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## ADAPTIVE MANAGEMENT OF PROJECT ACTIVITIES OF ENTERPRISES UNDER CONDITIONS OF UNCERTAINTY

*In the article describe the problems of enterprises in the current realities and conditions of uncertainty. In this regard, the necessity of using adaptive management is substantiated and theoretical provisions on its features are systematised. Given the conditions of functioning of enterprises, the author draws attention to the importance of carrying out project activities by an enterprise as one of the tools for its development. It determines that in the course of project activity it is important to use adaptive management and various technologies of managerial decision-making, which will ensure unhindered achievement of the enterprise's goal.*

*Keywords: adaptive management, management, project, project activity, enterprise.*

*Lit. 11.*

*DOI: 10.32752/1993-6788-2024-1-274-183-189*

*Peer-reviewed, approved and placed: 20.04.2024.*

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## АДАПТИВНЕ УПРАВЛІННЯ ПРОЕКТНОЮ ДІЯЛЬНІСТЮ ПІДПРИЄМСТВ В УМОВАХ НЕВИЗНАЧЕНОСТІ

*У статті описані проблеми діяльності підприємств в сучасних реаліях та умовах невизначеності. У зв'язку з чим обґрунтовано необхідність використання адаптивного управління та систематизовано теоретичні положення щодо його особливостей. Враховуючи умови функціонування підприємств, автор звертає увагу на важливість здійснення проектної діяльності підприємством як один із інструментів його розвитку. Визначає, що при здійсненні проектної діяльності важливо використовувати адаптивне управління та різні технології прийняття управлінських рішень, що забезпечить безперешкодне досягнення мети діяльності підприємства.*

*Ключові слова: адаптивне управління, управління, проект, проектна діяльність, підприємство.*

**Problem statement and its connection with important scientific and practical tasks.** Since the first half of the twentieth century, management science has been focused on finding ways to improve the efficiency of an enterprise. However, in the second half of the twentieth century, globalisation, increased competition and technological changes led to increased uncertainty in the external environment of enterprises.

The 21st century is characterised by uncertainty, with businesses facing factors such as unstable exchange rates, rising raw material prices and political changes in countries. Businesses must be prepared to respond to changes in a timely manner and reorient their activities to adapt to new conditions. This issue has become particularly relevant in the context of the Covid-19 epidemic in 2020, when companies were forced to develop new approaches to doing business in order to avoid the negative effects of the pandemic and thus maintain their market position.

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Currently, martial law has been declared in Ukraine, which brings the country back into uncertainty. Managing in times of war is a challenge and requires a special approach to management strategies and processes. Traditional management principles, which may be effective in peacetime, are often unable to take into account the unpredictability and high uncertainty that characterise wartime. This calls for new approaches to governance to account for instability and rapid change. The development of adaptive management has become a response to these challenges.

Given these circumstances, businesses are trying to find new ways of development, among which project-based activities are gaining popularity. A distinctive feature of enterprises engaged in project activities is the more intensive use of knowledge as a source of competitive advantage. At the same time, a project-oriented enterprise can be any organisational structure in which a project manager has the authority to set priorities and direct the work of people involved in a given project.

Adaptive management is designed to help businesses adapt to changes in the internal and external environment. It emphasises flexibility, rapid response and the ability to adapt to new conditions. This approach is particularly relevant when businesses face unexpected challenges that require immediate innovation and changes in management strategies.

**Analysis of recent research and publications.** The problem of forming adaptive management is revealed in the works of scientists who study in detail the aspects of management under conditions of uncertainty and change. For example, P. Drucker [3] studied the concepts of efficiency and adaptability of enterprises; D. North [1] studied the role of institutions in the formation of effective management; M. Olson [2] is known for his research in the field of collective action and rational choice; O. Timinsky [11] studied strategic management and development of enterprises; L. Kozhurina [5] studies aspects of management and strategic business development; G. Yelnikova [4] studied the process of adaptive management in educational institutions. Despite the large number of works that present different views on the management process, the issues of adaptive management development remain insufficiently researched and require further study.

**The purpose of the article.** The purpose of the article is to substantiate the importance of adaptive management of project activities of enterprises under conditions of uncertainty.

**Summary of the main material.** The efficiency of an enterprise in modern economic conditions is directly related to its ability to adapt to changes in the external environment. The peculiarity of an adaptive management system is the ability to change in response to transformations of internal and external parameters of functioning. Along with the concept of an adaptive system, the concept of «adaptive management» is also distinguished, i.e. management in a system with incomplete information about the managed process, which changes as additional parameters necessary to improve the quality of management are accumulated and processed [7].

G. Yelnikov's concept of adaptive management is characterized by: mutual influence and adaptation, joint goal setting, combined efforts and self-direction, systemic and situational approach [4]. She sees the development of the principles of adaptive management in the evolutionary development of the management of socio-economic systems, highlighting the systemic and situational approach, which requires flexibility and adaptation to constant changes in the environment.

G. Yelnikova defines it as «a special type of human activity in conditions of constant changes in the internal and external environment, which provides a targeted impact on the managed system to preserve and streamline it within the specified parameters based on the laws of its development and the operation of self-management mechanisms» [4]. The basis of social management is the interaction of the managing and managed subsystems, and the principles of their normative interaction are hierarchy, self-organisation and self-regulation.

According to G. Yelnikova, adaptive management has emerged as an objective necessity for reconciling multidirectional influences in the context of market economy development. She associates the emergence of adaptive management with the need to take into account situations of instability in the development of market and economic relations. According to the author, these situations intensify communication relations and change the internal mechanisms of the management process. To meet their own needs, participants in the management process combine their efforts to achieve a common goal. Such management has adaptive principles, therefore it is called adaptive management [4].

Adaptive management is not limited to the decision-making process, but also includes the implementation stage. This indicates the importance of effective implementation of the decisions made in the work of all levels of the enterprise. Determining the parameters of both the external and internal environment indicates a wide range of factors that affect the enterprise. Adaptive management takes these factors into account when making and implementing decisions by the manager and should ensure the interconnection of all structural units of the enterprise, as well as indicate the need for coordination and cooperation between different parts of the organisation.

The importance of adaptive management increases in the following situations:

- when an organisation is recovering from a crisis (crisis management);
- when introducing innovations (innovation management);
- in case of organisational changes [6].

The definition of the conditions of uncertainty in the management environment well describes the current reality of many enterprises, including the lack of necessary (reliable, complete) information, complexity and lengthy processing of available information, inability to predict the consequences of decisions made over time [6; 9].

Uncertainty is understood as «a state of ambiguity in the development of certain events in the future, ignorance and inability to accurately predict the main values and indicators of the development of a certain phenomenon» [8]. According to the types, circumstances and causes of uncertainty in organisations, the following are distinguished:

- fundamental uncertainty. It is caused by the fact that at a certain stage of knowledge development it is impossible to obtain the necessary information. This may be due to technical limitations, lack of technology, or the inability to predict certain phenomena;
- uncertainty is caused by a large number of objects and elements of the system itself. It arises when the system is very complex, when it is difficult to take into account all possible interactions and influences between objects;
- uncertainty due to lack of information;

- uncertainty created by the decision maker. It occurs when a decision maker has limited information, limited knowledge or personal influences and beliefs that may affect the objectivity of the decision;

- uncertainty due to the high cost of establishing «certainty». It occurs when obtaining accurate information or eliminating uncertainty can be very resource intensive;

- uncertainty due to limitations of the decision-making system itself. It occurs when the decision-making system itself has limitations or deficiencies that prevent effective analysis and problem solving;

- extreme uncertainty. It occurs when an event creates significant problems for an enterprise, when many factors are uncertain and particularly difficult to measure effectively. Therefore, an event that is difficult to measure in terms of its duration and rate of change is often referred to as extreme uncertainty because of the multiple levels of uncertainty it creates.

- generated uncertainty. Generated uncertainty can best be understood as uncertainty that arises as a direct result of an external action taken by an individual or group of people. In the vast majority of cases, these actions are mostly the result of decisions taken by the leading parties or administrations of a particular country [8].

One of the most recent examples of the resulting uncertainty is the sanctions imposed on certain firms (e.g. Huawei), specific industries (e.g. oil and gas in the case of Russia) or even entire countries (Iran).

- political uncertainty. The inability to consistently predict how government policy may change and potentially affect a business. A certain change in policy may have unforeseen consequences for the business, leading to the need to adapt as a result of unforeseen changes.

- financial uncertainty. While business uncertainty by its very nature makes it difficult for a business to generate profits, financial uncertainty involves uncertainty that is clearly related to unforeseen changes in the financial sector. The biggest recent example of financial uncertainty is the global financial crisis of 2008. With the economic downturn, many businesses were forced to close due to the inability to successfully manage financial uncertainty, which led to a drop in real and massive wages and unemployment [8].

Understanding these types of uncertainty allows managers to take a more informed approach to decision-making, taking into account the specifics of the situation and seeking adequate risk management strategies in the face of limited information.

According to a study conducted by Mykhailo Leichenko, Deputy Head of Digitalisation and BigData Analytics at the Centre for Innovation Development (CID), during his speech at the East Expo 2023 event, the factors that negatively affected business were presented, namely [6]:

- lack of a sufficient number of solvent customers - 49.7%;
- unpredictable development of the situation in Ukraine and the domestic market - 46.1%;
- unpredictable actions of the state that may worsen the state of the business - 34.0%;
- lack of sufficient equity capital - 32.4%;

- obstacles from regulatory and/or fiscal authorities - 26.1%;  
- high taxes and fees - 23.2%;  
- unavailability of credit funds, in particular under the 5-7-9% programme - 23.0% [6].

According to the study, business representatives declare the total annual amount of state aid needed for development to be \$8.5bn. At the same time, the majority of companies (87.6%) declare needs that can be «covered» by the state programme «5-7-9%» - up to \$1 million, and 71.6% of respondents will be satisfied with assistance of up to \$0.3 million [6].

At their core, projects, programmes, or portfolios are nothing more than a tool for an enterprise to adapt to environmental changes through innovation and strategy implementation. The success of the project is determined by how well the company can adapt to the peculiarities of the external environment. By implementing innovative projects, portfolios, and programmes, managers are in most cases confident that these actions will ensure long-term prospects and further strategic development in the future. They see their future success in the market as increasing profits, entering new markets, launching new products, or other things. But, as a rule, these actions take place separately from the organisation's strategic plan, and in most cases, this plan is simply «adjusted» to the market situation and, thus, the strategy is adapted to projects [9].

Often, a development plan and/or strategic plan is a «dead» document that exists but does not work. However, it is clear that it is the strategy that should determine the projects, portfolios and programmes that need to be implemented, and not vice versa. The effectiveness of an organisation's development is determined by a well-chosen strategy for a dynamic environment or its reorientation (if necessary), in accordance with the changes that have an impact.

The main essence of management is to align the strategic development of the organisation with the implementation of project activities. Therefore, at the level of project activities, projects should be selected that are aligned with the strategy, and the defined strategic goals and development objectives should be translated to the level of project/portfolio/programme management to ensure that the innovations being implemented will achieve the set strategic goals and solve the strategic objectives.

In many cases, in order to achieve system-wide goals, the need to align them with the goals of project activities is ignored, i.e. an attempt is made to achieve system-wide optimum at the expense of projects, programmes, portfolios that do not meet the organisation's mission and strategy, in other words, there is a mismatch of goals [9].

When selecting innovative projects, decision-makers are usually guided by such important but insufficient parameters as technical and economic indicators, analysis of the external and internal environment, market growth forecasts, industry trends, etc. Moreover, managers often focus exclusively on financial indicators, which are a priori considered to be indicators of the organisation's success and failure, i.e. if there is money, then success is assured. However, money cannot be separated from the process of implementing innovations, especially since there are no clear recommendations on priorities for making improvements. As a result, project activities are not aligned with the strategy, goals, and environment. This leads to the creation of unviable projects that the organisation cannot complete due to a lack of capacity or, as it

is also called in relation to project activities, technological maturity (budget, qualified specialists, risk management experience, etc.) [10].

In the case of a large discrepancy (or low coherence) between strategic and project goals, the emphasis should be on adaptive management of such processes.

Under such conditions, making managerial decisions is a difficult task, as wrong decisions can lead to serious consequences. We can talk about formal and informal methods of making managerial decisions, quantitative and qualitative, individual and collective, expert and public.

In the face of uncertainty, a manager can either try to find and analyse additional information or act on the basis of past experience, intuition and his or her own assumptions. Thus, managerial decision-making is based on the use of techniques and simplifications that summarise the experience of the decision-maker. Therefore, methods of making managerial decisions under conditions of uncertainty should be based on collecting information from various sources, analysing this information and taking it into account.

**Conclusions and prospects for further research.** Adaptation of modern enterprises is an objective reality. In terms of economic content, it consists in purposeful and consistent actions by the management and staff of the enterprise on the basis of adaptive competencies (abilities) to achieve and maintain the optimal state, ensure sustainability and development through the transformation of the enterprise's activities, increase its flexibility and adaptability to changing external conditions, change the algorithms of functioning in the face of unforeseen changes. The level of coherence of the elements and subsystems of an enterprise, the capabilities of internal variables of an enterprise to adapt to external changes determine the adaptive potential of an enterprise. The formation of an adaptive management system should be carried out taking into account the specific stages of the enterprise's life cycle and social aspects of its functioning.

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