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**PROJECT ACTIVITY  
AS AN INCLUSIVE  
ENVIRONMENT FOR  
INNOVATIVE  
DEVELOPMENT  
MANAGEMENT OF  
ENERGY SERVICE**

Within popularization of sustainable development goals in various spheres of life, the trend of transition to resource conservation is monitored. For households, this trend is realized in the context of energy saving and energy efficiency approval. With this in mind, innovations are needed to provide quality energy services.

The organizational structure of energy service companies presupposes a complex of general and special areas of activities (energy audit and certification, project support, risk management, work with investments, management of construction and installation works, etc.). In addition, the range of services provided by energy service companies is determined by the specifics of their creation (consulting companies in the field of engineering and energy efficiency; energy technology suppliers) [1, p. 50-51]. This variety of business areas is the result of growing demand for energy-saving technologies and competition in the energy services market.

Taking into consideration the dynamic development of e-commerce, the Internet of Things and, as a consequence, the increasing role of cyber security, it is proposed to preserve the confidentiality of energy planning for energy service companies based on the energy block chain network. This method also contributes to environmental protection and transparent planning activities of companies in a virtual environment. In addition, such a block chain network may display energy and supply information to improve privacy and security data [2-3].

Projections in [4] indicate that half of the world's energy will be consumed as electricity in 2040. The implementation of the concept of "green" energy in Ukraine until 2050, according to the Ministry of Environmental Protection of Ukraine, envisages the transition to environmentally friendly transport through the use of 70% of renewable energy sources, introduction of smart networks and reducing to 0% coal

thermal power plants in energy [4].

According to the data in [5] for 2019, the volume of electricity production by power plants that are part of the UES of Ukraine reached 153,964.8 million kWh, which is 5,385.8 million kWh or 3,4% less than in 2018. Instead, in 2019, the production of electricity from renewable energy sources (wind power, solar power, biomass) compared to 2018 increased by 2,909.6 million kWh or 110.5% and amounted to 5,542.3 million kWh. Overall, according to State Statistics Service of Ukraine [6] for the period 2014-2018, Ukraine witnessed a positive trend in electricity production from renewable sources (wind, solar, hydropower, biofuels and waste).

At the same time, the innovative development of energy service companies requires the formation of employees' creative thinking, the disclosure of their abilities, the creation of innovators teams, innovation offices. This testifies the need to create an inclusive environment for the disclosure of personnel innovative potential which involves taking into account:

- ensuring gender equality within socio-cultural diversity and synergy of different generations of employees;
- behavior of employees with special needs;
- the level of digital literacy and the development of digital skills of employees;
- the creative potential of employees (employees-artists);
- the threat of employees' labor behavior deformation, etc.

Considering these principles of managing the innovative development of an energy service company, there is a need to diversify methods for developing innovators' teamwork. In particular, in this context, the importance of the employees' project activities and the project organizational structure formation of management of both an energy service company and personnel increase. This type of employees' activities organization serves as an inclusive and creative form of innovative development of energy services.

Scientists note [7, p. 41] that the process of implementing project management at an enterprise is characterized by the following advantages such as increased responsibility for the final results of work; prompt execution of several complex projects; the priority of the general, global goals of the organization on the partial, local ones being of functional nature; the solution of operational tasks is decentralized, which allows to respond flexibly and promptly to external and internal conditional changes; project development time is reduced; solving

current issues efficiency increases; the balance degree of the work program for the project resource provision increases; the objectivity of work results assessing of project participants increases, etc.

In the context of considering the issue of creating an inclusive environment for managing the innovative development of energy services, in our opinion, unlike other forms of work organization, the components of employees' work on a project are:

- defining goals and their consistency with objectives, activities and results;

- clarity of the time frame delineation of implementation (life cycle of the project) and budgeting;

- selection of experts for the project team; at the end, creation of a unique product (service) and assessment of the achievement level of qualitative and quantitative indicators;

- development of a sustainability strategy for the product (service) development after the completion of the project (for the next 2-3 years).

In addition, the labor organization inclusiveness at the enterprise in the form of project activities is based on the formation of corporate creative thinking through joint basis formation of employees' ideas at the enterprise, joint search for sources, technologies for their implementation (project investing), development of a project implementation plan and sustainability indicators of its implementation. In the context of considering this aspect, we believe it should be emphasized that it is precisely the flexibility of the organization of project activities that contributes to the opportunities diversification for disclosing the abilities of employees, including those with disabilities, and their focus on innovative development of enterprises.

Taking this into account in the enterprise management system, it is advisable to introduce into practice a model of an organizational structure – project management (methods: Scrum, Waterfall, Kanban, XP, Lean, Agile, HADI, Sprint, etc.). After all, it is this model, based on the vertical-horizontal integration of activities, a virtual environment that will contribute to the formation of inclusive creative teams (intelligence hubs, project offices, business incubators, innovation offices), in which members work on the implementation of flexible and situationally effective tasks that are characteristic to a competitive environment.

In recent years, there has been a tendency to form teams for the development of a startup as a type of project activity, which is based on the use of information technology, i.e. the technologization of the

product and in the future its transformation into an independent business entity in the market. Taking this into account, a team of startups should be focused not only on the social expediency of their activities, but also at first earning income, and eventually profit from their activities. In addition, the inclusiveness of startup competencies is manifested not only in the ability to delegate authority, flexibility in communication with partners, but also in working in a multi-age (inclusive) team. After all, usually the development of startups is done by people who are already experts in the relevant field and have many years of experience. But another feature of work on a startup development is the presence of young people in the team who have a high level of digital competence and are able to build a value algorithm for digitizing ideas in the future.

This specificity of work on a startup is the environment where inclusive jobs are formed (including for people with special needs), joint creative thinking develops as a result of numerous observations, identifying needs, forming a bank of ideas, developing a prototype, testing a prototype, improving product, benchmarking and bringing the product to market through its implementation.

Considering this, design activity as an inclusive form of innovation management of energy service companies determines the transformation of the labor organization and personnel management. Typically, the implementation of such activities can be caused by a formal decision by the management or chaotically implemented in different departments. As a result, it is important to create a project office at the enterprise as a generator of ideas, inclusiveness in the team formation and a coordinator of project work effectiveness. In small and medium-sized enterprises, an alternative to such an office may be the introduction of a project manager position. The difference between the activities of the project office at the enterprise level and the same office at the project group level is the formation of a corporate portfolio of projects (project portfolio), their systematization by business processes and the focusing of teams work on the most valuable areas of project activities as a result of the development of relevant competencies among employees.

The project coordination group at the enterprise may consist of heads of structural divisions. The main areas of work of such group are the following ones: defining the primary goals of the owner; identification of the main bottlenecks and commercial risk to the project; development of a financing and resource provision strategy; development of the project organization; development of control and administration procedures; election of a project manager; providing project participants

with rights and resources; support of the project implementation process; work with the project external environment and risk factors; resolving conflicts and overcoming crises [7, p. 171-173].

The use of a project approach to organizing a personnel management system for energy service companies, in particular, the formation of project teams, presupposes the presence of a project manager or a coach in the team. For example, this function can be performed by the head of the human resources department, the chief engineer, or the head of the design department. This leads to the development of an algorithm for selecting a project manager. This issue can be solved according to several scenarios [8].

Usually, in typical situations, individual managers of enterprises, after conducting an appropriate financial analysis, can decide to introduce an appropriate position into the staffing table based on external or internal recruiting, which, in turn, requires additional costs (for the search and selection of personnel, for the arrangement of the workplace, for salary, social guarantees and other motivational measures).

Another scenario that we propose has an optimization character by expenditure item. In particular, considering existence of the wide profile of the functional structure of many enterprises, as well as the possibility of having jobs with harmful working conditions, it is advisable to select a project manager (part-time) for specialized areas of the enterprise. The implementation of this project provides the following algorithm of such actions as:

- developing a job description or profile of a project manager;
- choosing a methodological algorithm for selecting a project manager: analysis of information presented in a resume or questionnaires; conducting individual and group interviews; collection of recommendations;
- announcing a competition for filling a vacant position of a project manager within the framework of the relevant specialized areas of enterprise functioning (internal recruiting);
- recruiting a certain personnel;
- making a decision to close a vacant position.

In addition, the digitalization of energy service business processes leads to the digitalization of project activities, which provides for focusing on communication channels of project team members, as well as channels and marketing tools for promoting energy services. As a result, when organizing project activities, great importance is given in

[9-10] to the use of digital marketing of personnel at an energy service company.

In addition, the effectiveness of project activities as an inclusive environment for managing the innovative development of energy services depends on the chosen methods of implementing project management aimed at ensuring the organization's flexibility in structures and communication channels. We propose to set out details of these project management methods [11-12].

Agile involves short, straightforward development cycles that last from 2 weeks to 2 months. At the end, the customer receives a working version of the product. The peculiarities of the application of this method are a high degree of attraction of performers, organizers and customers to the project and the focus of the team on the work product as the main indicator of progress. The disadvantages of Agile are the following ones: stimulation of constant changes to the project; the flexibility of product development (the ability to communicate with the customer) can lead to the fact that it will never reach the final version; increased requirements for the qualifications and experience of the team: in addition to directly creating a product, the team must analyze possible ways to improve the efficiency of its own work, continuously exchange information on the project, be motivated and self-organizing.

A number of other techniques have been developed based on the Agile methodology, in particular:

- Scrum, which is based on “sprints” – time frames from 1 to 4 weeks, after the end of each of them a working version of the product should be received, which is improved when moving to the next “sprints”, while the activities of team members can be accompanied by a coach;

- Lean is developed on the basis of the Toyota Production System, i.e. the philosophy of continuous improvement at all levels of the organization, where one of the key concepts is value (what the customer is willing to pay for);

- Kanban helps to avoid situations when one part of the team works around the clock, and the other complains about the lack of new tasks. As a result, there are no separate roles, the whole team is united one, and the process is not divided into “sprints”, but at stages of specific tasks. In Kanban, the stages are independent of each other and occur when the team decides to.

Another method of project management is Waterfall, which aims to consistently move from one stage to another without skipping and

returning to previous stages. The advantages of this technique are the following: the structure of the development process is clear and simple – this reduces the entry threshold for teams; convenient reporting – you can easily track resources, risks, spent time and finances thanks to the strict stages of the development process and detailed project documentation; stability of tasks; estimation of the cost and delivery time to the project – the timing of the release of the finished product, as well as its final cost, can be calculated before the start of development.

Summarizing the above mentioned, it should be noted that the introduction of such management methods for projects in the management system for the innovative development of energy services is aimed at creating an inclusive environment for disclosing the innovative potential of employees. In addition, within transformation of the personnel management system based on automation and transition to remote employment, optimization of the development of enterprises, project activities can be implemented for employees of the personnel management service of enterprises, for example, when assessing the effectiveness of employees' activities (accrual of bonuses), search and selection of personnel (creation recruiting project teams), etc.

At the same time, the application of the project approach to the organization of the management system for the innovative development of energy services involves the use of optimization technologies for the personnel formation in the direction of increasing differentiation in labor organization and the consistency of goals of employees and the enterprise. The introduction of personnel design activities at an enterprise actually narrows the scope of classical (full) employment and expands distance (freelance), flexible (virtual) employment, which, as a result, will contribute to the transformation of the organizational and economic mechanism of the energy service company on the basis of inclusive and sustainable development of society.

In total, evolutionary and revolutionary models are distinguished for enterprises change management. Evolutionary changes are changes in the system, and revolutionary ones are cardinal changes in the system itself. Within the evolutionary model, changes in strategy, production processes and culture can be carried out gradually, in the form of small steps, and within the framework of a revolutionary model, radically, in the form of large leaps [13, p. 155-157].

A wide variety of factors has enabled the development of a successful ESCO industry in various countries. Some of these factors such as favorable legislation are generally important; however, many of

them apply more to certain countries or groups of countries than others, in particular:

- general energy market context (energy price levels; liberalization of the energy market; high energy intensity);
- legislative and regulatory measures (general policy instruments to promote energy efficiency; energy efficiency obligations; energy saving targets in public buildings);
- governmental and other programs;
- developing countries and economies in transition: special need for financial instruments;
- standardization of contract procedures and measurement and verification [14, p. 10-15].

Considering the organization variability of the personnel management system of energy service companies in the context of the transformation of the personnel management system of enterprises, the application of process and project approaches to the organizational structure of enterprise management is complementary. After all, the formation of the optimization process of personnel management as a result of horizontal and vertical hierarchical integration provides for its stage-by-stage transformation through the use of technologies (methods) of project management in the field of energy services.

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