

Transformation of the Educational Services Market in the Conditions of Digitalization

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Abstract

The main goal of the paper is to analyze the conceptual provisions of the transformational processes of the educational services market (ESM) under the influence of digitalization of socio-economic development. The methodological basis of this article is various scientific methods, in particular: monographic, systematic, comparison, generalization, abstraction, specification, analysis, synthesis and graphic. The imperatives of the ESM development in the digitalization conditions of socio-economic relations are determined. A system of principles of institutional transformation of the ESM was formed and the imperatives of the ESM in the conditions of digitalization were outlined. It is substantiated that transformational processes require the formation of a flexible and effective perform the main functions of regulatory policy in the field of education, ensuring innovative development in the provision of educational services(ES), improving market interaction between providers and recipients of services.

Keywords: Education, Educational Services, Educational Services Market, Higher Education Institutions, Digitalization, National Economy, Institutionalization.

Introduction

For the world's leading countries, the implementation of digital technologies in all spheres of society's life is one of the criteria for the country's economic development. Digitization is characteristic for the formation of an innovative education system and institutional support for its functioning under the transformation conditions occurring in connection with globalization processes, especially during the reorganization of the educational space under pandemic conditions and martial law. Current high-tech conditions of the socio-economic systems functioning require consistent changes in the intellectual and scientific potential of the country, which are based on raising the educational and scientific level of specialists and quality training of personnel. According to some researchers (Djakona A. et al., 2021; Marhasova V. et al., 2023; Kholiavko N. et al., 2022; Tulchynska S. et al., 2021), the

modern world functions under the influence of information, intellectual and technical development. The current stage of the ESM' development in the conditions of economy digitalization is characterized by the activation of the influence of intellectual capital and the formation of a knowledge-based society, that is, a society based on knowledge and innovative processes. At the same time, innovations in education are of priority importance for the countries' social development. The introduction of innovative ideas into the process of providing educational services is based on new goals, methods, forms of the interaction of subjects and market objects. The existing innovative mechanisms characterizing the stage of digital economy formation include: prioritization of a creative approach to the provision of educational services, motivation for initiatives and innovations in the educational process; activation of project interaction in the direction of educational innovations' implementation, development of search and experimental educational systems.

Thus, the ESM development depends on the effectiveness of innovative processes' management caused by digitalization and the influence of the knowledge economy, which confirms the timeliness of the study in existing transformations of market interaction.

The main goal of the paper is to analyze the conceptual provisions of the transformational processes of the ESM under the influence of digitalization of socio-economic development.

Literature Review

Researchers (Boronos et al., 2018; Ostrovska et al., 2023; Zhavoronok et al., 2022) claim that the digital transformation of the economy is an inevitable process that will continue in the future. Djakona et al. (2021) and Bazhenkov et al. (2021) prove that one of the main trends in the development of the digital transformation of the economy is the growing role of artificial intelligence, which will be used to automate an increasingly wide range of tasks, as well as to create new digital products and services.

Marcu et al. (2021), Kholiavko et al. (2021) and Cosmulese et al. (2019) believe that an important trend today is the development of artificial reality and augmented reality.

These technologies will be used to create new forms of interaction with customers, as well as to improve the efficiency of business processes.

Crawford and Cifuentes-Faura (2022) prove that the COVID-19 pandemic has affected most countries of the world and almost all spheres of social life, the education system being no exception. Krylov et al. (2021) and Grosu et al. (2021) believe that one of the ways to contain the coronavirus infection was social isolation, its measures required the partial or complete closure of educational institutions for quarantine. In these conditions Popelo et al. (2023) claims that all key participants in the education system (state authorities, heads of educational institutions, representatives of the pedagogical community, students and their parents) were forced to adapt to new conditions and quickly build different formats of remote interaction.

The problem of studying the functioning of the education system and the market of educational services is in the focus of attention of many scientists, such as Lavrov et al. (2020), Anisimova et al. (2021), Obushna et al. (2021), Santos et al. (2019), Marchenko et al. (2019) and Zatonatska et al. (2019) and other.

Figure 1 shows the results of the analysis of the publication activity of scientists regarding the transformation of the ESM under the digitalization conditions.

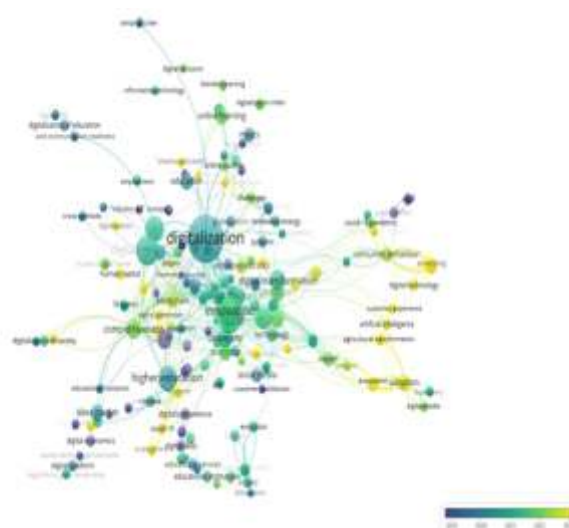


Figure 1: Meta-analysis of the publication activity of scientists regarding the transformation of the ESM under the digitalization conditions

Field: Web of Science Categories	Record Count
Economics	12
Business Finance	11
Education Educational Research	10
Business	9
Management	8
Computer Science Information Systems	5
Environmental Sciences	5
Computer Science Interdisciplinary Applications	4
Computer Science Theory Methods	3
Green Sustainable Science Technology	3

Field: Countries/Regions	Record Count
UKRAINE	27
PEOPLES R CHINA	5
GERMANY	3
ITALY	3
LATVIA	3
ROMANIA	3
USA	3
CROATIA	2
INDONESIA	2
MALAYSIA	2

Source: formed by the authors based on data from the database Web of Science.

The main issues under consideration are the organization of the functioning of the ESM, development of innovative methods to managing the competitiveness of educational institutions, the interaction of the labor market and the ESM, etc. However, the formation of the knowledge economy and the activation of digitization processes, the introduction of information and technological innovations require additional research and the implementation of innovative methods to the ESM management.

Methodology

The methodological basis of this article is various scientific methods, in particular: monographic - studying theoretical provisions regarding the definition of "educational service"; systematicity - substantiating the theoretical foundations regarding the ESM as a social and economic system, the elements of which are closely interacting under

the influence of various environment factors; comparison and generalization - defining the ESM under the digitalization conditions of society as a social institution, the functioning of which is aimed at supporting the intellectual, scientific and personnel potential of society; abstraction and concretization - determining the imperatives of the development of the ESM under the digitalization conditions; analysis and synthesis - forming a system of principles of institutional transformation of the ESM, outlining the imperatives of the ESM under the digitalization conditions; graphic - for a schematic representation of research results.

Results

The transformation of the ESM, which is taking place as a result of the information economy formation, is characterized by the active development of the processes of global informatization and computerization, which is accompanied by an increase in the demand for updating and expanding knowledge, for employees of a new formation, whose main competencies are the presence of competitive mobility and adaptability. However, the study of the transformation of market relations becomes possible under the condition of researching the theoretical concept of the definitions of "educational service" and "educational services market".

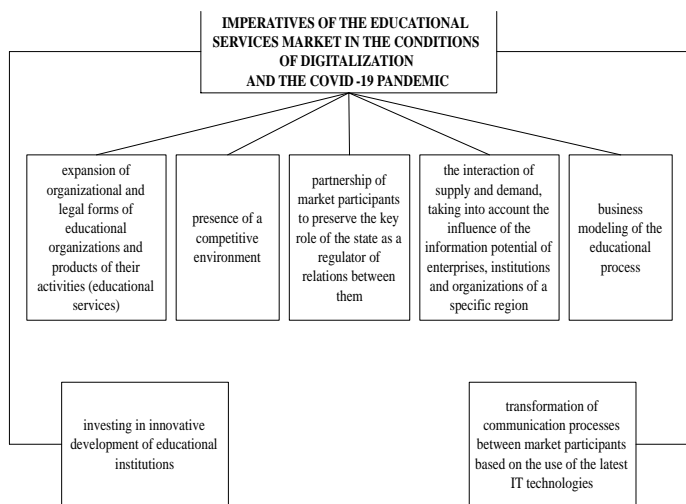
The ESM is defined as a hierarchical system with certain proportions between sectors and close relationships between elements. At the same time, it is an integral part of the public services market, which in turn is a component of the structure of the commodity market. From another perspective, the educational service is considered with an emphasis on the social nature and importance of the cognitive component, practical skills, competencies, and the development of personal abilities of the service user. The educational service is a purposeful activity of individuals and legal entities based on satisfying the consumer's needs for knowledge, skills, competences, creating opportunities for the manifestation of abilities and intellectual development.

So, the above makes it possible to state that the presence of an economic component, namely the relationship between buyers and sellers, and the social direction of the

educational service allows us to define the educational services market as a social and economic system, the elements of which form a close interaction depending on external factors and internal environment.

Figure 2 presents the imperatives of the ESM in the digitalization conditions in comparison with other socio-economic systems.

Figure 2: Imperatives of the ESM under the digitalization conditions



Source: systematized by the authors

Examining the ESM in the context of a systemic approach allows us to distinguish the following subjects in its structure, the relations between which are formed both horizontally and vertically:

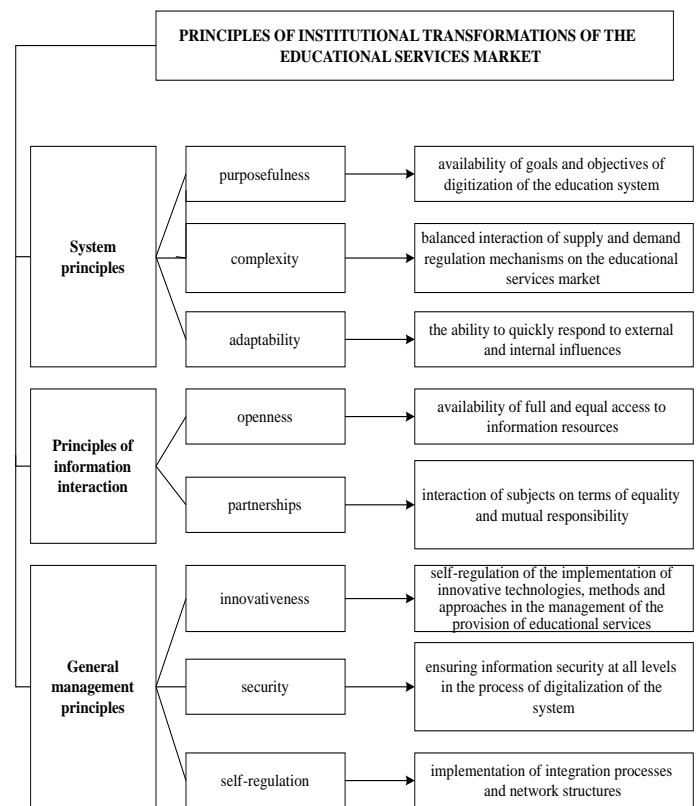
- organizations acting as owners of educational services (educational institutions of all levels);
- consumers of educational services (enterprises, organizations and institutions interested in qualified specialists).

The state acts as both an object and a subject of educational services, as it regulates the labor market, forms education standards and standards for the cost of providing educational services.

The results of the interaction of the institutional environment components of the ESM should be considered in the conditions of achieving a long-term effect, which

involves achieving a balance between the offer of ES of a certain quality and the subsequent demand for labor, improving the employment situation of the population. Thus, digitalization of the economy forms a new system of principles of the interaction mechanism between the ESM and the labor market, formed under the influence of considering the globalization factor, development of innovative, information and communication technologies (Fig. 3).

Figure 3: Principles of institutional transformations of the ESM in the digitalization conditions



Source: developed by the authors

The institutionalization of the ESM in the conditions of the digitalization should contribute to a certain organizational and legislative mechanism of state management of their provision.

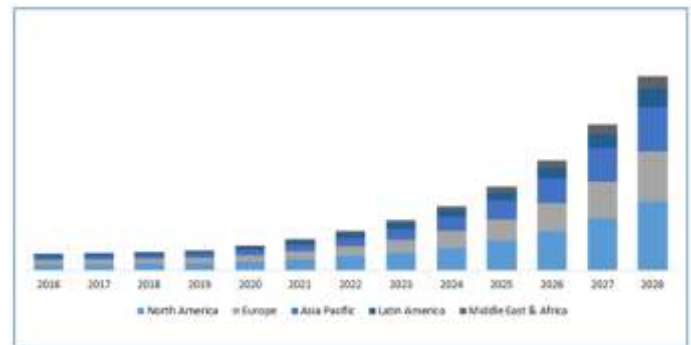
The development of digital technologies and the spread of information technologies in the educational services market were reflected in the Strategy for the Development

of Higher Education in Ukraine for 2022-2032, which was confirmed by the implementation of the following measures:

- ensuring effective management in the higher education system;
- creation of foundations for the trust of citizens, the state and business in the educational, scientific, and innovative activities of higher education institutions;
- internationalization of the higher education system of the state,
- creating an attractive image of higher education institutions for study and academic career,
- ensuring a competitive system of higher education (Ministry of Education and Science of Ukraine, 2022).

Thus, the presence of institutional and structural transformations of the ESM is expedient, from our point of view, to be considered as a process of formation of new and reorganization of existing formal and informal market institutions, reformatting of the market environment and appropriate legal regulation. The above determines the formation of communication guarantees and information flows aimed at expanding the monitoring functions of organizations - subjects of management of the ESM, as well as the activation of educational institutions' innovative development, the spread of project interaction between market subjects, consolidation of market institutions. International companies play an important role in this. Thus, today there are educational multinational companies operating in the world, which are the main operators of the global market of educational services, such as DAAD (Germany), British Council (Great Britain), NAFSA (USA), EduFrance (France), and others. The main activity profile is education and its regulation at the global level, for which grant activity, the opening of educational centers, and the organization of educational congresses and forums are actively used. It is claimed that the global digital learning market is helping to reduce infrastructure costs, and active digital learning, which has an impact on rapid development of the ESM (Fig. 4).

Figure 4: Regional analysis of the scope of the digital education market, 2016-2028, (USD billion)



Source: Polaris Market Research Analysis.

In the context of current dominants in the ESM' development, international partnership has a significant impact on the formation of partnership ties and networks, which are the priority bases for ensuring competitiveness in the global economic space. It is important to provide consulting services during the implementation of international educational projects, innovative developments and the development of non-standard communication channels. Accordingly, each educational institution as a participant in transformational processes in the educational services market must adapt approaches to providing services by initiating intra-management innovation processes. Active international cooperation of educational institutions took place precisely against the background of pandemic processes, cooperation with non-academic institutions that are customers of educational services: new forms of interaction in virtual research networks. In connection with this, such institutional changes were implemented as the improvement of the institutional environment taking into account the principles of online education.

However, digitalization of the ESM actualizes the issue of ensuring information security, which is gaining importance against the background of economic and social instability of society. Therefore, it is a priority to develop measures at the state administration level to study potential threats and prevent them, namely:

- decrease in the effectiveness of training specialists due to the active involvement of applicants in distance learning;
- spread of activities of virtual universities during the COVID-19 pandemic;
- insufficient level of update of software products and information support systems;
- physical inaccessibility of receiving educational services due to problems with the Internet in many areas;
- a noticeable decline in the quality indicators of the provision of ES.

Solving the mentioned problems and countering threats is considered possible through the active implementation of media education as an effective tool for countering informational aggression; reformatting of the personnel training structure with a target orientation to the needs of priority sectors of the national economy; expansion of academic mobility and international cooperation in scientific and educational programs and projects; development of dual education.

Thus, the process of ESM' transformation is accompanied by the formation of a new system of individualized training on the basis of obtaining knowledge through continuous education. Currently, this is a manifestation of a global trend.

In the context of the institutional approach, the ESM' transformation as an institution of market relations acts as a set of rules and norms that structure the informational interaction between market subjects and implement the regulatory influence between them. This is the basis for the formation of new approaches to the provision of ES and the development of approaches to the management process reorganization of educational institutions.

Discussion

We agree with the opinion of scientists Djakona et al. (2021) and Cosmulese et al. (2019) that in the future, the digital transformation of the economy will lead to the creation of a more efficient, innovative and competitive economy.

We share the statement of Marcu et al. (2021) that the

expansion of the digitalization concept to various processes in the economy and other social spheres, the formation of global management priorities on its basis began to take place within the framework of the Industry 4.0 paradigm, which is considered as a new technological system.

We support the conclusions of Crawford and Cifuentes-Faura (2022) that the COVID-19 pandemic contributed to the fact that the state, society and private companies paid attention to the possibilities of digital technologies, thereby ensuring their widespread distribution. The pandemic caused the biggest disruption in the functioning of education systems around the world, which was accompanied by schools and other educational institutions, as well as the transition to distance learning.

Ahel and Schirmer (2023) claim that one of the main trends in the economic development in the context of the pandemic is the growing role of digital technologies. Digital technologies will be used to create new jobs, ensuring the stability of business processes and stimulate economic growth. Also, we agree with the arguments of Azmuk (2015) that digitalization has deeply penetrated the current education system, therefore the study of this process is necessary not only to improve the quality of educational services, but also to ensure the security of the state.

Conclusion

Summarizing the above, the processes of institutional transformation of the ESM and the formation of a competitive market model in the digitalization conditions are built based on synthesis that is, taking into account universal human values, principles, approaches, institutions such as corporatism, the rule of law, the digital economy. The mentality and traditions of the domestic system of providing educational services should be taken into account. Justification of the necessity and urgency of such a synthesis is an urgent task of domestic researchers. At the current stage of transformational processes, priority attention should be given to building a competitive educational system based on the effective involvement of intellectual potential, the decline of which is a threat to the economic security of the country, and obtaining further socio-economic effects.

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