

MANAGING THE DIGITALIZATION STRATEGY IN DEVELOPED AND INDUSTRIAL COUNTRIES

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ABSTRACT

Digitalization is one of the key trends in the global economy. At the same time, the importance of monitoring the dynamics of digitalization processes and the degree of its impact on well-being is of paramount importance for all countries involved in the global community. Currently, there are almost no studies that comprehensively assess the institutional, cultural, economic, educational, and infrastructural consequences of digitalization. The paper attempts to assess the impact of digitalization on these drivers of socio-economic development and on well-being in a group of developed and industrial countries. The relevance of determining the effects of the rapid introduction of digitalization in developed and industrial countries predetermined the purpose of the study. The research methodology is based on the construction of a balanced panel regression. The key metric of digitalization is the index of digital evolution of 50 countries for 2010, 2015, 2020. The obtained simulation results demonstrate the positive impact of digitalization on well-being in developed countries, while no impact was found in the group of industrial countries. This is due to the high level of inclusiveness of digital services, the high level of investment by the state and business, and the high level of digital trust and literacy in developed countries. At the same time, in the group of industrial countries, the lack of positive effects of the introduction of digitalization is due to the low degree of state involvement and the insufficiently flexible institutional environment. The results of the study confirm the effectiveness of digital projects by international organizations such as McKinsey and the World Bank, which demonstrate the lack of influence of business corporations. The study reveals that institutional factors and state activities have a direct impact on the implementation of digital projects. The obtained empirical results can be used to form tools for managing the digitalization strategy for regions with different levels of development of the social, economic, institutional and digital environment.

Keywords: Digitalization of the economy; Digital evolution index; E-government development index; Digital trust level; Digital literacy; Developed countries; Industrial countries.

INTRODUCTION

Digitalization of the global economy has entered an active phase of implementation at the country level in the last 10-15 years. One of the practice-oriented illustrations is the active implementation of the concepts of the "third industrial revolution", "Industry 4.0" and other approaches to integration into government programs and business strategies. Thus, the effects of the dynamics of the introduction of digitalization and its impact on socio-economic results and the well-being of society become a priority for all regions involved in global sustainable development. Having reached only 50% of the global market coverage by the Internet, the global digital economy has become a space of great opportunities (Danilova & Saraeva, 2020). Today, integration into the world of digital technologies determines the success of both business and consumer transactions. According to the results of the McKinsey study, digital data currently has a greater impact on GDP growth than traditional trade in goods and services (Aptekman et al., 2020). Indeed, many countries have identified key priorities in their development strategies based on methods of increasing competitiveness through achieving a digital advantage in the global market. It is obvious that the openness of the digital market determines new rules of the game for all stakeholders of the global world, which is why innovation and trust play a crucial role in the digital development of the economy. Over the past 15 years, many works have been published on the assessment of the effects of digitalization in individual projects of states or industries, for example, the introduction of the Internet of Things in healthcare, the introduction of smart city systems in a group of countries. However, there are almost no studies that comprehensively assess the institutional, cultural, economic, educational, and infrastructural consequences of digitalization. The paper attempts to assess the impact of digitalization on these drivers of socio-economic development in a group of developed and industrial countries. The first part of the article formalizes modern approaches to the evolution of the digitalization of the world economy. The objects and factors of influence of the digital economy highlighted in the second part of the article became the basis for analyzing the implementation of digitalization in groups of developed and industrial countries. The third part assesses the socio-economic effects and contribution of digitalization to the sustainable development of the world economy.

LITERATURE REVIEW

Mirzadeh et al. (2017) focus on high technology quickly becoming a competitive advantage. Selected industries are considered to be key industrial sectors. Classifying the factors that influence these types of industries makes one more familiar with their performance and, therefore, takes action to improve them in knowledge-based companies. To achieve this goal, after reviewing studies conducted in selected industries using the field method and a questionnaire, this study investigates and classifies factors influencing the creation of these industries. However, the study does not fully capture the impact of digital technologies in developed and industrialized countries.

The study “The impact of digital leadership competencies on virtual team effectiveness in MNC companies in Penang, Malaysia” by Soon and Salamzadeh (2021) reflects the impact of digital leadership competencies on virtual team effectiveness in MNC companies in Penang, Malaysia. This study aims to investigate the factors that have a positive impact on the effectiveness of virtual teams, but does not include a balanced panel regression method.

Barykin et al. (2021) reveal that the concept of digitalization is based on the dominance of digital ecosystems and the widespread introduction of artificial intelligence systems, including physical distribution in retail chains. The introduction of the Internet of Things and artificial intelligence, as well as machine learning, allows for the implementation of digital twins. However, this study does not reflect the role of the state in the development of the digital policy.

The study by Fenech et al. (2019) is devoted to the role of human resource management in the digital age. This study does not consider the institutional, cultural, economic, and social changes in the state digital policy.

METHODOLOGY

The article uses a structural approach that assumes the need for a comprehensive economic transformation of the key areas of development of countries that ensure economic growth, social stability, as well as the growth of well-being in the country through the active participation of the main economic agents.

The development of the digital economy in the world is not uniform, this is partly due to the different levels of economic development. Most of the studies on the impact of the digitalization of the economy are devoted to its impact on economic growth. For example, Rosso studied the impact of digital transformation on GDP in the European Union, namely, the impact of investment in the ICT sector on economic growth and its key indicators: GDP, productivity and employment. The positive impact of investments in the high-tech sector on the level of GDP of the European Union countries is revealed (Rosso, 2020). In other research blocks, it was found that digitalization has a positive effect on GDP per capita, the level of employment and the growth of the level of employment of the population (Chakravorty & Chaturvedi, 2020). An important aspect of the impact of digitalization is the impact on health policy, innovation, and employment levels in the European Union. The impact of digitalization on the labor market is revealed, especially the need to meet the requirements of industry 4.0 for the skills obtained at the university. The impact on the innovation potential may also be negative due to the emergence of new business models, which require special skills to adapt to, while a positive impact on the overall health of the nation is justified (Michich, 2020). The authors of the analytical study Digital Planet report 2020 (Evangelista et al., 2020) argue that digitalization leads to globalization, in this regard, the achievement of digital advantages in the global digital arena can become a significant aspect for both states and business structures. The digitalization of the economy of countries, according to the proposed index, depends on four factors, which are divided into 12 components and 108 indicators, respectively (Table 1).

TABLE 1 STRUCTURE OF FACTORS OF DIGITAL ECONOMY DEVELOPMENT		
Factors	Components	Indicators
Level Offers	Infrastructure that ensures accessibility	Connectivity of system components Safety
	Transaction Infrastructure	Access to financial institutions Ability to make electronic payments
	Support infrastructure	Quality of transport infrastructure Logistics operations
Conditions for demand	Opportunities for consumer engagement	Propensity to consume
	Digital payments	The level of inclusion of financial institutions
	The pace of digital technology adoption	Extensive use of devices The relationship between technology, the Internet, and mobile communications The level of consumption of digital services
Institutional environment	Environment for institutions and businesses	The effectiveness of legal measures aimed at resolving disputes in the field of technology, as well as the protection of intellectual property rights and investments Level of bureaucracy
	Institutions and digital ecosystems	The level of state use of information technologies and digital technologies The level of competition among telecommunications companies
	Institutional effectiveness and trust	Level of openness Quality of regulatory authorities
Innovative Climate	Attachments	Funding opportunities Investing in a startup Ability to attract and retain talent
	Process	Complications of the business practices process R&D Level
	Results	Depth of mobile engagement Getting innovation Using social networks

Compiled by the authors on Evangelista et al. (2020).

Based on the index, four groups of countries are identified according to the degree of digitalization of the economy: leaders, promising, slowing growth rates and problematic. We will choose the defining criteria for the socio-economic development of countries in accordance with the UN criteria: the level of development is determined by the indicators of economic development, the type of economic growth, the level and nature of foreign economic relations, the size of the country's economic potential. Based on the analysis of the literature, the regression analysis method was chosen to assess the impact of the digitalization of the economy on well-being. For the study, a sample observation was used for groups of countries for 2010, 2015, and 2020. This period is explained by the frequency of calculation of the digital evolution index by the Fletcher School and the Master Card company. The number of observations for 3 years was 150 observations for each regressor and the resulting regression indicator. The sample of countries is represented by 50 countries, according to the impact on the rate of digitalization, calculated on the basis of the digital evolution index. The sample includes 9 leading countries, 14

countries that slow down the pace of digitalization, 14 problem countries, and 13 promising countries (Table 2).

TABLE 2 SAMPLE OF COUNTRIES TO CONDUCT THE STUDY				
Country groups	Leaders	Perspective	Slowing	Problem countries
Developed	Estonia Hong Kong Israel Japan Holland New Zealand Singapore Great Britain	Portugal	South Korea Australia Austria Belgium Canada Denmark Finland France Germany Irish Italy Norway Sweden Switzerland USA	Czech Greece Hungary Poland Slovakia Slovenia Spain
Industrial countries	United Arab Emirates	Brazil China Colombia India Indonesia Malaysia Mexico Philippines Russia Saudi Arabia Turkey	-	Chile Egypt Kenya Nigeria SOUTH AFRICA Thailand

Compiled by the authors on Evangelista et al. (2020).

The following hypotheses were put forward in the study:

H1: Digitalization of the economy in the framework of a structural approach has a positive impact on the well-being of countries as a whole;

H2: digitalization of the economy in the framework of a structural approach has a positive impact on the well-being of developed countries;

H3: Digitalization of the economy in the framework of a structural approach has a positive impact on the well-being of industrial countries.

The IEG (Human Development Index) is chosen as a dependent variable that measures well-being, since it is a combined indicator that characterizes human development in countries and regions of the world within the framework of the United Nations Development Program (Buhr et al., 2020). In the framework of the World Economic Forum in recent years, it is also often called the standard of living index, since this indicator really largely demonstrates the

quality of life and opportunities of citizens. The advantages of using the indicator include its complexity, scale, and data availability (Veklich & Danilishin, 2020). Based on the already published approaches to research on the impact on well-being, regressors related to the digitalization of the economy and reflecting the degree of introduction of digital technologies in the economy of countries are selected within the framework of the structural approach described in the first part of the article. The control variables are government spending on education (% of total government spending) and government spending on health (% of GDP). The following variables are selected as the studied variables:

- Digital evolution index-consists of four main areas: the level of supply, consumer demand for digital services, the institutional environment, and the investment climate (Remchenko, 2014);
- E-government development index-consists of three sub-indexes that characterize the state of ICT infrastructure, human capital, and online public services (Ministry of Digital Development, Communications and Mass Media in the Russian Federation, 2020);
- The corruption perception index is a composite index based on data from 17 different surveys and studies conducted by 13 independent organizations among entrepreneurs and local analysts, including surveys of residents of a given country, both its citizens and foreigners (Tukanov, 2020). The corruption index is dependent on digitalization due to the fact that the introduction of digital elements increases transparency and accessibility of services, respectively, in countries where the corruption perception index is lower, there are fewer obstacles to transparency and a higher level of digitalization. At the same time, thanks to digitalization, corruption is transformed into new evolutionary forms, such as electronic banking-phishing, replacement of electronic documents, cybercrime, and much more;
- Digital technology index (calculated as the average between the number of Internet users in the country (%of the population) and the number of mobile cellular subscribers (per 100 people).

As an information and empirical base of the research, articles by leading economists of Russian and foreign practice, reports of international organizations, and regulatory legal acts were used. The most significant of them: the report " Digital Planet 2020. How competitiveness and the level of digital trust vary in the world "from the Fletcher School and the Mastercard payment system, the World Development Report 2020 "Digital Dividends" from the World Bank Group; e-government study 2020 from the United Nations, the program for the development of the digital economy of Russia until 2035, the report on the measurement of the digital economy 2020 from the IMF, the report on the information economy 2020: digitalization, trade and development from UNCTAD. Data collection for the study was made using statistics from the World Bank, the United Nations Development Program: Human development reports, reports of the Ministry of Digital Development, Communications and Mass Media of the Russian Federation, the United Nations Development Program: E-government survey, reports of Mastercard Worldwide, reports of Transparency International (Remchenko, 2014; Ministry of

Digital Development, Communications and Mass Media in the Russian Federation, 2020; Tukanov, 2020). Let's enter the parameters of the variables for modeling in Table 3.

TABLE 3 SELECTING VARIABLES IN THE STUDY	
Name	Indicator
IEG	Human Development Index
JDU	Digital Technology Index
FH	E-Government Development Index
EFG	Digital Evolution Index
DPSS	Corruption Perception Index
HFF	Government spending on education
HFI	Government spending on health care

In the light of the use of different methods of measuring the digitalization of the economy, represented by the indices, we will construct two models, each of which will select one of the metrics of digitalization: the index of digital evolution and the index of digital technologies. The presented indices, calculated by international organizations, include composite variables. Despite the risk of limitations of the study, the tests conducted to verify the validity of the model did not reveal the problem of multicollinearity, which allowed us to judge the applicability of the method and a sufficient level of verification. In model No. 1, the digital evolution index serves as the main indicator for measuring the digitalization of the economy:

$$IEG_{i,t} = \beta_{i,t} + EFG_{i,t} + FH_{i,t} + HFF_{i,t} + HFI_{i,t} + \varphi_{i,t} \quad (1)$$

In model No. 2, the digital technologies index serves as the main indicator for measuring the digitalization of the economy:

$$IEG_{i,t} = \beta_{i,t} + GDU_{i,t} + FH_{i,t} + HFF_{i,t} + HFI_{i,t} + DPSS_{i,t} + \varphi_{i,t} \quad (2)$$

In the process of analyzing models №1 and №2, a simple panel regression, a regression with fixed effects, and a regression with random effects are constructed. The results of the regressions are presented in Tables 4 and 5.

TABLE 4 REGRESSION ANALYSIS RESULTS FOR MODEL №1			
	POLS	FE	RE
Variables	IEG	IEG	IEG
EFG	0.00116* (0.00062)	0.000907*** (0.00026)	0.00125*** (0.00033)
FH	0.519*** (0.0537)	0.118*** (0.0276)	0.206*** (0.0337)

HFF	-0.0188*** (0.00402)	0.00478 (0.00303)	-0.00599* (0.00341)
HFI	0.00752*** (0.00243)	0.00525** (0.00214)	0.0105*** (0.00230)
Constant	0.473*** (0.0272)	0.654*** (0.0162)	0.606*** (0.0204)
Observations	100	100	100
R-squared	0.874	0.753	0.806
Quantity Countries	50	50	50
	Breusch-Pagan = = 5.07(0.024); VIF = 3.19	H-Stat: 42.50(0.00)	

TABLE 5
REGRESSION ANALYSIS RESULTS FOR MODEL №2

	POLS	FE	RE
Variables	IEG	IEG	IEG
GDU	0.001** (0.00024)	0.001** (0.000093)	0.001** (0.000128)
FH	0.414** (0.040762)	0.059** (0.021894)	0.130** (0.028926)
HFF	-0.018** (0.003415)	0.002 (0.002218)	-0.005 (0.002837)
HFI	0.006* (0.002174)	0.005** (0.0015801)	0.008*** (0.00193)
DPSS	0.001** (0.0002403)	-0.0000 (0.00047)	0.002** (0.000308)
Constant	0.447** (0.0215631)	0.693*** (0.0312)	0.551*** (0.02157)
Observations	100	100	100
R-squared	0.912	0.87	0.812
Quantity Countries	50	50	50
	Breusch-Pagan = = 3.15(0.076); VIF = 2.47	H-Stat: 49.73(0.00)	

In accordance with the Hausman test, we choose a model with random effects. The explanatory power of the models is 80.6 and 81.2 %, respectively, which is a high indicator and indicates the correct choice of regressors.

Modern approaches to the evolution of the digitalization of the world economy

The history of the development of digitalization is heterogeneous, its formation depends on the level of integration of innovations in groups of countries. Researchers at the Columbia Business Institute identify three stages of digital evolution (Table 6).

Stage 1 (80s of the 20th century)	Stage 2 (1994-2002)	Stage 3 (2004-2020)
<ul style="list-style-type: none"> • The emergence and popularization of the Internet • Development of telecommunications technologies and means of communication 	<ul style="list-style-type: none"> • Development of online stores • Development of Internet banking • Cloud Computing • Separation of the virtual economy from the real sector 	<ul style="list-style-type: none"> • Internet of Things • Robotics • Additive technologies • The emergence of virtual money • Digitalization of real sector processes

Compiled according to Kats (2019).

In turn, according to the results of a large-scale study, the Boston Consulting Group formalized the digital evolution in the world in terms of accessibility to the use of applied features of the Internet (Figure 1).



FIGURE 1

STAGES OF DIGITAL EVOLUTION IN THE WORLD (COMPILED ACCORDING TO Bank et al., 2020)

In accordance with the proposed logic, the development of society is on the threshold of the fourth digital evolution, which is based on connecting not only people to the Internet, but also mechanisms, complex devices, as well as integrating business processes with artificial intelligence. Despite the tight integration into the life of modern society, the theoretical foundations of the digital economy are still rather poorly formalized in academic research and interstate documentation. Currently, there are several approaches to the essence of the digital economy in the scientific literature. The so-called "classical approach" states that the digital economy is an economy based on digital technologies, and it is more correct to characterize only the field of electronic goods and services (Bondarenko, 2020). "The digital economy is an economy based on new methods of generating, processing, storing and transmitting data, as well as digital computer technologies" (Bondarenko, 2020). The "extended approach" defines the relationship between the digital economy and digitalization, in this aspect, the "digital economy" is economic production using digital technologies (Bondarenko, 2020). The digital economy is an economy that is based on a qualitatively new type of information and telecommunications technologies that cover and transform all spheres of modern industrial and social life

(Bondarenko, 2020). At the same time, there is an alternative approach that considers digitalization as a system of interaction between people and technologies. Thus, Bondarenko (2020) notes that "this is a holistic, systemic, complex problem of finding the model of relations between people that is compatible with the technologies of the fourth industrial revolution and in its formation, development and implementation should ensure the achievement of an objectively set goal". "Digitalization is the way in which aspects of a person's life are subject to change and adaptation in accordance with the devices of digital communication and media infrastructure (Bondarenko, 2020). "Digitalization is the use of digital technologies to change the business model and create an environment for the production of products with increased value for the consumer and the company (Archenko, 2017). Major international organizations have also contributed to understanding the functioning and clarifying the framework boundaries of the digital economy. The digital economy is an economy that allows the functioning and provision of trade in goods and services via the Internet (Organization for Economic Cooperation and Development, 2013). Digital economy - interconnected platforms that allow using a huge number of ways to reach the end user, as well as creating difficulties in excluding certain players (competitors) (European Parliament, 2015). Digital economy - economic activities based on the use of digital knowledge for the production of modern information, using information as a driver for productivity growth and economic structural optimization (G20, "Program for Development and Cooperation in the Digital Economy", 2020). Digital economy - economic activity in which the key factor of production is data in digital form, processing large volumes and using the results of analysis to improve production efficiency (Government of the Russian Federation, 2020) (Archenko, 2017). Based on the study of Russian and foreign literature, we have identified four key approaches to the definition of the phenomenon of digitalization (Table 7).

TABLE 7 APPROACHES TO DEFINING THE DIGITAL ECONOMY	
Approach	Defining the approach
Resource-based approach	The resource approach is based on the technological aspect, namely, the technologies needed to ensure the functioning of the digital economy
Procedural approach	An approach based on the need to use information technology to facilitate transactions on the Internet
Structural approach	Economic transformation based on the introduction of new information structures for the digitalization of the economy
The "Business Model" approach»	An approach at the intersection of structural and procedural approaches, based on the introduction and application of new business models, mainly online trading and or online business

Compiled by the authors on Bukht & Hicks (2017).

Only through a comprehensive transformation can we achieve a greater effect, a deeper and more comprehensive involvement in the process of digitalization of all major economic

agents. The objects of influence of digitalization can also be divided into four levels. The first level is software and hardware, telecommunications (Shpurov, 2016). The second level is digital services and platform economy (transactional platforms-Amazon, Uber, Alibaba, Airbnb, innovative platforms-Windows, Android, Salesforce) (Spiridonov, 2017). The third level includes the business areas of the sharing economy and gignomics. On the fourth level, there are digital integrated business areas - Industry 4.0 sectors, as well as the economics of algorithms for processing streaming data. The spheres and directions are shown in Figure 2.

Thus, we can conclude that the influence of the digital economy has gone far beyond the scope of traditional technological industries, and, therefore, hypothetically, the digital economy can affect almost all spheres of society, depending on the degree of its development in a particular country of the world (Zakurdaeva, 2020). In addition to direct involvement in the transformation of objects and spheres of the world economy, digitalization directly affects the state, society and business. Let us turn to the World Development Report 2020, created by the World Bank Group, on "digital dividends", which states that in order to strengthen the foundation of digitalization, it is necessary to focus on three key components: integration, efficiency and innovation. The effect of the indicated components on the agents is presented in Table 8.

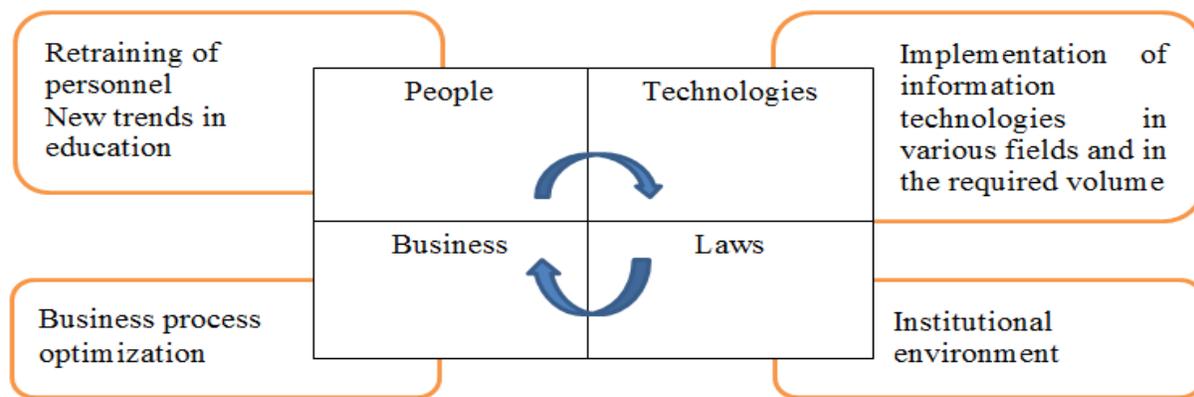


FIGURE 2

SPHERES OF ECONOMIC TRANSFORMATION

Source: Klimova, 2020

TABLE 8			
THE IMPACT OF DIGITAL TECHNOLOGIES ON ECONOMIC AGENTS			
Agent	Integration	Efficiency	Innovation
Companies	Trade	Use of capital	Competition
Population	Employment opportunities	Labor productivity	Consumer welfare
State	Participation	Public sector development potential	Voting rights

The main digital agents are the state, business and society. Table 8 shows the impact of digital technologies on agents. So, in particular, through the introduction of digital technologies, the efficiency of business processes is increased (the use of modern analytical programs helps to manage capital more efficiently, financial and technical reporting is automated, online documentation is maintained, quality monitoring, etc.). for the society, technologies allow to increase labor productivity, for example, by participating in the sharing economy and the possibility of remote work, for the state, digital technologies have the potential to increase the efficiency of routine processes and increase the involvement of the population. The innovative potential inherent in digital services can lead to increased competition among companies operating in the field of E-commerce, thus, it has a positive impact on the well-being of consumers; in turn, the use of an electronic voting system can attract more people and thus make the election system more transparent. The integration of digital services in many business areas both helps the company to expand its presence in local markets, and contributes to easier access to new interregional and international markets. Thus, the beneficiaries of the introduction of the digital economy become the economic agents of its implementation.

INTERPRETING MODEL RESULTS

The e-government development index in the two models has the greatest impact, which confirms the importance of government initiatives and intervention in the regulation of digitalization processes. The need to create an effective and transparent institutional environment is a key factor for improving living standards through the digitalization of the economy. The indices of digital evolution and digital technologies, taken as key indicators for measuring the structural digitalization of the economy, showed significance at the level of 95 and 99 %, but their impact was almost insignificant. The results obtained correlate with studies of the real effects of digitalization in the business environment at the present time. Digitalization is a growing trend in the theory and practice of management, but the practical power of its influence on current metrics of economic development is rather the result of the future period. An interesting result is the negative impact of spending on education, which is related to the investment nature of such spending. Thus, the results of our research demonstrate a U-shaped model of implementing the digital knowledge economy. Hypothesis 1 (H1) was confirmed: digitalization has a positive impact on well-being, expressed in terms of the human development index. The results of the assessment of the impact of digitalization on groups of countries revealed a positive impact on well - being in developed countries (H2): the main indicators reflecting digitalization are significant at the level of 1%, and positively affect the human development index (IEG) in countries, while the explanatory power of the model remains quite high 70.61 %.

The corruption perception index in the second model is significant, but its impact is too small, and therefore the index is excluded from the first model. It should be noted that the digitalization of the economy in industrial countries has no impact on well-being, the hypothesis (H3) is not confirmed: digitalization, measured by the EFG variable, has no significance and, accordingly, does not affect the IEG. At the same time, the explanatory power of the model is low - 36.55%. The only significant component in the model is the FH (e-Government Development Index).

In the course of the study, interesting results were obtained. Thus, the greatest impact on well-being was demonstrated by the e-government development index, in model No. 1, with an increase in FH by 1, IEG grew by 0.306 and by 0.13 in model No. 2, respectively. The indices of digital evolution and digital technologies, taken as key indicators of digitalization, showed significance at the level of 95 and 99 %, but their impact was small. With EFG growing by 1, IEG growing by 0.001, ICT showed a similar effect. It can be concluded that the key factor in the development of digitalization and its subsequent impact on the well-being in the aggregate of developed and industrial countries is the development of the institutional environment.

In the group of developed countries, the e-government development index has the greatest impact. The best cases of a group of developed countries illustrate the need to increase the level of digital literacy of the population and the level of state involvement in the process of digitalization to improve well-being. In the group of industrial countries, to significantly influence the effects of digital development, it is necessary to develop appropriate infrastructure, wide access to the Internet connection, a strategy for working with big data, as well as ensuring data security. In the context of ensuring such tactical steps, the digitalization of the economy can lead to the expansion of state potential, to the effective use of capital and the creation of conditions for healthy competition for companies, to the growth of consumer welfare.

DISCUSSION OF THE RESULTS AND DIRECTIONS FOR FURTHER RESEARCH

The effects of digitalization on the socio-economic development of groups of countries are heterogeneous and require further clarification within the framework of the results obtained. The results obtained by us correlate with the results of studies of scientists who studied the effects of digitalization in European countries (Buhr et al., 2020; Chakravorty & Chaturvedi, 2020; Veklich & Danilishin, 2020). For a group of developed countries (Western European countries, North American countries, developed Asian countries), it is fair to note that the main components of the digital evolution index are already sufficiently developed and, within the framework of the structural approach, have positive effects on the well-being of countries (United Nations Development Programme, 2020). For example, the action plan "Entrepreneurship 2020" has been implemented in Europe. The European Commission encourages the use of the opportunities offered by the digital revolution, encouraging innovative transformations of existing businesses and supporting digital enterprises in Europe (Apalkova, 2020). The European Commission also proposes to create the first Digital Europe program in the period 2021-2027, in which 9.2 billion euros will be invested to strengthen the positions of the countries of this region in such advanced areas as supercomputers, artificial intelligence, cybersecurity and e-government.

In Germany, the level of digitalization has reached a high level: more than 60% of purchases are made through online services, more than 80 % of bookings are also made via the Internet (Thorsten, 2014). In turn, in the United States, there are government programs: "Digital Attache", which aims to provide assistance and support to US enterprises, which allows them to successfully solve digital policy issues and problems in foreign digital markets, and also contributes to increasing exports of products through global e-commerce channels; the "Privacy Shield" initiative between the EU and the United States (Gladkov, 2016). In developed Asia, in

particular Singapore, the impact of digitalization contributes to the development of digitalization as much as possible, most of the initiatives have been adopted at the state level:

- Support for the "Singapore of the Future" initiative. Developing and attempting to apply and test new solutions in education, healthcare, and the public sector;
- The Smart Nation program, aimed at solving health, housing, and transportation network problems;
- The Jules program, aimed at teaching children the basics of digital literacy;
- The Virtual Singapore program, which is the collection of data and the creation of a single ecosystem in the city (Bloomberg, 2018).

Existing initiatives and existing programs in the group of developed countries allow us to identify factors that influence socio-economic development, namely, a high level of inclusiveness of digital services, a sufficient level of investment, a sufficiently high level of digital literacy, a high level of state involvement in the development of initiatives and programs (the state creates a regulatory framework that promotes the development of digitalization of sectors, conducts pilot testing of programs, and then business scales initiatives and contributes to their maintenance). In the group of industrial countries, according to the results of the study, the impact of digitalization on well-being was not revealed. The reasons for the low efficiency are also confirmed in the report of the Organization for Economic Cooperation and Development:

- Lack of a well-developed infrastructure that should support the development of digitalization;
- Low level of Internet coverage and insufficient Internet connection speed;
- Low level of big data processing;
- Insufficient level of data transparency and security;
- Insufficient degree of digital literacy among the population, as well as a low level of digital competence among specialists;
- Insufficient degree of reliability and applicability of the current regulatory framework to attract business structures and create flexible, innovative business models (Dahlman et al., 2016).

CONCLUSION

The obtained empirical results can be used to form tools for managing digitalization strategies for regions with different levels of development of the social, economic, institutional, and digital environments.

The results of the presented study confirm the previous measurements of the effectiveness of digital projects by international organizations, for example, McKinsey, the World Bank (Aptekman et al., 2020; Remchenko, 2014; World Bank Group, 2016). The study revealed that institutional factors and government activities influence the implementation of digital projects. The results of the study for a group of industrial countries show that the e-government development index is a significant factor. As part of the strategy for the development of digitalization, the following measures are needed to improve well-being:

- Creating the necessary institutional conditions for business;

- Investing in the development and provision of information technologies for various industries that may be subject to digitalization;
- Initiating educational programs to improve the digital literacy of the population.

The results obtained for a group of developed countries are a prerequisite for the formation of a base of best practices that demonstrates the empirical effects of the impact of digitalization of the institutional environment, the conditions for the development of the educational and telecommunications system on well-being.

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