

## 1. Introduction

The relevance of the research topic is that we live in a deep transition to digital development of society, which requires innovative approaches to its implementation and radical innovative changes in society, which occur under the influence of the Fourth Industrial Revolution. The modern paradigm of digital management is based on the theory of complex systems, based on AGILE-methodology and AGILE-philosophy, which is also called agile methodology (agile software development, agile – proven, flexible), which represent the methodology of complexity, used to the analysis of complex management systems.

The research was conducted using the information study method, introduced by M. Castells in 2000, according to which the technological revolution leads to the prosperity of the network society and the strengthening of the information economy, which contributes to the birth of a network enterprise, which in turn leads to labor transformation and employment. An example is Silicon Valley (Santa Clara County, 30 miles south from San Francisco, between Stanford and San Jose), where an innovative environment was created by concentrating new technological knowledge, which led to a gathering of highly skilled engineers and scientists from major universities in the region and with funding from the Department of Defense, where Stanford University was the institutional leader in the early stages, around which organizations and institutions were grouped, which formed a new socio-technological

by the information study method. We also use general philosophical methods for the research – analysis and synthesis, comparison, abstraction, generalization, induction, deduction, analogy, modeling, formalization. The methodology of the new flexible control acted as a condition for overcoming chaos, entropy, uncertainty, bifurcations and the search for a new attractor (point of attraction) in a complex digital world. The cross-cultural method is also used for comparative analysis of the develop-

## DIGITAL PARADIGM OF ECONOMY AND MANAGEMENT IN THE CONDITIONS OF GLOBAL HUMAN TRANSFORMATION

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**Abstract:** Modern paradigm of society digitalization, based on the introduction of digital economy and management, on new information and computer technologies is considered. The example of the European Union and Morocco in the context of cross-cultural analysis shows how to form a similar paradigm in order to bring the country to the level of an advanced one. At the heart of the digital economy and digital management is the introduction of innovations in various sectors of national economy. The European Union has focused on four key areas: 1) skills; 2) infrastructure; 3) public services; 4) digitalization of business, which contributes to the digital revolution. By increasing their capacity, countries have been able to steer the digital transformation of the world for the better by expanding international technological cooperation. At the same time, three main principles should be followed: 1) equal “playing field” in digital markets; 2) security in cyberspace; 3) freedom online. The example

of a country for the development of digital technologies and logic has led to the current development of modern ICT and to the absence of a gap in the mentioned sector. In order to remain competitive in 10 years (as Morocco does), it is necessary to begin digital transformation today and change must affect not only the IT system, but also the people and leaders, their consciousness and culture, the formation of algorithmic thinking in the organization, for which the state should regulate this sector and develop the infrastructure of organizations and advanced innovative thinking.

**Keywords:** paradigm, AGILE-methodology, digital economy, digital management, global transformation, information and communication technologies, digitalization, Morocco.

ment of the digital paradigm of economy and management in the context of global transformation of mankind in the EU, Morocco and Ukraine. The modern digital management paradigm includes a set of different methods, techniques and generalizations of different approaches to software development of a high-level set of values based on the principles in the adopted “Flexible Software Development Manifesto” and able to analyze the complexity of systems, their purpose, place and role in modern society. These principles, methods and approaches can lead to changes at all stages of improvement of specific algorithms and flexible management tools in the context of process, product and business management, based on AGILE as a family of flexible approaches and AGILE as a philosophy and value system. AGILE-methodology and AGILE-philosophy originated in the IT environment and spread to many areas of activity, including the digital paradigm of economics and management, including Scrum – the approach of “structure” and Kanban – “approach of balance”, used in innovation organizations and contributed to the creation of an innovative product, increasing the share of digital products and services, as well as new forms of business based on digital technologies (digital economy) [1]. An important role in the study of this topic was played by the works of such scientists as R. Nelson, S. Winter, P. Murrell, B. Ikes, R. Reiterman, I. Schumpeter, D. Tapscott. We rely on the work of D. Tapscott “Electronic-digital society: the rise and cons of the era of net-

elligence” (1999), which is devoted to the prospects and problems of the new society, which are discussed in our study, based on the concepts of the Internet, demonstrating the most likely ways of economic development and society, which meant the economy, carried out by digital telecommunications [2]. According to J. Schumpeter, the innovation process determines the degree of economic progress [3].

Klaus Schwab, founder and executive chairman of the Economic Forum, believes that a global rethinking of values is realistic [4].

The purpose of the study is to conceptualize the digital paradigm of economics and management in the context of identifying new approaches and current research on global digitalization.

## 2. Methods

The research was conducted using the information study method, introduced by M. Castells in 2000 [5], according to which the technological revolution leads to the prosperity of the network society and the strengthening of the information economy, which contributes to the birth of a network enterprise, which in turn leads to labor transformation and employment. An example is Silicon Valley (Santa Clara County, 30 miles south from San Francisco, between Stanford and San Jose), where an innovative environment was created by concentrating new technological knowledge, which led to a gathering of highly skilled engineers and scientists from major universities in the region and with funding from the Department of Defense, where Stanford University was the institutional leader in the early stages, around which organizations and institutions were grouped, which formed a new socio-technological paradigm of society, determined by the information study method. We also use general philosophical methods for the research - analysis and synthesis, comparison, abstraction, generalization, induction, deduction, analogy, modeling, formalization [6]. The methodology of the new flexible control acted as a condition for overcoming chaos, entropy, uncertainty, bifurcations and the search for a new attractor (point of attraction) in a complex digital world. The cross-cultural method is also used for comparative analysis of the development of the digital paradigm of economy and management in the context of global transformation of mankind in the EU, Morocco and Ukraine.

## 3. Results

The paradigm is an ascending conceptual scheme, a model of problem statement and methods of their solution, which prevail during a certain historical period in the scientific community. The development of complex systems of digital economy in the framework of synergetics means unstable transitions, which result in the replacement of old products, technologies with new ones, which contributes to qualitative change of the system, resulting in self-reproduction, self-organization of the system. The digital economy as a paradigm of development of the modern world is an integral element of the innovation economy and serves as a tool for innovation in various sectors and segments of the national economy. Today we see the widespread use of the term "digital economy", which was introduced by D. Tapscott, based on "digital technologies" - new technologies that are revolutionizing the economy. The new decade is characterized by the rapid evolution of information and communication technologies, which expand the prospects for digitalization of all spheres of human life (Valentyna H. Voronkova et al., 2020). They are based on the introduction of a new generation of mobile Internet 5G, the use of faster Wi-Fi 6, the continuation of research in the field of artificial intelligence. Thus, the use of 5G technologies can increase the speed of information transmission tenfold. In the field of digitalization, the measure of innovative development in various sectors of the national economy plays a decisive role in the country's competitiveness. We analyze the paradigm of digital economy and management in the context of global transformation of society and on the example of Morocco we tried to show how information and communication technologies are used to bring the country to the level of advanced ones [7].

## 4. Discussion

The discussion on the problem of digitalization of society used the author's approaches to understanding this problem, the results of the study of the problem on the example of the EU and Morocco as a developing country, but achieved great success in ICT development and practical recommendations for their application. To do this, there were created and implemented the latest technology platforms in all economic areas, were improved the activities of technology parks, constantly increasing the number of R&D incubators, expanding information and communication areas, stimulating the work of scientific and technical startups [8, p. 256-263].

### 4.1. Cardinal directions of digitalization development in the countries of the European Union

The European Union has focused on four key areas:

- 1) skills;
- 2) infrastructure;
- 3) public services;
- 4) digitalization of business, which contributes to the digital revolution. At the same time, enterprises must have equal opportunities to engage in innovative activities and supply goods and services to consumers.

The Digital Europe concept, for which the European Commission has set aside € 9.2 billion in the 2021-2027 budget, will aim to increase the EU's competitiveness and provide citizens with all the skills and infrastructure to use the latest technologies. "Digital Europe" is part of a strategy to develop a digital single market, designed to create 4 million jobs to bring the EU economy 415 billion euro a year while increasing competitiveness (the EU is joining the Fourth Industrial Revolution) [9]. Digitalization in the EU must be the key to building new economic and social sustainability, as well as their global impact. By building up their capabilities, countries will be able to steer the digital transformation of the world for the better by expanding international technological cooperation. At the same time, three main principles should be followed:

- 1) equal "playing field" in digital markets;
- 2) security in cyberspace;
- 3) freedom online.

At the same time, we face the negative consequences of these processes, including: total control, cyber attacks on critical infrastructure, the spread of misinformation, the polarization of society, the undermining of democracy [10]. Therefore, it is necessary to strengthen bilateral relations with EU countries, set more stable standards, increase the resilience of digital production chains, form a global coalition around a common concept of human-oriented digitalization paradigm that will maximize technology benefits and minimize risks while protecting core global values. The digital paradigm of economics and management in the context of identifying new approaches to the introduction of information and communication technologies is a natural and logic process, and therefore inevitable. The basic direction of expanding the digital segment of the economy is the growth of the transaction sector (public administration, information services, consulting, finance, services) [11].

Introducing the digital economy and management paradigm on the example of Morocco as a developing country. The emergence of NICT (new information and communication technologies) has been perceived in Morocco from the earliest period as a wave that contributes to the development of digitalization. This awareness allowed the country not to miss the wave and to position itself at the regional and international levels. Morocco has chosen a scenario for the development of

digital technologies and this logic has “slowly but surely” led to the current development of NICT and to the absence of a gap in this sector. It was a great progress for the country. With the advent of the IPO as the main operator of Maroc Telecom, a “success story” began (Starzhinsky V. P., Tsepka, V. V., 2016). This new phase was launched following the green light, given by the Prime Minister of Morocco, Mr. Driss Jett, during the Board of Directors on November 8, 2004. The basic document identifies four strategic axes, which provided for the revision of Law 24–96, which regulates the sector, the adoption of a timetable for specific regulatory actions, the publication of a national frequency plan and the adoption of a “realistic schedule for sector liberalization.” Morocco has always been a regional leader in the liberalization of the telecommunications sector. In this context, we can cite various licenses, granted for the provision of satellite services, such as VSAT, GMPCS, trunk radio networks “3RP”, GSM. The introduction of competition in this market has created a new dynamic with frequent cycles of tariff reductions, many offers and loyalty programs. This has allowed the mobile market to experience a kind of development over the past five to ten years. The number of mobile subscribers has almost doubled every year, allowing Morocco to position itself as a regional leader. The next priority of fixed line liberalization was to stimulate projects with high added value, such as call centers, BPO (offshoring of business processes), e-commerce, e-government, e-education. To this end, the liberalization approach, adopted by the regulator, included double convergence (fixed/mobile and voice/data), while ensuring technological neutrality. To achieve this, it sought to create competition between the three operators, including existing operators, in all segments of the fixed and mobile markets. In early 2005, ANRT launched two new licenses for segments (local, long-distance, international). For mobile devices, the liberalization program launched 3G licenses in 2005, and the mobile phone license was implemented in 2007. The calendar for the introduction of telecommunications in Morocco was very busy in the following years. Adherence to this schedule depended on the viability of the sector's strategy and the structural foundations of its future development [12].

#### 4. 2. Modern development of digitalization in Morocco

Morocco is currently in the transition from the paper to the digital age in the direction of using digital technologies to solve the problems of digitalization. The Agency for Digital Development (ADD) was established in 2017, as a result of which the digital transformation could take Morocco's economy to new heights. Morocco is increasingly entering the “digital channel”, developing its strengths. In February 2021 Morocco put into operation the most powerful supercomputer in Africa (African Supercomputing Center), which provides high security, maximum availability, high flexibility and the optimal link for the efficient functioning of the national digital ecosystem to ensure the Kingdom's digital sovereignty and the development of digital services. Morocco's supercomputer, developed in partnership with the University of Cambridge, ranks 98<sup>th</sup> among the world's most

powerful computers places in the world and ranked first in Africa in terms of computing power. Today, information and communication technology is expanding in Morocco, and young people in Morocco are using digital technology to address the challenges, posed by COVID-19. In Morocco, the Wiqayna6 application has been developed, which allows tracking the movement of people and the spread of infections. Nexans has started a project to develop new production facilities in Morocco, focused on the development of telecommunications systems. It will produce equipment, used to connect fiber-optic cables for FTTH (home fiber-optic), 5G, data centers and local area networks (LANs). The opening of Interface Maroc will allow the Nexans group of companies to increase their production capacity and expand the range of products and services. This, in turn, will improve the quality of service, as new opportunities appear to optimize supply chains, pre-connect components and organize connections and serve both the European market and the North African market, affected by the Fourth Industrial Revolution [8].

#### 5. Conclusions

The most important thing in digital transformation is a fundamental change in stereotypes of thinking, methods of work and management of the organization, which meets the goals and objectives of the digital paradigm of economics and management in the context of identifying new approaches and current research on global digitalization. As practice shows, the main emphasis in the implementation of the digital paradigm of economics and management should be on the implementation of business processes, which will allow organizations to compete effectively with competitors in an increasingly “digital” world; to transform the structure and restructure the organization as a whole to successfully adapt to the new digital environment; to overcome the gravitational force of traditional approaches to the organization of business processes and fully realize the potential of modern digital technologies.

Practical recommendations for improving digital transformations:

- 1) reorganization of business models;
- 2) building a digital business architecture of the organization;
- 3) creation of digital organizational structures that allow to develop and scale digitalization processes.

Definitely digital companies need to build a system of partnership with companies, in which digitalization is at different levels of implementation. In order to remain competitive in 10 years (as Morocco does), it is necessary to start the digital transformation today and the changes must affect not only the IT system, but also the people and leaders, their consciousness and culture, the formation of algorithmic thinking and algorithmic organization.

Prospects for further development of research - the study of foreign experience in the implementation of digitalization and identify problems of digitalization in certain countries in order to implement the concept of digitalization.

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