TRANSFORMATION OF GLOBAL MARKETS FOR GOODS, SERVICES, CAPITAL AND LABOR DUE TO DIGITALIZATION

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Abstract: *The main purpose of this article is to identify the essence of digital transformation and determine its impact on global markets for goods, capital, and labor.. In the course of the research, general scientific principles of cognition of economic phenomena were used - methods of systemic, logical, structural, factorial and comparative analysis. Result of the research is that: the impact of digitalization on the world market of good and services showed the growing influence of digital platforms, the creation of transnational small and medium-sized businesses, the development of creative industries; multinational digital companies are a new factor that has a significant impact on the global economy, including the global capital market; the impact of digitalization on the transformation of the global capital market was reflected in the creation and development of the financial technology market ("Fintech"); a study of the effects of digitalization on the global labor market has shown that the potential impact of digital technologies (DTs) and artificial intelligence (AI) on the labor market is limitless. The forces transforming the global markets are megatrends of digitalization and especially automation. The main conclusion from the study: those organizations and individuals who understand the potential future, take into account the human factor, the multidirectional influence of the opposing forces of collectivism and individualism, integration and fragmentation, are best prepared for success. Policy-making on the phenomenon of digitalization is to start the process as early as possible so that digitalization begins to bear favorable "fruits".*

Key words**:** *digital transformation, innovations, technological challenges*
JEL codes: *F16, F23, O33, O43*

1. Introduction

Digital transformation is another round of innovation that leads to the development of technologies. Technology provides productivity gains, the ability to earn more by spending less, and so on. But that was before.

The purpose of the article is to show what is new at the present stage of digital transformation. To achieve this goal, the following tasks were set: to reveal effects of digitalization on the global market of goods and services in three aspects: the influence of digital platforms; the creation of transnational small and medium-sized businesses; and the development of creative industries; to discover the digitalization's effects on the global capital market; to uncover the effects of digitalization on the global labor market. The article presents the main results of the study of new aspects of digital transformation in these directions.

2. Methodology and Data

The author's research methodology includes general scientific principles of cognition of economic phenomena - dialectical, concrete historical, systemic and other approaches, and general scientific methods of systemic, logical, structural, factorial and comparative analysis. The information-theoretical basis of the research was the fundamental concepts of domestic and foreign scientists, materials of international organizations, information and analytical materials of national research institutions.

3. Results and Discussion

The current stage of digital transformation, since 2010, is characterized by the following aspects:

- turning innovation into an independent source of added value;
- the key role of information and forming the information market;
- increasing in the share of goods that do not have a material shell;
- the creation of technological platforms that bring together supply and demand, production, development, marketing and sales.

In the process of digital transformation, there are favorable changes in business operations aimed at optimizing production chains, based on: joint development of products and services by different firms; optimization of logistics chains to reduce delivery intervals; reduction of transaction costs; reduction of response time for requests to the information system, end-to-end

multidimensional traceability of operations; optimization of market coverage through transforming the distribution ("better signaling", "better prices", improved segment coverage, better signalling, better prices, improved segment coverage).

The study of the benefits of digitalization can be carried out in different directions, for example: in time perspective; in the context of the impact on world markets for goods and services, capital, labor.

A study of the benefits of digitalization in time perspective has shown that:

- the benefits of digitalization in the short term include increased productivity, improved asset utilization, reduced operating costs, and the creation of new services and products;

- the benefits of digitalization in the medium term is formation of the Outcome Economy, the priority of which is the gain to consumers from purchasing goods or services and evaluation of effectiveness is built depending on the benefits received by the buyer (not the seller's benefits from sales of goods and services);

- the advantages of digitalization in the long term include the gradual replacement of Pull Economy (Economy of Demand), in which the buyers finds products on the market at their request based on information on corporate sites, blogs and social networks, optimal use of resources and creates a circular economy, instead of Push Economy (Economy of Supply), in which demand is formed by active brand promotion companies.

The first aspect of the transformation of the world market of goods and services in connection with digitalization is the *growing influence of digital platforms* in the world economy, as evidenced by world statistics.

The combined value of the platform companies with a market capitalization of more than $100 million was estimated at more than $7 trillion in 2017 – 67 per cent higher than in 2015. Some global digital platforms have achieved very strong market positions in certain areas. For example, Google has some 90 per cent of the market for Internet searches. Facebook accounts for two thirds of the global social media market, and is the top social media platform in more than 90 per cent of the world’s economies. Amazon boasts an almost 40 per cent share of the world’s online retail activity, and its Amazon Web Services accounts for a similar share of the global cloud infrastructure services market (Digital Economy Report 2019, p. 6).

The rapid strengthening of the competitive position and dominance of the largest digital giants in the market is due to a number of factors. These factors included: the network effect (according to which the more users, the greater the value for all); the ability of the platforms to retrieve, monitor and analyze data (increased number of users means more data; more data

allows you to beat potential competitors, and take advantage of first-mover); the scaling up and diversification of the digital platform's integrated services is accompanied by an increase in the costs of switching to other service providers; the absorption potential competitors; strategic investment in research and development (R&D); strategic partnerships between global corporations operating on digital platforms and multinational enterprises in traditional sectors.

The growing importance of digital platforms in the global economy has become one of the important factors for improving the competitiveness of countries on the digital path of economic development. One of the most significant examples is the experience of China.

In China, WeChat (owned by Tencent) has more than one billion active users and, together with Alipay (Alibaba), its payment solution has captured virtually the entire Chinese market for mobile payments. Meanwhile, Alibaba has been estimated to have close to 60 per cent of the Chinese e-commerce market (Digital Economy Report 2019, p. 6).

The second aspect of the impact of digitalization on the transformation of the world market of goods and services is the *creation of transnational small and medium-sized businesses*. The establishment of multinational companies of small and medium business and their strong market position is confirmed by UNCTAD data (Digital economy report 2019).

The key advantages of such a business model are: the most effective use of labor and intellectual resources, because those with the most popular skills can work in one team, in one company, regardless of what country they are physically located in; wide access to global markets for digital products that are not limited by logistics capabilities and can be easily delivered to any point of the world; access to global financing (business angels, venture funds, etc.) for companies from any country; turning an interesting business idea into one of the most popular products.

These key benefits are supported by various studies, including studies of transnational small and medium-sized businesses both in developed and emerging markets (Kokemuller, N.; Rugraff & Hansen, 2011; Simons, 2013; Bamiatzi et al., 2014; Liberto, 2019).

The third aspect of the transformation of the world market of goods and services is the converting of digitalization into a *driver for the development of creative industries*. Creative industries (CI) are industries that produce products that have the potential to create added value through the use of the intellectual component. CI form a special branch of the economy, which includes the entire range of products and services for cultural purposes, including film and TV, design and architecture, advertising and marketing, fashion, etc.

Following UNCTAD's first Creative Economy Outlook report in 2015, the second UNCTAD Creative Economy Outlook and Country Profile report (2018) demonstrates that there has been significant growth in the creative economy, the sector can make a valuable contribution to the achievement of sustainable development goals. Despite the difficult years during and post the 2008 financial crisis, the creative economy has been robust, demonstrating resilience and in some instances growth, indicating it is a sector with considerable potential for current and future investment. The size of the global market for creative goods has expanded substantially more than doubling in size from $208 billion in 2002 to $509 billion in 2015. Top 20 creative goods exporters among developed countries, top 10 creative goods exporters among developing countries, and top 10 creative goods exporters among transition economies are shown in Table 1. The domination of Asian countries in the top ten is a clear indication of their important emerging role in stimulating and contributing to the global creative economy (Creative Economy Outlook, 2018, p. 9).

The role of digitalization as a driver for creative industries is confirmed by the results of a number of studies (Pratt, 2015; The factors of creative industries development in nowadays stage, 2015; Creative industries are driving economic growth across the UK, 2018; Giovinazzo & Williams, 2019; Cultural and creative industries - drivers of development, 2019).

Digitalization has had an impact on the *transformation of the global capital market* due to the creation of new factors that have a significant impact on both the global economy and the global financial market. Digital multinational companies are such a new factor. The traditional "pre-digital" global capital market was controlled mainly by large multinational corporations. But the changes brought by the digital revolution have made it possible to create transnational small and medium-sized businesses. It is these companies that determine the trends and changes in the global capital market.

Digital financial services are at the heart of the digital platforms that are transforming the service sector. The financial technology market ("Fintech") is experiencing rapid growth."Fintech" is a catchy label for the rapid developments in financial services that are largely being driven by digital technologies. Developments that are now being brought together under the umbrella label "Fintech" are the most recent evolution of a process of structural development that links back to the liberalisation of entry and ownership restrictions in the financial services sector in the 1980s and 1990s.

Tab. 1 Top creative goods exporters, 2015 (in millions of US$)

Year	2015				
Developed countries: Top 20 creative goods exporters		Developing countries: Top 10 creative goods exporters		Transition Economies: Top 10 creative goods exporters	
United States	40.504	China	168.507	Russian Federation	1.572
France	34.446	Hong Kong (China)	27.872	Ukraine	452
Italy	26.672	India	16.937	Belarus	420
United Kingdom	25.926	Singapore	10.277	Serbia	248
Germany	25.882	Taiwan Province of China	8.671	Bosnia and Herzegovina	159
Switzerland	14.980	Turkey	8.690	Republic of Moldova	55
Netherlands	9.391	Thailand	6.105	Kazakhstan	48
Poland	7.434	Malaysia	6.066	The former Yugoslav Republic of Macedonia	29
Belgium	7.056	Mexico	5.447	Albania	22
Japan	6.631	Philippines	1.010	Russian Federation	1.572
Czechia	6.277				
Canada	6.188				
Spain	5.968				
Austria	4.513				
Denmark	3.202				
Sweden	2.920				
Portugal	1.409				
Slovakia	1.356				
Ireland	1.329				
Hungary	1.324				

Source: created by: Creative Economy Outlook. Trends in international trade in creative industries. Country Profiles 2002–2015. P. 21-22. URL: https://unctad.org/en/PublicationsLibrary/ditcted2018d3_en.pdf

Those restrictions, along with interest-rate controls and credit allocation guidelines had succeeded in limiting competition between banking institutions and between the banking sector and other types of financial business, as a means of preserving safety as the overarching policy objective (Digitalisation and Finance. OECD, 2018, p 11). Applications of new technologies to financial services are presented in Table 2.

Digitalization is shaping the *global labor market*. The future of work is the biggest question of our century. What influence will the continuing march of technology, automation and artifcial intelligence (AI) have on where we work and how we work. This is less about technological innovation and more about the manner in which humans decide to use that technology. The shape that the workforce of the future takes will be the result of complex, changing and competing forces. Regulations and laws, the governments that impose them, broad trends in consumer, citizen and worker sentiment will all influence the transition toward an automated workplace. The outcome of this battle will determine the future of work in 2030. When so many complex forces are at play, linear predictions are too simplistic. Businesses,

governments and individuals need to be prepared for a number of possible, even seemingly unlikely, outcomes (Workforce of the future, 2019, p. 6).

Tab. 2 Applications of new technologies to financial services

DIGITAL TECHNOLOGY	FINANCIAL ACTIVITIES AND SERVICES							
	Payment services	*Advisory & agency services Planning*	*Investment & trading*	*Lending & funding*	*Insurance*	*Security*	*Operations*	*Communications*
Distributed ledger technology	x	x	x	x	x	x	x	x
Big Data	x	x	x	x	x	x	x	
Internet of things	x	x						
Cloud computing	x	x						
Artificial intelligence	x	x	x	x				
Biometric technology	x	x						
Augmented / Virtual reality	x	x	x					

Source: Digitalisation and Finance. Financial Markets, Insurance and Pensions. OECD, 2018, p. 14. URL: https://www.oecd.org/finance/private-pensions/Financial-markets-insurance-pensions-digitalisation-and-finance.pdf

The potential impact of digital technologies (DTS) and artificial intelligence (AI) on the labor market is limitless. AI has a particularly large impact on the global labor market. There are three levels of AI development: (1) auxiliary intelligence, which is widely used now (for example, the GPS navigation program); (2) advanced intelligence, which is spreading more and more actively, helping people and organizations to perform tasks that they can not do on their own (for example, the system of joint taxi rides could not exist without a combination of programs that ensure its operation); (3) autonomous intelligence – the technology of the future, involving the use of machines that will act independently (for example, drones) (Workforce of the future, 2019, p. 9).

DTS play a leading role in the formation of four scenarios for the development of the world labor market, compiled by PricewaterhouseCoopers (PwC) experts for the period up to 2030. Each model of development of the world labor market takes into account the human factor, the multidirectional influence of the opposing forces of collectivism and individualism, integration and fragmentation and color vision of the world. "Yellow world": humans come first: the person - the main value; socially useful and socially-oriented business, collective financing or crowdfunding of brands, high value of human qualities. "Red world": Innovation

rules: innovation at the forefront; the competition of companies and individuals for the attention of the consumer, digital technologies provide for the elite unlimited access to information and leverage, highly specialized services and niche products are most in demand. "Green world": Companies care: corporate concern: along with demographic, climate and environmental issues, social responsibility and trust dominate, becoming the main driving forces of business. "Blue world": Corporate is king: the realm of corporations; as the size of companies increases, the capitalism of large corporations is established, individual needs obscure ideas of social justice (Workforce of the future, 2019, p. 11).

4. Conclusions

Digitalization is a wave-like process, each wave having a different impact on economic growth, job creation, social welfare. Digital technologies (DTS) are at the heart of the supply chain, are involved in the processes of commercialization and automation of office support.

The study of the impact of digitalization on the *world market of goods and services* showed the growing influence of digital platforms, the creation of transnational small and medium-sized businesses, the development of creative industries.

The key advantages of the transnational small and medium-sized business model have made it possible to create a digital multinational business, which is based on the opportunities created by global suppliers of digital solutions in the field of software and hardware, telecommunications, and serves as the basis of the digital economy.

Digitalization is a driver of the development of creative industries (CI). The main resource of CI is the creative class, creative people who are able to create innovations, providing breakthrough achievements through synergy of activities. The CI sector is growing at a rapid pace all over the world, contributing to economic, political, scientific and technological changes, is an important element of exports and can be used to create a positive image of the country in the world. To increase the share of CI in GDP, it is necessary to introduce the concept of "creative industries" in the legislation, develop strategies for their development in each region, create creative clusters, as well as business incubators at Federal universities, carry out the appropriate restructuring of the educational sphere, introduce preferential lending, promote and support the export of CI. The development of creative industries requires a transition to a new type of thinking paradigm, focused on individual, creative way of solving problems and current challenges.

The impact of digitalization on the transformation of the *global capital market* was reflected in the creation and development of the financial technology market ("Fintech"). The rapid growth of Fintech is due to a number of factors, including: the spread of online payments and money transfers in emerging economies; the introduction of Fintech solutions such as insurance, lending and investment management in more mature markets; Fintech's leadership in the development of biometrics and blockchain; the role in implementing a national system of unified technological identifiers of an individual. Further development of innovations aimed at transforming the global capital market involves the adoption of appropriate regulation and strengthening of partnerships in the digital Finance ecosystem, which includes the public sector, regulators, Fintech companies, banks and other financial organizations.

How people respond to the challenges and opportunities that global digitalization trends bring will determine the specifics of the *glolbal labor market* of the future. For example, an important socio-economic direction of digitalization is the formation of a market for local Internet content and applications in native languages based on Internet platforms. The development of local digital content entails the creation of opportunities for the development of a dynamic domestic content and application industry and to meet the needs of the population in their native language, which is especially important for emerging markets. This trend is accompanied by changes in the structure of employment in connection with the creation of new professions that meet the new requirements of society.

One of the answers to the challenges of digital transformation is the resulting changes in the employment structure as a result of the development of new creative professions and businesses in the creative industries. Creative industries have a great influence on improving the efficiency of human capital. Any investment in the creation, protection, management and commercialization of creative content leads to the improvement of skills and knowledge of people who participated in the process of creating an intellectual property object. It is important to ensure the growth of the share of employment in the creative sector of the economy and to create innovative jobs for educated creative youth. The technological basis of creative industries should fulfill the task of effective monetization of intellectual property, which implies the ability to earn either by protecting or by selling intellectual property rights.

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