

**State Organization «Institute of Market and Economic&Ecological
Researches of the National Academy of Sciences of Ukraine»**

Summary of scientific novelty for the research

**3.1.8.75/Б «Adaptive management of business processes in the context of
digitalization of the Ukrainian economy»**

(№ 0122U000801, execution period 01.2022–12.2024)

**Stage II of research «Theoretical and methodological principles of
identification and assessment of dominants and imperatives of business process
management adaptation under the influence of cyber-physical systems»**

(execution period 01.01.2023–31.12.2023)

The scientific novelty of the conducted research is as follows:

Originally developed:

- it is substantiated that the concept of «reflexive-active environment of entrepreneurship» in the conditions of digitalization should be defined as a set of conditions and external factors that affect the possibilities and final results of the activities of the subjects of market relations, and also allow the entrepreneur to realize his goals and functions, taking into account the psychological characteristics and competencies of a person (as a representative of state management bodies, collective self-management bodies, an entrepreneur, an employee, a consumer, etc.);
- the constituent parts of the reflexive-active environment of entrepreneurship are defined: information and communication; institutional; tools of the digital economy, which should be classified a) according to the functions they perform – electronic commerce, including digital money and advertising; b) by technologies – digital business models, including platform ones; competence potential of living and embodied labor;
- a conceptual scheme for the formation of the competence potential of living labor was developed and substantiated, which consists in the selection and coordination of the structural elements of the categories «potential» (resources, assets, opportunities), «competence» (cognitive, activity-processual, personal, motivational components), «labor potential» (qualification, psychophysiological, personal potentials) and makes it possible to form an adequate to new conditions management policy of management of labor resources;
- based on the analysis of the competence potential of embodied labor as dominant factors in the adaptation of business process management under the influence of cyber-physical systems, eleven competencies were singled out and systematized, which made it possible to comprehensively explore the new opportunities offered by digital and information and communication technologies today.

Improved:

- the categorical apparatus of the theory of money by defining the category «digital currency of the central bank» as a new evolutionary form of money, the material carrier of which provides wider functional possibilities, in particular, tokenization of other securities;

- a methodological approach to evaluating the effectiveness of the implementation of the digital currency of the central bank, which includes indicators of the ratio of the number of transactions using the e-hryvnia to the total number of transactions using all means of circulation, the share of the volume of transactions using the e-hryvnia to the total volume of transactions using all means of exchange, the ratio nominal amount of monetary units in the form of e-hryvnia purchased by users to the total amount of demand for money;

- classification of levers for ensuring effective use of embodied labor in the context of digital adaptation of business process management;

- the categorical apparatus of the theory of digitization of the economy by introducing the concept of «Digital platform», which, unlike the existing points of view (technological environment; tool of digital transformation; market that has a network nature of existence; business model; infrastructural element of the information market; digital infrastructure; digital service, transactional markets) is considered from the position of reflexive activity and platform approaches as an ecosystem of interaction and coordination of business processes based on the application of digital technologies;

- the conceptual-categorical apparatus of the theory of labor through the study of the genesis of the theoretical aspects of the concept of «Labor potential», the organization of existing scientific approaches to its interpretation and the justification of the basis for the formation of a new approach - competence-based, which, unlike the existing ones, reflects the integral ability of the workforce to work with taking into account new opportunities that meet the requirements of digital and information and communication technologies;

- theoretical foundations of the competence approach to labor potential in terms of defining the structural elements of the concept of «Competence» and the functions of the «Competence potential» of living labor, the feature of which is to go beyond the scope of education into the practical plane of business processes, which allows you to substantiate the conceptual foundations of the formation of the competence potential of living labor work in the conditions of Industry 4.0;

- practical substantiation of the dependence of the levels of digital competence on the degree of knowledge-intensive production in terms of the structure of business processes, which involves the allocation of 4 levels of qualification: basic, intermediate, advanced and professional;

- the imperatives of expanding the competence potential of living labor in the context of digital transformation in the context of adapting business process management in the real sector of the economy by introducing the institute of micro-qualifications as a means of expanding academic and workplace competencies, training at the workplace as a way of expanding workplace competencies and introducing sectoral frameworks qualifications as a tool for determining the framework requirements for specialists in specific fields of activity;

- a methodical approach to determining the reflexive-adaptive effect in the

business processes of the enterprise from "E" trade by determining the advantages and threats of its application in the activities of enterprises;

- the conceptual-categorical apparatus of the theory of «E» trade by defining the imperatives of «E» trade as a component of the reflexive and active environment of entrepreneurship, on the basis of the system-active approach.

Have been further developed:

- classification of evolutionary forms of money according to the criterion of a material medium: it is proposed to consider such evolutionary forms of money as: metallic money, printed money, digital money, digital money based on blockchain technology;

- development of recommendations on expanding the possibilities of using financial and non-financial levers to ensure effective digital adaptation of business processes in the real sector of the economy of Ukraine based on the generalization of the best practices of direct state support for digital adaptation of business processes in the real sector of the economy;

- the theoretical foundation of the formation of digital platforms as a digital ecosystem by determining its functions, prerequisites for development, types of value according to various business models, components from the position of a technical-system section, a transformational chain of changes in the development of business processes, features and advantages;

- classification of network effects arising during the operation of digital platforms according to such features as: object of influence; type of effect; direction of action; type of competition; relationships; the motive and algorithm of functioning, which allows determining the impact of this effect on business processes under the influence of digital transformation;

- systematization of the areas of application of digital platforms and transformational changes in these areas, which, unlike others, were considered in both traditional and platform business processes by means of grouping the features of the classification of digital platforms by functions; directions for the development of the sharing economy; type of business model; monetization; form of ownership; basic functionality; multifacetedness;

- determination of the reflexive and adaptive effect in the enterprise's business processes from information and communication support (the influence of ICT) by determining the advantages and threats of their application in economic activity;

- identification of threats when ICT is implemented in the enterprise's business processes, in particular: 1) cyber attacks; 2) loss of data; 3) dependence on ICT providers; 4) problems with integration (incompatibility of ICT systems); 5) variability of legislation and regulation; and measures to overcome them: 1) contingent planning; 2) protection of data and physical infrastructure; 3) contracts and constant communication with suppliers, development of internal competencies in the field of ICT, backup sources of ICT supply; 4) modernization of equipment, updates and patches; 5) compliance with safety standards;

- determination of the imperatives of the information and communication component of the reflexive-active environment of entrepreneurship, as the necessary directions of application of actions and tools for more effective introduction of ICT in the real sector of the economy in order to improve the reflexive-active environment

of entrepreneurship;

- definition of contingency planning as a type of strategic planning that involves consideration of scenarios and takes into account the possibility of emergency situations or unforeseen events and allows enterprises and organizations to adapt to different situations, ensuring flexibility and readiness to respond to changes, applying modern ICT;

- ICT tools for adapting the management of business processes of enterprises under the influence of cyber-physical and measures for the development of an effective and reliable communication infrastructure and the formation of an effective system for ensuring cyber security;

- methodological recommendations for researching the demand for information and communication technologies and their impact on the business processes of economic entities, using the questionnaire method of observation, which contain the following blocks: communication services, tools for data storage and processing, automation of work and document flow internal and external, promotion of goods and services, employees, interaction with the state, support from state bodies and public organizations;

- a theoretical reflection of the emergence of a new era of automation and robotics based on the use of artificial intelligence, the Internet of Things and Big Data, which, in contrast to existing views, is accompanied by the growth of the organic capital structure, which is accompanied by an increase in the share of capital in the gross added value and a gradual transition from labor to capital;

- identification of threats during the implementation of «E» trade in the business processes of the enterprise according to such signs as: 1) the presence of technical problems; 2) economic instability and weak economy; 3) weak protection against fraud; 4) delays in the supply channels of goods; 5) variability of legislation and regulation; 6) the backwardness of Ukraine regarding the use of ICT;

- identification of the advantages of implementing «E» trade in the business processes of the enterprise according to such features as: 1) increasing the efficiency of the economy and the competitiveness of the country; 2) development of innovations; 3) increasing the export potential of goods and services; 4) overcoming traditional business barriers; 5) global product selection options;

- substantiation of tools for improving the external and internal environment of the functioning of «E» trade, based on the implementation of state incentive measures (credit and financial, tax, security, etc.) and the integration of digital technologies and intangible assets by enterprises, the development of digital competences and digital thinking among company employees, the application special approaches of an organizational and economic nature at each stage of business process management, etc.;

- proposed and substantiated measures for the development of «E» trade for adaptation of business process management in the conditions of the impact of cyber-physical systems on the economy of Ukraine: development of a new direction of electronic trade – subscription trade; improvement of logistics through the spread of fulfillment services; creation of a purchase and sale operation through the use of wireless means of communication, etc.

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