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Editor-in-Chief Prof., Dr. Karitseva Oleksandra, Head of the Department of Economics, Entrepreneurship and Business Administration, Sumy State University

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**THE COMPETENCE POTENTIAL OF EMBODIED LABOR AS A  
DOMINANT FACTOR IN THE ADAPTATION OF BUSINESS PROCESS  
MANAGEMENT UNDER THE INFLUENCE OF CYBER-PHYSICAL  
SYSTEMS**

*Svitlana Danylina, PhD, As. Prof., S.sc.,  
Institute of Market and Economic & Ecological  
Researches of the NAS of Ukraine*

Researchers increasingly define the economy of developed countries as industrial, and the current stage of its development is characterized as new industrialization. At the same time, new industrialization is defined as a necessary development model for the transformational economy of Ukraine. The meaning of the new industrialization is associated with the processes of significant, radical changes in the productive forces, which accelerated in the last decade.

Among the features that characterize the development of productive forces, the main one is considered a radical change in technology. Such a change requires first significant resources invested in basic and applied science, and then huge investments in new fixed capital. Those manufacturers, economies and countries that manage to adapt their business processes in a timely manner under the influence of changes in cyber-physical systems will win the competition.

The rapid development of digital technologies indicates the onset of a new stage of the industrial revolution, which changes the meaning of work, human life and endows the means of production with new properties and capabilities, significantly increasing their labor productivity. The large-scale implementation of such technologies creates favorable conditions for the general automation and robotization processes of production. It is quite natural to expect fundamental

changes in the competence potential of embodied labor under the influence of the digital revolution, because the emergence of electronic productive forces will inevitably change the nature and content of social industrial relations.

Today, there is a powerful and dynamic process of transformation of the modern world under the influence of information and communication technologies. The development of the Internet and other information and communication technologies, stable communication channels, cloud technologies and digital platforms, as well as the information "explosion" – all this contributed to the emergence of open information systems and global industrial networks that go beyond the boundaries of a single enterprise and interact with each other. Such systems and networks had a transformative impact on all sectors of modern society, economy and business and fundamentally transformed the vector of development of the basic component of today's economy – industrial automation. Humanity is on the threshold of a technological revolution that will fundamentally change the conditions of its existence. The speed with which new discoveries are made and technological breakthroughs occur has no historical precedent. Almost all sectors of the economy are being reformatted in almost every country, and the breadth and depth of the changes themselves lead to the transformation of entire systems of production, administration and management. In terms of scale, scope and complexity, the transformation itself will be completely unlike anything humanity has experienced before.

A feature of the technological breakthrough in the XXI century there is rapid progress, which is not taking place in any one local field of science and technology, but is a convergence and hybrid-technological clustering in almost all areas of scientific, technical and technological development. Therefore, it is necessary to define approaches to the implementation of digital transformation of markets and sectors of the economy; formation of conditions for the creation, development and dynamic development of the infrastructure of the digital economy, which will ensure the collection, storage, processing and transmission of data; formation of research and technical potential for the development of the digital economy and the creation of a single digital space.

G. Press analysts from Forbes identified five factors that are considered as the driving force for rapid business growth in the digital economy:

1) Intelligent agents – artificial intelligence products that can interact with users, study their behavior and understand their needs, as well as choose decisions on their behalf, increasing productivity, customer loyalty and reducing costs;

2) Augmented and virtual reality, which creates a new interactive digital environment that radically changes the quality of customer service and equipment;

3) The Internet of Things as a way of doing business, o provides companies with constant information about what is happening with their equipment, products, operations and customers;

4) Cognitive technologies for the development of artificial intelligence – imitating natural human cognitive functions, create unique, differentiated customer value and significantly improve internal production processes;

5) Hybrid wireless technologies as interfaces and software that provide devices with the ability to simultaneously use and transmit information between two or different wireless providers, protocols and frequency bands (Vishnevsky et al., 2020).

Changes in the competence potential of embodied labor under the influence of digitalization of the economy:

1. Automation and robotization of production, as a result of which a new field of automation is emerging. It has all kinds of manifestations and directions, namely: development and implementation of artificial intelligence; overcoming the physical capabilities of a person; optimization of material and technical processes; the emergence of self-driving machines and automatic adjustment of production; implementation of automatic control over equipment, product quality and personnel.

2. The emergence of digital means of production and the Internet of Things, that is, the emergence of electronic productive forces that will inevitably change the nature and content of social industrial relations, namely: the emergence of new electronic productive forces that are the basis of the formation of a new economic system; transfer of market relations to virtual space; changing the structure of reproduction under the influence of cyber-physical systems.

3. Big Data is a new generation of technologies and architecture designed to obtain economic benefits from a very large volume of a wide range of information by means of its rapid capture, search and/or analysis, which allows: optimization of operations and product flows in the enterprise and the formation of "e-infrastructure" – innovative acquisition and storage of data for the purpose of their further analysis.

4. The emergence of global digital platforms thanks to the intensive development of information and communication technologies in order to improve coordination and increase the active participation of all partners, namely: value added chains are formed; there is a monopoly resource that gives rent-premium income; the spread of global inequality and disproportionality.

5. There is a transition from labor to capital, namely: an increase in the share of capital in the gross benefit; the growth of the organic structure of capital, which is manifested in the increase in the technology of production; aggravation of problems in the field of employment; income differentiation and emergence of non-technical competences.

Thus, the conducted research made it possible to draw the following conclusions:

1. Creation of new opportunities for business development based on the use of the latest technologies (mobile networks, social technologies, big data analysis, "cloud" computing), which increase the potential for forming new business values of enterprises and organizations, attracting new customers, etc. Thus, the level of sales of small and medium-sized enterprises that used the Internet as a distribution channel in their activities was 22% higher for three years than that of companies that did not use the Internet (McKinsey, 2020).

2. Increasing the competitiveness of the national economy through the introduction and development of new business models and technologies (analytics of large data sets, digital platforms, robotics, 3D printing, the Internet of Things, neural networks, artificial intelligence, blockchain, etc.).

3. Increasing the transparency of the process of interaction between the corporate sector and the population with the state and, as a result, improving the business climate in the country (simplifying the procedures for providing public services: tax declaration, obtaining permits, registering a legal entity, developing a system of electronic services for business and online services).

4. Today, the digital economy determines the vector of development of various economic systems and determines the global competitiveness of individual enterprises, countries and regions. Increasing the efficiency of the mentioned transformations in Ukraine requires an effective state policy aimed at improving the regulatory and legal regulation of the field of information and communication technologies; active digital transformation of the real and financial sectors on the basis of Industry 4.0; creation of high-quality and accessible digital infrastructure; overcoming digital inequality and increasing digital literacy of citizens, entrepreneurs, and officials; harmonization of the Ukrainian institutional environment with the EU institutional space; introduction of the best global experience in the field of cyber security.

5. The technology of "big data" is the most promising direction of the nearest development not only of commercial structures. These technologies should find their application first in the field of social development - in the field of public administration. "Big data" in the public administration system will allow solving the task of effective management of the country, ensuring all kinds of security of citizens at a new technological level. The use of "big data" opens up new opportunities for researching the dynamics of macroeconomic changes, promotes the development of online trade, expands the scope of cooperation with economists for conducting various kinds of experiments, and allows the government and enterprises to respond more quickly to changes in economic conditions. However, the effect of "big data" will largely depend on the efficiency of management and use of resources. Countries with larger enterprises, global connections, and a developed infrastructure of information and communication technologies will be able to benefit significantly more than those that lag behind in these areas. Thus,

the consequences of the use of "big data" will be more noticeable in Northern Europe, while in most countries of the new Europe and Southern Europe the result will be much smaller.

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