

## Chapter 7

### **CURRENT GLOBALIZATION TRENDS: DIGITALIZATION, VIRTUALIZATION, THE FORMATION OF GLOBAL NETWORKS, ICT-BASED TECHNOLOGYIZATION, GREENING**

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### **DIGITAL MARKETING OF ENERGY SERVICE COMPANIES' PERSONNEL IN THE CONTEXT OF SOCIO- ECONOMIC DEVELOPMENT**

The gradual change of the socio-economic development priorities from the globalization to the alterglobalization based on the sustainable development causes the use of a client-oriented approach to the organization of the marketing activities of energy service companies. This approach involves taking into account the development trends of both the energy market, the information technology market and the labor market. In particular, the growth of the labor mobility, the preference for the project and distance forms of employment, the development of the cross-sectoral competence of employees and smart specialization of the business entities, the promotion of the socially-oriented values in the professional activity (energy efficiency and environmental protection) are accompanied by the search and implementation of the innovative brand loyalty to the energy service companies.

The digitization of the business processes at the different levels of the enterprise functioning and the development of the digital literacy of employees, on the one hand, and the automation of the work space – on the other, shows the growing role of the intellectual work, the need to use a capable approach to the formation of personnel, which is based on

creating of the environment for harmonizing the goals of the enterprise, employees and society. Considering the above noted, it is important to develop the energy service companies branding as reliable employers in the virtual business environment, the use of the digital marketing communication instruments to promote the energy efficient and environmentally friendly technologies at the market.

The organizational structure of the energy service companies is the basis of the technological process management. Properly structured, with a clear division of the functional responsibilities and subordination of employees, it allows increasing the efficiency of the project management.

Energy Service Companies (ESCOs) are usually differentiated from other firms that offer energy efficiency improvement or energy services, such as consulting firms and equipment contractors, by the concept of performance- based contracting, which means that the ESCO's payment is directly linked to the amount of energy saved (in physical or monetary terms). Energy services may include for instance energy audits, energy management, energy or equipment supply, provision of services such as space heating [1, p. 2].

At the same time, the digital challenges for the development of the enterprise management system in general indicate the need to change the approach to the organizational structure of managing the energy service company by integrating the functional areas, harmonizing the hierarchical relations, decentralization, forming the flexible communication channels in the virtual environment. Thus, the general pattern of the digital economy projects is consumer-oriented and comprehensive use of information as a driving force, consideration of the specific features of a particular consumer at a particular place, and the world-wide use of the digital transformation technologies of business processes [2].

In the context of the cost minimization and the desire to achieve the maximum profit effect on the way of digitization of the personnel management system of energy service companies, it is important to develop a step-by-step program of business process digitization at the enterprises. In particular, it is expedient to begin the effectiveness of such a process by optimizing the organizational structure of both enterprise management in general and personnel management in particular, by integrating the functions of the structural units horizontally and vertically. The next step should be to apply a project approach to the organization of work of employees. The implementation of the project activity of personnel at the enterprise actually narrows the

scope of the classic (full) employment and extends remote (freelance), flexible (virtual) employment.

Let's consider the functions of departments directly related to the energy service:

1. The Energy Audit and Certification Department conducts:

- collection of raw data;
- drawing up of balances of the energy consumption and distribution;
- analysis of financial and technical information;
- identification of the irrational losses;
- development of energy saving measures;
- submitting of recommendations and determining the effect of their implementation.

2. The Department of Energy Saving, whose staff will be engaged in the feasibility study of the energy-efficient projects, as well as documentation for those projects that are accepted for implementation (financing).

Functions of employees of the Department: conducting a comprehensive energy survey;

- developing recommendations for improving the efficiency of the energy use;
- development of recommendations for providing the facility with modern energy efficient equipmen;
- development and provision of feasibility studies to finance the proposed measures;
- development of concepts of effective engineering support of objects;
- design of energy generation systems with the implementation of the green tariff mechanisms;
- design and implementation of the energy efficient measures, design, supply, installation, maintenance of energy efficient equipment.

3. Project Support Department will carry out the project support work from the development of the project documentation of delivery on a turn-key basis, performing the functions of general contractor.

4. The functions of the Risk Management Department in an energy service company can be presented as follows:

- selection of methods for the risk assessment of the investment projects and their evaluation;
- selection of the risk management methods in the implemented projects;

- formation of the energy efficient and gentle behavior of the customer's staff;
- assessment of the external risks and threats;
- interaction with the insurance companies, assessment of the required insurance coverage, estimation of the eligible amounts of insurance costs, scenario modeling of the insurance coverage, obtaining the optimal insurance rates, etc.

The first function of the Risk Management Department is necessary because every energy preservation project is a kind of investment for an energy service company. As a consequence, the energy preservation projects should be considered as the investment projects, and among the majority of the potential customers, select the most solvent, honest, those who have the least risks in the business, and select only those projects where the risk / return ratio is the most acceptable to the company.

5. The functions of the employees of the Construction and Installation Works Department will be to carry out the preparatory work and the installation of the energy-saving equipment. At the same time with the preparatory work and the installation of equipment, it is necessary to implement the preventative measures. Preventive measures have two goals, to reduce the risk, and to reduce the cost of insurance (it will be logical to examine the list of the precautionary measures required by insurers before concluding an insurance contract, as they are the most effective). Also, at this stage, employees need to monitor the supply of equipment to avoid delays, and monitor the implementation of the key energy-saving measures to eliminate the risks arising from this process as quickly as possible.

The developed organizational management structure should meet the objectives and tasks of the energy service company, obey the technological processes and should be changed in accordance with their implementation. It should reflect the functional responsibilities and the extent of the employee's authority.

In addition, it should be noted that the project approach to the organization of the enterprise personnel management structure in terms of the business process digitization leads to the development of the innovative competencies (time management, adaptability, emotional intelligence, digital literacy, creative and critical thinking, decision making, delegation, leadership etc.), the increasing role of the intellectual labor, the change of the value orientations in the development of the human resources of the enterprise towards their

capitalization. Considering the above noted, the pressing issue is the use of the innovative personnel technology formation.

Today the innovative development of the energy service company is determined by the speed of updating of corporate knowledge, the level of development of dynamic abilities, introduction of the principles of creative management, taking into account the concept of the sustainable development. At the same time the diversification of the alternative energy sources and the use of energy-efficient technologies needs to take into account the trends in the digital technologies.

In addition, an essential feature of the new “network” society is the removal or weakening of the social control and coercion, since interaction in the virtual reality, complicates or even makes social control impossible, information is transformed into the communication and, accordingly, into a product [3, p. 80-81]. In turn, the founder and executive chairman of the World Economic Forum, K. Schwab, described the Fourth Industrial Revolution as a fusion of technologies that blur the boundaries between the physical, digital and biological spheres [4].

The activity of the energy service companies by types of services provided to the customers is divided into:

- investment assessment of the energy efficient projects, development of the business plans, conducting the energy audits, seeking and attracting investments for the energy efficient projects, implementation of the energy management systems;
- thermal imaging, development of technical and economic feasibility (TEF) of the project, development of schemes of heat and water supply of cities;
- complex services (development and realization of the turnkey project) [5, p. 17].

In view of this, the use of the digital technologies by the energy service companies forms a basis for the development of the smart specialization at the municipal level and the implementation of the principles of a “sustainable smart city”, taking into account the urban trends in society. This allows ensuring the return on the energy projects by saving the energy resources, operating costs, payroll, co-financing by the customer. In addition, the energy service digitization is considered as an environment for the development of the innovative types of services such as the use of the modernization facilities, placement of telecommunication equipment, various sensors and advertising on the supporting structures of the external lighting and other upgraded

facilities [6, p. 52].

In the Table 7.1 a comparative characteristic of the typical features of traditional (stationary) and virtual enterprises is conducted. The key difference between a virtual enterprise and a traditional one is the lack of the physical contact. In addition, before running a virtual enterprise, the management functions need to be adapted to the particularities of the artificial intelligence (for example, the use of chatbots, mobile applications). Accordingly, the digitization of the personnel management system of energy service companies makes it possible to consider the willingness of workers to combine the work with rest, and to consider the training process as a vacation, expanding the network of acquaintances in the virtual space, creating the inclusive workplaces, synergies of generations of XYZ employees and management. In turn, the digitization of the business processes in the personnel management system is aimed at optimizing the process of personnel management, which as a result will help to reduce the costs, prevent risks and increase the efficiency of the human capital utilization.

*Table 7.1*

**Comparative characteristics of traditional (fixed) and virtual enterprises**

Criteria	TRADITIONAL (STATIONARY) ENTERPRISES	VIRTUAL ENTERPRISES
	Specific features	
Form of strategy, development	Business plan	Startup (venture approach)
Hierarchy structure	Linear and functional	Network, matrix, flexible, project
Form of labor relations	Labor agreement (formal> informal employment)	Civil contract (formal> informal employment)
Territory	Country-specific attachment (resource location)	Transnationality, global character (resource allocation)
Information communication system	Static, bureaucratic, man-man	Network, free style, man-technique-man
Professional career	Time (age) factor (man-hours) is taken into account	Individually differentiated approach (effectiveness indicators)

*Source: composed by the author*

In general, the organizational changes in the personnel management system of the energy service companies imply the digitization of the

personnel management processes in order to minimize the costs of organizing the work of the personnel management service and increase the efficiency of personnel work by obtaining the prompt analytical information. In practice, the transformation of the enterprise personnel management system occurs through the automation of the individual processes and creation of virtual (online) corporate platforms (websites), which involves the presence of the personal offices of employees, the algorithm of functioning of organizational and economic mechanism of enterprise management, electronic workflow, channels of communications (e.g., email, Telegram) etc.

Such digital transformation of the organization of personnel management system of energy service companies should be aimed at strengthening of the brand of the company as an employer. This also indicates the need to take into account the aspects of the digitization of processes at the labor market.

Unlike the classical market, the virtual labor market is characterized by the following features [7, p. 482]:

- the result of the labor use is an information product (service) or intellectual product, that is, the information presented on the material carriers that contains new knowledge that results from the intellectual creative work;

- availability of the virtual entities, which should be attributed to the customers of the services and their contractors (electronic freelancers);

- availability of the virtual infrastructure, which includes the online platforms for job search and offering services (freelance exchanges, crowdfunding platforms, professional social networks, groups and pages on social networks, career sites or sections of companies and organizations, sites of recruiting agencies and career consultants, employment services and profile associations), electronic payment systems, information systems etc.

As a consequence, the success of forming the loyalty to the energy service companies brand depends on the level of coherence of digitization processes in the personnel management system of the enterprise and in the labor market. Instead, the complexity of implementing a virtual HRM system in the energy service companies, in our opinion, is to take into account the following components:

- analysis of investment policy in the field of information technology (the presence of programmers, system administrators, testers in the team), the level of digitization of personnel management processes by other enterprises;

- risks of rotation and redundancy of employees as a result of the workflow automation, coordination and decision making, etc.;
- recruitment by the electronic application, online interview, online testing, application of a recruiter-bot, etc.;
- evaluation of the personnel activities through the unified criteria, introduction of an automated rating system, etc.

This demonstrates the expediency of considering the personnel marketing as a form of the internal marketing. Inasmuch as according to M. Sahaidak statements [8, p. 112] the combination of these two types of marketing allows providing the enterprise with the highly qualified personnel, organizing its activity as efficiently as possible by creating the necessary working conditions, incentives and motives, that is, it allows properly “selling” the enterprise to its employees.

For this reason, we share the opinion of the scientist that personnel marketing should be considered as a system, the main elements of which are the external environment (labor market, recruiting, state policy in the field of education and employment) and the internal environment (adaptation, training, development and evaluation of personnel, organization of the system of motivation and remuneration, delegation of authority, communication and information flows) [8, p. 112].

To implement the personnel digital marketing in the energy service companies it is important to select the most effective and easy use of the digital monitoring instruments (such as Google, Facebook, Instagram, Hurma), the implementation of the electronic document management. This speaks about the transformation of functions of personnel manager at the enterprise towards the growth of its multifunctionality, development of digital competences.

In the context of the socio-economic development, the competitive advantage of the energy service companies at the market is their ability to respond promptly to the potential challenges and maintain the uniqueness in their “niche” at the market and, as a consequence, to apply a customer-centric approach to the marketing activities of companies. With the advancement of the digital technologies and the adoption of the trend of doing business in the virtual environment (for example, on social networks), the role of the man at the enterprise is changing by shifting the priorities from the physical labor to the intellectual work and, as a consequence, increasing the value of the personnel development, as well as the automation of business processes.

The digital challenges of functioning of a modern enterprise require the searching for the innovative technologies of the personnel formation.



The digital marketing of the energy service companies' personnel is considered as an enterprise brand formation technology, the introduction of which provides the increasing of the level and frequency of contact with the target audience, flexibility and timeliness of decision making, information obtaining. The application of this type of marketing in practice shows the integration of the internal marketing and personnel marketing with digital marketing and, as a consequence, the need to increase the digital literacy of employees.

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