

## ЕКОНОМІКА ТА УПРАВЛІННЯ ПІДПРИЄМСТВАМИ

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### INNOVATIVE ASPECTS OF MANAGEMENT OF THE DEVELOPMENT OF STRATEGIC BUSINESS PROCESSES OF AN ENERGY COMPANY

### ІННОВАЦІЙНІ АСПЕКТИ МЕНЕДЖМЕНТУ РОЗВИТКУ СТРАТЕГІЧНИХ БІЗНЕС-ПРОЦЕСІВ ЕНЕРГЕТИЧНОЇ КОМПАНІЇ

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*The article investigates the topical issues of the development of innovative business processes of an energy company in the conditions of today's extremely unstable external environment. It was determined that the development of concepts for the formation of enterprise innovation management strategies offers three different directions: resource theory, blue ocean strategy, and microstrategies. Based on the study of the current state of innovative business processes of the energy supply company, certain directions of their organizational development are proposed. A business model of a modern energy supply company has been developed, which includes nine interconnected blocks. A descriptive matrix of the analysis of competences, resources, abilities and projects for the energy company was built, which made it possible to evaluate specific projects of innovative activity. The analysis of innovative competencies made it possible to build a hierarchy of existing competencies, with the help of which the organization is able to diagnose its strengths and weaknesses, as a result of which it can focus on the development of key competencies that will ensure the success of innovative business processes.*

**Keywords:** innovation, innovation activity, innovation strategy, energy corporation, business processes.

*В умовах наявного вкрай турбулентного навколишнього середовища діяльність будь-якого суб'єкта господарювання вимагає обов'язкового впровадження масштабних та частих змін в організації діяльності. Успіху більш за все досягають компанії, які активно генерують інноваційні процеси, які слугують для певних організацій джерелом конкурентної переваги, для деяких галузей національної економіки – необхідною умовою для виживання. Водночас, швидкий розвиток інформаційних технологій створив принципово нові умови для активізації їх інноваційного розвитку. Наявність ресурсів для останнього значною мірою визначається характером і специфікою сформованих бізнес-моделей, а також можливостями використання релевантних організаційних форм інноваційної діяльності та адекватних форм і способів її інвестиційного забезпечення. Визначено, що розвиток концепцій формування стратегій управління інноваціями підприємства пропонує три різні напрями: ресурсну теорію, засновану на розумінні необхідності планування стратегії на основі урахування унікальних ресурсів і здібностей; стратегію блакитного океану, яка запроваджує поняття «блакитного океану» – ринку інноваційних продуктів у всіх його; мікстратегія, що пропонує використання невеликих стратегій на короткий термін.*

Кожна з цих концепцій пропонує власний підхід до управління інноваціями, враховуючи різні аспекти, такі як ресурси, конкуренція на ринку та стратегічне планування. Вибір концепції може залежати від конкретних умов і потреб підприємства. Аналіз сучасного стану розвитку інноваційних бізнес-процесів в енергетичних компаніях надав можливість сформулювати напрями їх подальшого розвитку організаційного характеру. Для оцінки компетенцій, ресурсів, здатностей та проєктів в дослідженні використано дискретивну матрицю, де кожен рядок або колонка відповідає конкретному блоку бізнес-моделі. На основі запропонованої матриці визначено ключові компетенції та ресурси для кожного блоку, а також здатності, що можуть бути використані для впровадження інноваційних проєктів. Аналіз інноваційних компетенцій надав можливість побудувати ієрархію існуючих компетенцій, за допомогою якої організація спроможна діагностувати свої сильні та слабкі сторони, внаслідок чого зосередиться на розвитку ключових компетенцій, які забезпечать успіх інноваційних бізнес-процесів.

**Ключові слова:** інновація, інноваційна активність, інноваційні стратегії, енергетична корпорація, бізнес-процеси.

**Statement of the problem.** In response to globalization and changing economic trends, Ukrainian enterprises and organizations use various forms of organizational development aimed at implementing advanced innovative business processes. This allows them to maintain competitiveness and adapt to the modern conditions of the business environment, which changes extremely quickly and is quite aggressive towards the organization. One of the possible forms of organizational development is the introduction of innovative business processes into the production process. Another form of organizational development is the formation of strategically oriented business processes using modern trends in innovation management strategies. Management of the development of innovative business processes for enterprises and organizations of the energy industry as a strategic vector for ensuring the sustainable functioning of the national economy deserves special attention.

**Analysis of recent research and publications.** Scientists in the field O. Vikarchuk, S. Ilyashenko, A. Dunska, S. Knyaz, N. Skrypnyk, V. Timofeev, I. Chumachenko, Yu. Utkina and others focused on the newest approaches to the management of innovative activities. They investigated the problems of innovative management and developed methods and strategies that contribute to the development of enterprises based on the implementation of information technologies and project management technologies. Scholars have studied various aspects of innovation management, including such topics as development of innovation strategies, management of innovation projects, organizational development to facilitate innovation, assessment and management of risks in innovation activities, commercialization of innovative products, and much more. However, the issues of using innovative approaches to managing the development of business processes that take place in modern energy companies remain open.

**Setting the task.** The purpose of the article is to justify the management trends in the development of business processes of an energy company in the field of modern innovative activities.

### **Summary of the main results of the study.**

The analysis carried out in [1] of the development of concepts for the formation of innovation management strategies of organizations offers three different directions:

- the resource theory of B. Vernefelt, formed in 1984;
- the blue ocean strategy of C.V. Kim and R. Mauborn, proposed in 2004;
- microstrategies of D. Logan and H. Fisher-Wright, developed in 2009.

The resource theory is based on the understanding of the need to manage the development of strategic business processes on the basis of taking into account unique resources and abilities that are competitive advantages of the organization. If the latter chooses the necessary resources, as well as develops the existing ones and will look for new resources in response to the challenges of the external environment, then this will be the sustainable competitive advantages of the organization. According to H. Mintzberg's "5 P" concept, strategy formation methods are proposed to be combined into certain tools, namely: plan, technique, principle, position, perspective. At the end of the 1970s, the employees of the McKinsey company proposed the classic 7S model in order to evaluate the effectiveness of the enterprise by analyzing its seven main elements: strategy, structure, system and skills, shared values, employees, and style. All of the listed key elements of the organization's activity are interdependent and have a significant impact on the effectiveness of its functioning [2]. The application of the 7S model allows you to coordinate all its elements when building a strategy, in particular an innovative one. Changing one element leads to changes in other elements. The model focuses attention on internal problems and strengths of the enterprise.

In 2005, Professors Chan W. Kim and Rene Mauborn presented the Blue Ocean Strategy, which is based on new approaches to the development of innovative strategies for the development of business processes in the organization [3]. Research results have shown that rapid growth and high profitability of companies that are able to generate productive business ideas create

demand in a new market that did not exist before. Such a new market was called a "blue ocean" by scientists, there are practically no competitors in such a market, in contrast to low-profit markets, which researchers called a "red ocean". Summing up, it is appropriate to note that the "blue ocean" acts as a market for innovative products in all its manifestations – ideas, services, technologies, management, organizational and other innovations, therefore, a new, innovative approach to managing the development of business processes in organizations is proposed.

In 2009, scientists D. Logan and H. Fisher-Wright proposed the use of the concept of micro strategies based on the application of a resource approach, the essence of which is the development of small innovative strategies for the development of business processes for a short period of time. Within the framework of the proposed concept, the organization is expected to form several short-term goals for the development of business processes and corresponding micro-strategies for their achievement. At the same time, there is a movement of the organization in the direction of the development of business processes from one short-term goal to another in order to achieve success. The concept of using microstrategies makes it possible to maximally take into account the variability and unpredictability of modern operating conditions [1].

In today's conditions, formed by the extremely turbulent business environment of the functioning of organizations, the theory of "open innovation" is gaining popularity among scientists investigating the innovative development of business processes. It is proposed to stimulate the development of the organization's business processes, focusing specifically on the external environment, in order to find new technologies, new connections or new managerial and organizational changes [4].

According to international experts, epidemics and pandemics such as COVID-19 will occur in the coming decades, as well as tense situations related to military conflicts, which creates a negative trend to reduce the rate of development of business processes of certain types of activities. Most of all, this has already affected and will affect in the future the sphere of services, namely: transport, catering services, educational services, tourist services, etc. This factor must be taken into account when forming strategic directions for the development of business processes of organizations and choosing the concept of strategic development of business processes.

Modern domestic energy companies pay enough attention to the development of innovative activities and their implementation in their business processes and products in order to maintain or increase profits and improve their competitive positions in the markets. Undoubtedly, the development of innovative business processes in

electric power companies is closely related to the change in technology, but this is not the only type of innovative business process activities used in the energy industry. The innovative development of electric power companies and their business processes today is mostly due to the generation and implementation of organizational innovations.

Today, in the Ukrainian energy sector, many energy supply companies are united by the DTEK Network holding. Joint-stock company "DTEK Donetsk Electric Networks" belongs to the energy supply companies of Ukraine, one of the structural units of the holding company DTEK Networks, performs the functions of Distribution System Operator on Energorynka. OSR is an abbreviation for "distribution system operator". After the reform of the electricity market, regional energy companies (oblenergo) received this name. Since January 1, 2019, in accordance with the law "On the Electric Energy Market", the distribution system operator in Donetsk region has been performed by DTEK Donetsk Electric Networks. Currently, this energy supply company is the weakest element of the country's energy system, which has lost many assets, equipment, and production areas. Most of the company's electrical network facilities are under constant fire from the aggressor.

The analysis of the main and auxiliary functional innovative business processes in the energy supply company JSC "DTEK Donetski Elektromerezhni" made it possible to propose certain directions for the development of innovative business processes of an organizational nature:

- formation of the innovative strategy of the company at all defined levels – from functional to corporate, with regard to the latter – partially;
- participation in the development of contracts with stakeholders and consumers;
- diagnosis of the existing problems of the innovative activity of the company – OSR;
- organization of customer service taking into account innovative developments;
- organization, planning and control of the process of innovative activity of the company;
- study of global innovative technologies with the aim of implementing them in the company.

Table 1 shows the business model of the domestic energy supply company. The proposed business model contains 9 interconnected blocks.

One of the main components that ensure the implementation of business processes in the organization is its labor resources. From the point of view of the innovativeness of the organization's business processes, there is a sufficiently close relationship between the management of labor resources and innovations and is able to influence the success of innovative processes in the organization. That is, every organization, including an energy supply company, is interested in the development of creative abilities in the skills of its

Table 1

**Business model of the domestic energy supply company**

<b>Key stakeholders:</b> JSC "Market Operator" Electricity consumers by categories and groups Other operators of the electricity distribution system State and local authorities	<b>Key activities:</b> Provision of electricity distribution and supply services to consumers Provision of services for technical connections of consumers to electrical networks Organization of billing activities for consumers Organization of control of consumed electricity	<b>Value propositions:</b> Provision of high-quality services for connecting to power grids Uninterrupted power supply Quality billing activity	<b>Customer relations:</b> Personal support of large industrial customers Maintaining a customer base for all categories and segments Organization of personal accounts of service payers	<b>Consumer segments:</b> Industrial consumers Non-industrial consumers People Individuals and legal entities are customers for connection to electric networks
	<b>Key resources:</b> Client base Energy equipment Qualified personnel	<b>Cost structure:</b> Material costs Paying staff Taxes Outsourcing	<b>Sales channels:</b> Client's personal account Company website The company's call center	<b>Revenue streams:</b> Income from electricity supply Income from technical connections of consumers

Source: generated by the authors

employees, since the latter factor contributes to both the formation of an innovative environment of business processes and a bank of new ideas and solutions.

In the developed countries of the world, management theorists and practitioners focus on innovative work behavior as a key component of the process of innovative development of business processes in organizations. Innovative work behavior is understood as a complex of mental and physical activity of employees aimed at achieving innovative development. There are certain aspects of innovative work behavior, such as initiative, creativity, the ability to think innovatively, as well as collaboration and rapid adaptation to change.

By studying the innovative work behavior of the organization's employees, managers are able to establish the influence of employees on the development of innovative business processes in the organization through their activity and contribution. The development of innovative work behavior allows organizations to focus on the development of not only technologies and products, but also creative human potential, as a result of which an innovative organizational culture is formed in the organization.

As a practical application of the development of innovative work behavior in the organization, it is proposed to conduct an analysis of the potential necessary innovative competencies of employees as a factor in ensuring the development of innovative business processes. The analysis of innovation competencies is carried out with the aim of revealing the organization's capabilities in the field of innovation and creating a basis for the development of the innovation potential program, helps to determine the key capabilities and resources that are necessary for the development of

innovative business processes in the organization. In addition, the analysis of innovative competencies allows to identify weak points in the development of innovative business processes of the organization and to focus efforts on their solution.

The analysis of innovative competencies made it possible to build a hierarchy of existing competencies, with the help of which the organization is able to diagnose its strengths and weaknesses, as a result of which it can focus on the development of key competencies that will ensure the success of innovative business processes. The evaluation of innovative competences will also allow to evaluate the potential of the program for the development of innovative business processes, taking into account the state of resources and capabilities of the organization.

According to experts in the field of research of innovative business processes, persistent resistance to innovative changes on the part of employees of organizations is noted. Domestic energy companies are no exception, staff, especially technical ones, do not perceive innovative changes and innovative business processes. Among the possible measures to overcome the resistance of employees, it is recommended to conduct trainings and seminars on the development of innovative business processes, the formation of a motivational system in the direction of stimulating employees and managers of the organization to actively participate in innovative business processes, as well as the implementation of a system of supervision and support at all stages of the corresponding business process. It is also important to ensure communication and communication between all levels of the company's personnel, which will contribute to the faster and more effective implementation of changes and





groups, innovation culture, software). The analysis of the indicated quadrant of the matrix showed that human resources were the most important for each ability, organizational resources were in the second place, and financial resources were in the third place.

The values in the upper right quadrant of the proposed matrix reflect the influence of the competencies available in the modern energy supply company on the formation of capabilities. The given estimates characterize the degree of dependence of abilities on the identified competencies of the organization (in this case, the main processes, the most important from the point of view of satisfying requests, are highlighted).

The values in the lower right quadrant of Figure 1 reflect the degree of involvement of each individual competence of the personnel of the studied energy company in the planned projects.

The lower right quadrant reflects the degree of influence and involvement of individual resources in innovative projects, that is, the degree of use of each resource in individual works of individual projects, and, accordingly, the degree of dependence of work on the project on the quality of resources. If necessary, it is possible to detail resources to the required level.

Figure 2 shows the degree of dependence of the proposed innovative projects on the capabilities of the power supply company under study. The list of abilities, competencies and resources was formed using an expert method based on the analysis of the internal environment of the energy company's functioning.

Separately defined resources, abilities and competencies have different significance for each specific innovation project, that is, the construction of the hierarchy of innovation projects

should be carried out using weighted average values. Therefore, the sums of the columns of the specified matrix, averaged by the importance of the resources received by the group, act as the degree of importance of the innovative projects of the studied energy company. The degrees of the hierarchy of the company's projects are calculated as the sums of the columns of the matrix, averaged simultaneously by the importance and satisfaction with the resulting group of resources. Table 2 shows the key innovation projects for the power supply company under study.

Table 2

### Hierarchy of innovative projects of the studied energy company

Innovative project	The value of integral evaluation
Optimization of business processes	4,6
Personnel development program	4,2
Organization certification	3,6
Purchase of new equipment	2,4
Increasing environmental safety	2,1

Source: generated by the authors

Table 3 shows the assessment of the importance of competences in relation to the proposed innovative project, the competences that, according to the experts' assessments, are sufficiently developed are marked with a + sign, and the ones with an insufficient level of development are marked with a sign.

Therefore, in order to develop innovative business processes for the studied energy company, it is necessary to pay attention to the

		ABILITIES Z					
		Business processes	Business model	Innovative culture	Innovative groups	Software	
		Z <sub>1</sub>	Z <sub>2</sub>	Z <sub>3</sub>	Z <sub>4</sub>	Z <sub>5</sub>	
PROJECTS P	Purchase of new equipment	P <sub>1</sub>	1	2	1	3	5
	Increasing environmental safety	P <sub>2</sub>	1	2	4	3	2
	Organization certification	P <sub>3</sub>	4	5	4	4	4
	Optimization of business processes	P <sub>4</sub>	5	5	3	5	5
	Personnel development program	P <sub>5</sub>	4	4	5	3	2

Figure 2. The impact of capabilities on the performance of work on individual innovative projects of the investigated energy supply company

Source: generated by the authors

Table 3

**Correspondence of the defined competencies to the proposed innovative projects for the studied energy company**

List of competencies	The degree of significance of competencies relative to the innovative project	Rank of competence	The development of competence in relation to IP
Intellectual readiness for innovative activity	4,32	1	+
Motivational qualities	3,71	3	+
Communication skills	2,74	4	-
Innovative activity	4,21	2	+
Personal qualities	2,44	5	-

Source: generated by the authors

development of communication and personal qualities:

- communication skills – knowledge and skills, experience of working with people both in terms of organizing team work and inter-enterprise cooperation, ability to conduct negotiations, correspondence, etc.;
- personal qualities – cooperation and teamwork, continuous professional and personal development, creativity, long-term perspective.

**Conclusions.** The analysis of the development of concepts for the formation of enterprise innovation management strategies offers three different directions: the resource theory of B. Vernefelt, formed in 1984; the blue ocean strategy of C.W. Kim and R. Mauborn, proposed in 2004; microstrategies of D. Logan and H. Fisher-Wright, developed in 2009.

In order to substantiate the strategic directions of the development of innovative business processes,

a business model of a modern domestic energy company containing nine interconnected blocks was developed.

A descriptive matrix of the analysis of competences, resources, abilities and projects for the energy company was built, which made it possible to evaluate specific projects of innovative activity.

A hierarchy of innovative projects of the studied energy company was carried out and the significance of the company's personnel competencies was established for the relatively specified projects, which made it possible to determine the most important competencies – communication and personal.

It is advisable to direct further research to the development of innovative business processes of energy companies in the direction of ensuring their sustainability in the conditions of increased pressure of an aggressive external environment.

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