a decision-making process that is mandatory for planning objects

C) covers a period of up to 1 year, including semi-annual, quarterly, monthly, weekly, ten-day, and day-time planning

D) should provide a general strategy for future development, the main objectives of the enterprise for the future, as well as a formalized strategy taking into account the external environment and internal features of the enterprise

Answer: d

Directive planning

A) is a widespread form of state planning for macroeconomic development in the world

B) is a decision-making process that is mandatory for planning objects

C) covers a period of up to 1 year, including semi-annual, quarterly, monthly, weekly, ten-day, and day-time planning

D) should provide a general strategy for future development, the main objectives of the enterprise for the future, as well as a formalized strategy taking into account the external environment and internal features of the enterprise

Answer: b

Planning allows

A) to ensure the efficient use of resources, that is, to maximize the net profitability of net assets

B) to determine the place and time of manufacture and sale of finished goods

C) to identify the target segment of potential consumers of manufactured products

D) all the answers are correct

Answer: d

Mandatory stages of budgeting are

A) Development of special primary forms for collecting information and bringing them to those responsible for filling them out by employees or structural subdivisions

B)Balancing plans by optimally combining existing alternatives

C) Execution of the budget with the monitoring of the accuracy of its compilation and execution

D) Budgetary control: the definition of deviations of the actual indicators of planned plans and the analysis of the causes of deviations

Answer: c

Choose an answer that lists all the principles that characterize the requirements for the formation of a control system of a particular organization

A) Principle of cost effectiveness, principle of complexity, principle of efficiency, principle of optimality

B) Principle of specialization, principle of complexity, principle of parallelism, principle of continuity

C) Principle of cost effectiveness, principle of parallelism, principle of continuity, principle of adaptability

D) Principle of efficiency, principle of optimality, principle of continuity, principle of parallelism

Answer: a

What principle is described by the sentence: “The most rational option for specific production conditions should be chosen.”

A) Principle of scientific knowledge

B) Principle of efficiency

C) Principle of optimality

D) Principle of multidimensionality

Answer: c

What principle is described by the sentence: “Decisions on the analysis and improvement of the control system which prevent or eliminate deviations in its functioning must be timely restricted.”

A) Principle of scientific knowledge

B) Principle of efficiency

C) Principle of optimality

D) Principle of multidimensionality

Answer: b

The basics of the organizational structure are plans of the enterprise, which are

A) Inherently changing

B) Never change

C) Both answers are wrong

Answer: a

Kinds of activities implemented by different headquaters subdivisions

A) Vertical blocks

B) Horizontal blocks

C) Different levels of activities

D) Spheres of activities

Answer: b

Detalization of subdivisions is provided with the aim of

A) Effectiveness

B) Avoiding of overloading of management

C) Both answers are correct

Answer: c

For making managerial decisions can be considered only data directly related to this decision

A) The conditions in which the decision is made

B) Target criteria

C) A set of possible alternatives

D) All variants

Answer: d

The physical movement of information from one employee of the enterprise to another or from one subdivision to another

A) Information flow

B) Information security

C) Information storage

D) Information technology

Answer: a

The basis for the study of information flows is the following sequence

A) Analysis of existing information flows at the enterprise in order to optimize the entire system of information flows

B) Formation of information flows of operational control and their organic inclusion in the system of information flows of the enterprise

C) Development of an integrated approach in the study of information flows in the preparation of a project for automation of accounting, control and analysis at the enterprise

D) All the issues are correct

Answer: d

TASKS FOR INDIVIDUAL WORK

Individual Work1

Topic: The essence of controlling

Purpose: to analyze the problems and determine the cause of problems at the enterprise.

Methodical recommendations: in order to achieve this purpose it is necessary to get acquainted with examples of controlling issues at different enterprises.

To perform individual work, the student has the right to choose one of the proposed topics for abstract writing. During the first module period, the completed task must be submitted to elearn https://elearn.nubip.edu.ua/course/view.php?id=4889

Task. Write an abstract on one of the proposed topics:

- Stages of implementation of financial controlling at the enterprise and its functional and organizational forms.
- Operational controlling.
- Problems with the use of the ABC analysis model in the cost controlling system of the enterprise.
- Functional and organizational features of the organization ABM (Activity Based Management).
- Features of the organization and implementation of financial controlling of cash settlements of the business entity.
- CVP analysis (CVP analysis - Cost, value, profits analysis) in the system of controlling methods.

- Problematic issues of controlling the costs of the enterprise and the analysis of break-even point.
- Modeling of functional responsibilities and tasks of financial controlling at the enterprise.
- Modeling the organizational structure of the controlling department at the enterprise.
- Portfolio analysis and its scope.
- The content of benchmarking and its organizational forms.
- Analysis of strengths and weaknesses. Matrix analysis.
- Break-even point analysis and its use for controlling needs.
- Requirements for writing an abstract

The abstract contains the title page, introduction, table of contents, two chapters, conclusions, bibliography. The content should be simple. The introduction must contain the relevance of the chosen topic, purpose, objectives, object, subject, methods and degree of development.

When writing the first and second chapters, the student must use general scientific literature, textbooks and manuals and refer to the sources used. When using electronic sources, reference is made to them in the generally accepted manner.

There are no references to sources in the introduction and conclusions.

Then the student places a list of literature, which is drawn up in accordance with the requirements of the Higher Attestation

Commission. Literature should be relevant and "fresh". Outdated literature is a significant shortcoming of the work.

It is recommended to list the sources used in alphabetical order in the text with numbering, which will correspond to the link in the text. It is not necessary to include in the list of literature works that are not referenced in the text of the abstract and which, in fact, have not been used, as well as encyclopedias, reference books, popular science books, newspapers.

The volume of the abstract is 10 -12 printed pages, 14th font, interval 1.5. References at least 10 sources.

Individual Work 2

Topic: Methods and tools for controlling system at the enterprise

Purpose: to analyze the problems and determine the cause of problems at the enterprise.

Methodical recommendations: in order to achieve this purpose it is necessary to get acquainted with examples of controlling issues at different enterprises.

To perform individual work, the student has the right to choose one of the proposed topics for presentation preparing. During the second module period, the completed task must be submitted to elearn.

Task: Prepare a presentation for your fellow students on one of the following topics:

- Stages of implementation of financial controlling at the enterprise and its functional and organizational forms.

- Operational controlling.
- Problems with the use of the ABC analysis model in the cost controlling system of the enterprise.
- Functional and organizational features of the organization ABM (Activity Based Management).
- Features of the organization and implementation of financial controlling of cash settlements of the business entity.
- CVP analysis (CVP analysis - Cost, value, profits analysis) in the system of controlling methods.
- Problematic issues of controlling the costs of the enterprise and the analysis of break-even point.
- Modeling of functional responsibilities and tasks of financial controlling at the enterprise.
- Modeling the organizational structure of the controlling department at the enterprise.
- Portfolio analysis and its scope.
- The content of benchmarking and its organizational forms.
- Analysis of strengths and weaknesses. Matrix analysis.
- Break-even point analysis and its use for controlling needs.

Requirements for preparing a presentation:

The student must prepare the presentation in the Power Point program in the form of slides. The presentation should consist of approximately 6 - 7 slides. The first slide contains the topic of the presentation and the name of the student who prepared the presentation. The following slides show the content of the topic chosen by the

student in the form of diagrams, tables, graphs. The penultimate slide contains conclusions on the selected topic. The last slide contains a list of references.

The student must present his presentation at one of the seminars, and then submit it to elearn: https://elearn.nubip.edu.ua/course/view.php?id=4889

LITERATURE

1. Зоріна О.І., Чебанова О.П., Волохов В.А. Навчально-методичний посібник для самостійної роботи студентів з дисципліни «Контролінг». Х.: УкрДУЗТ, 2022.

2. Behringer S. Financial controlling. Springer. 2023. URL: https://link.springer.com/book/10.1007/978-3-658-40527-4#bibliographic-information DOI: https://doi.org/10.1007/978-3-658-40527-4

3. Алексеєва К.А., Суханова А.В. Методичні вказівки для підготовки до практичних занять, виконання самостійної роботи та підготовки до екзамену з дисципліни «Антикризовий менеджмент» Київ: Вид. центр НУБіП, 2021. 170с.

4. Сисоєв А.В. Оцінка ефективності контролінгу операційної діяльності підприємства. Ефективна економіка. 2020. № 1. URL: http://www.economy. nayka.com.ua/?op=1&z=7622.

5. Суханова А.В. Контролінг у системі прийняття управлінських рішень. *Інфраструктура ринку*, 32, 2019. URL: http://www.market-infr.od.ua/journals/2019/32_2019_ukr/35.pdf] (дата звернення: 12.10.2023)

6. Суханова А.В. Основні стратегії фінансового забезпечення конкурентоспроможності підприємства. *Міжнародний науковий електронний журнал ΛΌГОΣ. ONLINE*. 2019, 4, URL: http://eoi.citefactor.org/10.11232/2663-4139.04.20 (дата звернення: 12.10.2023)

7. Суханова А.В., Суханова Д.Ю. Світова практика управління грошовими потоками підприємств *Приазовський економічний вісник*. 2020. 2(19) URL: http://pev.kpu.zp.ua/journals/2020/2_19_ukr/39.pdf (дата звернення: 12.10.2023)

8. Суханова А.В. Методичні підходи до оцінювання конкурентоспроможності підприємства. *Економіка та суспільство*. 2021. № 26. URL:https://economyandsociety.in.ua/index.php/journal/article/view/382 (дата звернення: 12.10.2023)

9. Суханова А.В. Удосконалення системи управління витратами на основі контролінгу. Problemas y perspectivas de la aplicación de la investigación científica innovadora. Збірник тез доповідей І міжнародної науково-практичної конференції. Панама, 2021. с.44-47

10. Alekseieva K., Novikova I., Bedukh O., Kostjuk O., & Stepanova A. (2021) Technological orders' change caused by the pandemics: Digitalization in the internationalization of technology transfer. *Problems and perspectives in management*. Issue 3. URL: https://cutt.ly/g8SZ8U1

11. Alekseieva, K.A., Reznik, N.P., Cherkasov, A.V. & Ostapchuk, A.D. (2023) Influence of the Digitalization on Human Development in the Process of Constructing a Welfare Economy. *Lecture Notes in Networks and Systems* 495 LNNS, pp. 885–898. DOI: https://doi.org/10.1007/978-3-031-08954-1_74/

12. Dielini M. (2019) Risk-Management in Public Authorities: International Aspect. *The Journal of Business, Economics, Sustainability, Leadership and Innovation*. Volume 2019, Iss. 3. 2019, pp. 31-37. https://www.besli.org/index.php/besli/article/view/23

13. Shynkaruk L., Dielini M., Alekseieva K., Artiukh T., Sukhanova A. Project management: study guide of the specialty 073 “Management”. Kyiv: NULES of Ukraine, 2022. 318 p.

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