

Modern Trends in Mediatisation of Culture in a Digital Society

Dana O. Baigozhina*, Elmira E. Ibrayeva, Serikzat M. Duisengazy, Serik Sh. Takhan and Akniyet P. Zhanysbayeva

Faculty of Journalism and Political Science, L.N. Gumilyov Eurasian National University, Nur-Sultan, Republic of Kazakhstan

Abstract: The establishment of a new dominant technological order is caused by the growth dynamics of the digital media space – an important component of the global media space, the development of which is a natural stage in the era of electronic communications. The media space is a sophisticated self-organising system and is a part, a subsystem of the information and communication universe as a set of all systems, one way or another related to communication processes. The novelty of the study is determined by the postulate that the media space constitutes a component of the global space of social life of people, generates and organises the production and consumption of information in various forms of social communication; this is a special reality. The authors show that its development is facilitated by the growth of the variety of communication technologies that accompanied the historical and cultural development of society. The paper shows that the media space is described by several components that determine social life: the technosphere built on information and communication technology; an infosphere based on information network highways; socio-infosphere, which includes information flows and organised structures that control the processes of their creation and consumption and affect the state of social intelligence. The practical significance of the study is that the media space is not only a retransmitter of information, but also its producer, in connection with which it acts as a complex, global system that contains all socio-cultural components capable of developing information prerequisites and requests and catering to the information needs by all possible communication means.

Keywords: Media space, social communications, Internet, digital culture, virtualisation.

INTRODUCTION

The media space is at the stage of development, the accumulation of facts, the substantiation of the conditions for development, the definition of mediatisation technologies, etc. The study of the related transformation processes in society gives rise to a considerable range of questions and attracts the close attention of many researchers. The combination of technological, media, and social issues, first of all, requires an assessment of the current state of phenomena and fundamental transformations in the social and communicative sphere of society caused by technological changes. The starting point of this study is the investigation of a multimedia and multi-platform digital media space – a component of the global media space that is currently most contributing to the development of the latter (Datta *et al.* 2020). The architectonics of the digital media space has currently acquired a rather complex composition that meets the modern technical and technological basis, the information and communication needs of participants in the information society, the level of implementation of communication relations in society (Rochman *et al.* 2020). The digital media space is based on digital means of production, distribution, and exchange of information, as well as information itself (Dunn 2020).

The digital environment concentrates the entire continuum of computer, network technologies, and Internet resources (Ruhlandt *et al.* 2020).

The main trends in the development of the digital media space are the expansion of telecommunications infrastructure, the progress of computer technologies and computer modeling, the evolution of network technologies: the development of the Internet of Things, "bodynet", the emergence of virtual and augmented reality technologies, the improvement of mobile technologies, the segment of intelligent mobile applications, development of SMART technologies, the use of expert systems, cognitive computing, cloud technologies and distributed computing, supercomputing in complex socio-technical systems, Big Data technologies (Frank 2020). In scale, scope, and complexity, the digital media space is fundamentally different from anything that humanity has dealt with before. Nowadays, the world is at the dawn of the fourth industrial revolution driven by digital transformation (Cimini 2020). Its development is undoubtedly natural. The first industrial revolution used water and steam power to mechanise production; the second – used electricity for the creation and development of mass production; the third – exploited electronics and information technology to automate it (Riddle and Mackay 2020). At present, the fourth industrial revolution marked a shift towards new systems that combine digital, biological, and physical technologies in powerful new combinations (Jiang

*Address correspondence to this author at the L.N. Gumilyov Eurasian National University, Nur-Sultan, Republic of Kazakhstan; Tel: +77172709500; E-mail: dana.baig@murdoch.in

2020). Compared to previous revolutions, the fourth one is developing exponentially, rather than at a linear rate (Larionova 2020). It blurs the boundaries between social and technical and technological spheres, makes changes in the activities of almost every industry, in every country. The breadth and depth of these changes indicate a radical transformation of entire systems of production, management, and power.

The socio-communicative processes taking place in the digital age have the properties envisaged by the researchers of the previous century. Life has confirmed the fears of scientists – sociologists, analysts, futurists – that the global preferences of the information society are complemented by complex consequences caused by the new dominant technological order. Thus, at the end of the 20th century, E. Toffler (1980) stated the following: “The deep deployment of the potential of technology, being impressive in its consequences, affects all aspects of social life. It is not only the content of labour that changes, its productivity is growing tens, hundreds of times.

Substantial transformations are taking place in the entire structure of culture and modern civilisation. The microelectronic revolution is increasing the potential of human intelligence. Technological innovations affect the social structure of society. In essence, a new civilisational order is being born, in which the sphere of work, management, and leisure will fundamentally differ. Humanity is moving towards a new technological revolution, that is, the first wave (agrarian civilisation) and the second (industrial civilisation) are replaced by a new one, leading to the creation of a super-industrial civilisation.” The information age, generated by computer and communication technology, will demonstrate the power of social change potent enough to transform society into a fundamentally new type – the information society. The main manifestation of the information and computer revolution will be the development of networks of cognitive information, communications, with the help of which it is possible to ensure the involvement of each person in cognitive processes and practical activities.

ANALYSIS OF GLOBAL DEVELOPMENT TRENDS IN THE DIGITAL MEDIA SPACE

Digital technologies play a decisive role in the new evolutionary picture of the world, where information serves as an engine of social and technical progress and becomes an objective characteristic of material systems and their interactions (Das and Hodkinson

2020). Further progress of electronic and communication technologies, miniaturisation of devices, increase in the speed of transfer of large amounts of data provides many opportunities in information and communication processes and goes beyond their consideration as purely technical means of communication and implementation of communication interaction (Al-Zahrani and Fakieh 2020). Importantly, digital technologies are neutral, they are not transformative in nature, however, recent studies show that the main mechanisms by which they become a driving force of transformation, a locomotive of economic, technological, and social development, is to strengthen integration, increase efficiency and introduce innovations in all sectors and industries of human activity (Gambino 2020). The digital revolution is changing the nature of innovation, which is currently more based on digital technologies, new management and business models (Astakhova 2020).

The scientific community, international organisations such as the International Telecommunication Union (ITU), the International Bank for Reconstruction and Development (IBRD), UNESCO, the United Nations, state that digital technologies have a high integrating and synergistic effect in relation to not only the technological, but also the social component of modern culture (Zhao 2020). The rapid spread of digital technologies to all spheres of society's activity means that their benefits are applied on a large scale, and the indirect impact on society is almost impossible to evaluate, but the deployment of the digital media space contributes to the following (Ivushkina *et al.* 2020):

- development of an incremental system of electronic communications of society;
- discovery of innovative opportunities for the development, implementation of new and integration of individual clusters of technologies: nanotechnology, biotechnology (genetic engineering and regenerative medicine), robotics, new materials with pre-designed properties, 3D printing, new information technologies;
- rapid development of new scientific directions, the creation of new methods and effective tools for conducting fundamental scientific research, building the potential of scientific research at the local, national, and international levels and the dissemination of their results among the world community;

- activating the pace and improving the conditions for the introduction of innovations;
 - transformation of knowledge into the public domain;
 - diffusion of innovations and knowledge that stimulate the progress of production and science;
 - reduction of information inequality, overcoming various information barriers, reduction of information and communication asymmetries;
 - implementation of the concept of lifelong education, the development of distance, inclusive, and flexible learning forms adapted to the individual style and pace of learning;
 - virtual transition of societies in many countries of the world from an analogue to a digital economy: the generation of new profitable business models, the creation of new markets, and the inclusion of companies in the global economy through the expansion of electronic commerce;
 - increase of the capital productivity, intensifying competition, the emergence of new forms and types of economic activity;
 - increase of the efficiency of existing types of human activities and services, reduction of information costs and creation of the latest information products;
 - multiple expansion of the information base, gaining access to previously inaccessible information and communication networks, information objects, assets, services;
 - increase in the share of information production;
 - creation of the benefits of cohesion, cooperation and partnership of business entities, which affects the way they operate;
 - change in the concentration of power and its redistribution from states and public institutions to citizens, seeking ways to improve interaction between citizens and governments of countries;
 - elimination of social inequality, expansion of democratic, social, and political rights and freedoms of the individual through digital identification, organisation of participation in the development of legislation and political decision-making, involvement in state aid programmes, support of feedback from officials, monitoring of their activities, establishment of self-organising virtual associations;
 - development of the capacity of the public sector through automation and management based on an information system for managing taxes and fees, budget execution, reporting, electronic declarations;
 - automation of industry, a shift in the professional structure of employment – an increase in the share of highly qualified universal workers in information, management, financial, and other services;
 - strengthening of intangible factors of production (associated with ICT) and increasing the efficiency of technologies for managing labour productivity;
 - informatisation of cultural and educational space, expansion of intercultural dialogue, mainstreaming of issues of preservation of cultural heritage;
 - control of the dynamics of social interaction, modelling of economic and social processes and direct influence on them.
- In the digital media space, priority belongs to convergence and integration processes, which set a precedent for fundamental transformations demanded by the global socio-economic formation – the information society (Soboleva and Karavaev 2020). Conceptual declarations of the global process of its development are currently based on the latest achievements of the operating environment of the digital media space. The information society continues its development in the civilisation process, the prerequisites for which were the creation of ICT, telecommunications, digital satellite communications, and the corresponding socio-communicative structures (Davydova *et al.* 2020). Informatisation, convergence of computer and telecommunication technologies, transition to large-scale application of network technologies in various spheres of human activity provide a fundamentally new level of creation and generalisation, dissemination, and use of information and knowledge. The flow of digital information between countries, companies, socio-communicative institutions, and citizens is increasingly identified as the

most important factor in economic growth and innovation.

The avant-garde role of digital technologies in the global information space is catalysing the new dependence of social development on the level of recovery and the progression of the technological sector. Society exists in a technologically dependent world of "own production". The study of trends in the development of the digital media space should make provision for a broader perspective and evaluate phenomena that are not directly related to it and analyse situations in which digital technologies are not available and are not used (Beskow *et al.* 2020). The development of the digital media space is proceeding along five interconnected systemic directions: technological, spatial, economic, professional, and sociocultural (Masyitoh *et al.* 2002). It is in this interdependence with respect to evaluating the degree of development of the information society as a new socio-economic paradigm that the backbone vectors were first developed at the beginning of the 20th century (Laptev and Fedin 2020). The diversity of these areas means that in the digital media space, the activities of various participants in the information society are subject to systemic and large-scale reform and restructuring, which comprehensively cover the technological, organisational and functional, management and socio-communicative spheres, and predetermine the search for new models of media forms of activity, analysis of the processes of creation, distribution and consumption of information content, implementation of innovative products and services.

Trends in technological modernisation, the pace and inconsistency of the global dynamics of the deployment of the digital media space, and digital technologies simultaneously constitute the development triggers and additional destabilising factors in the evolution of the information society. From this position, the statement that every technology is a blessing and punishment is apt; not one or the other, but both at the same time. Indeed, digital technologies such as fibre-optic communications, the Internet, local area networks, satellite systems, mobile phones and devices, and other means of collecting, storing, analysing, and exchanging information in digital form are evolving at a rapid pace. They are fulfilling the transformative potential of the digital revolution. Digital transformations emphasise the ambivalence, binary, and contradictory nature of socio-communicative processes. On the one hand, they contribute to deep social interconnection and global community, and on

the other hand, they deepen the digital divide in society, which manifests itself at all levels, from local to international, due to insufficient technical and technological equipment, low coverage of the countries of the world with the Internet, low data transfer rate, low user qualifications, etc.

Nowadays, such trends can be illustrated quantitatively by the results of recent studies. In particular, with the world's population of 7.395 billion, the Internet users are 3.419 billion (46%), social media users – 2.307 billion (31%). According to research, the largest number of Internet users are registered in China, India, USA, Brazil, and Japan. The largest number of people without Internet access live in India, China, Indonesia, and North America, with more than 120 million people. In the EU, the number of Internet users is 93% of the total population. The ratio of statistical data on the daily use of the Google search engine by users all over the world is also reflective – over 4 billion queries and data on the lack of access to the Internet in almost 4 billion people. That is, despite the fact that the Internet and related technologies are spreading much faster than previous technical innovations, 46% of the world's population do not have access to it and cannot play a significant role in the development of the digital space and the information state of society. In terms of the number of Internet users, the world's digital divide is less visible than in terms of profit. It is the second aspect that reflects the rapid pace of global expansion of the World Wide Web. The general availability of the Internet, including price, is illustrated by the situation when in the United States, each of the 10 poor households is connected to the Internet. Therewith, in the Central African Republic, the cost of monthly access to the World Wide Web is more than 1.5 times higher than the average annual per capita income.

According to the World Wide Web Universal Availability data, per one user of high-speed broadband connection there are five people who do not have such a connection. Only about 15% of the world's inhabitants can afford to pay for broadband Internet access. Instead, broadband infrastructure and services must play a critical role in empowering people to adapt to the digital environment, technology, and labour market changes. Fundamentally, mobile communications constitute the main means of Internet access in many countries around the world. The number of unique mobile phone users on a global scale is growing daily and reaches 3.8 billion, at the same time 2 billion people do not use them, and almost 500

thousand people live in areas where there is no signal. According to research, more than half (51%) of mobile Internet users worldwide live in Asia: China – 1.3 billion mobile communication subscribers with a population of 1.36 billion; India – 0.91 billion mobile communication subscribers (total 1.25 billion population). The trend of the spread of mobile communications in developing countries is indicative – their number of households with a mobile phone exceeds the number of those having access to electricity or clean drinking water. An important indicator illustrating the state of the digital divide is the constantly growing number of active mobile social users: currently it is 1.968 billion. Interestingly, over a quarter of them also live in the same region – East Asia: Indonesia, Malaysia, Philippines, Thailand, Vietnam.

Notably, the possibility of establishing Internet connections, mobile communications, and other advanced technologies did little to reduce the information inequality. The world practice of introducing digital technologies has shown that they can increase the socio-economic factors of information inequality. Scientists stated that the expansion of the information space, the emergence of new technologies that ensure dominance in various spheres of life, the improvement of network technologies for the covert management of group and mass behaviour, the programming of destructive actions with the use of social networks – all this has mainstreamed the issues of digital inequality, information sovereignty, and information security of a person and society at a whole new level.

Currently, a deep digital divide is observed both between different countries and within them. This is manifested in geographic, gender, age, socio-cultural, and property status-related discrimination. For example, the amount and origin of information that is posted on the network almost completely coincides with the trends of its production in "analogue" life. Thus, 85% of user-created materials indexed by the Google search engine come from the United States of America, Canada, and Europe, which is approximately the same fate of publications from these countries among all scientific journals published in the world. This indicator testifies to the tendency of the persistence and complication of the situation of division into information-poor and information-rich countries, even in the digital era. The gender aspect illustrates evidence that women are less likely to use digital technologies or possess devices than men; the gap between young people (20%) and people over the age of 45 (8%) is even more significant, as well as between

rural and urban residents, etc. The data that 46% of the population has access to the Internet, but almost a fifth of the world's population is illiterate, suggests that the spread of digital technologies by itself is unlikely to be capable of bridging the global information gap.

The above figures suggest that, as a result of the use of modern digital technologies, channels and mechanisms for the exchange of information have undergone significant transformations and the essence of communications has fundamentally changed. But statistics record not so much the technological capabilities of the digital media space, into which all the latest technological advances are integrated, as the phenomenal need of subjects of different countries and society at large to establish effective communication and other forms of social interaction, which constitutes the main sign of the development of an information society in the digital age. The research results confirm the thesis that computerisation, internetisation, and mediatization transform the deep structure of the information space and information environment.

ROLE OF INFORMATISATION AND DIGITAL TECHNOLOGIES IN PUBLIC LIFE

Technological transformations associated with the development of the digital space are the most important factor in social transformations that change the way of life of people, social practices, processes of thinking, and comprehending the world. This allows to link the processes of development of the digital media environment with the socio-communication, cultural, historical, and other contexts of the development of society. Furthermore, the data illustrate the problematic aspects of the implementation of technological, economic, professional, sociocultural, spatial, psychological, and other factors of the deployment of a new socio-communicative paradigm. Some of the perceived benefits of deploying a digital space are compounded by the risks involved. The spread of the conquests of the digital revolution in some places restricts, and even hinders, the development of the information society in the civilisation process, postpones the prospects for creating a single "information technology sphere", achieving uniformity of global informatisation for further sustainable development of society.

Access to the global network has a beneficial effect on the quality of life and many aspects of the real world of every person involved in the online universe, but it does not solve the issues of inaccessibility of education, income inequality, and lack of economic

opportunities. On the contrary, information accessibility gives rise to the illusion of easy social accessibility. Mobility deprives a person of socio-cultural roots, of interest in preserving the environment. The development of digital technologies creates a virtual environment – a parallel reality where hundreds of millions of people interact and work. The concept "virtual" is becoming key in the organisation of modern society. Virtualisation of reality is becoming a binary, ambivalent process, has a dual purpose – in the new information mode, society is not only open to any information impulses, but is also vulnerable to destructive factors that have received new incentives and opportunities in the global system. That is, virtualisation is described by significant social negative, illustrating the phenomena of standardisation of cultural values, the spread of manipulative technologies, hacking, cybersquatting, etc. The construction of virtual images, memes, lifestyles is becoming the norm for mass consumers.

Uncertainty, mobility, ambiguity, unpredictability of the information environment in which a modern individual exists, not only complicates their perception and evaluation of the past, current events, but also distorts plans for the future. In the digital media environment, on the one hand, conditions are created for self-fulfilment of the individual, on the other hand, there is a decrease in the search for and desire for a conscious identity, which is expressed in the illusory idea of freedom from society and leads to information and technological loneliness and self-isolation of a person. Thus, the expansion of digital communications predetermines deep cognitive impairments in individuals' cognition of social reality.

The digital space and the latest technologies create a wide range of tools for the production, distribution, and consumption of information in society, which leads to an unprecedented increase in its volume. Thus, characterising the rapid pace of their growth, Chairman of the Board of Directors of Alphabet Corporation Eric Schmidt notes that humankind, for the entire period of its civilisation up to 2003, generated the same amount of exabytes of information that we currently generate every two days. This trend is confirmed by the results of a study by the international research and consulting company International Data Corporation (IDC), which, among other things, states that in 2011, the text information alone was generated in a greater volume than during the entire existence of humankind, and the total amount of information in digital format is doubling every two years. Excessive exabytes of "digital chaos",

combined with communicative behavioural biases of individuals in the digital environment, negatively affect the informational state of society.

There are many contradictions in the development of the digital space. Revolutionary changes in the methods and means of transmission and storage of information do not always predetermine the corresponding revolutionary changes in the mechanisms of generating new knowledge. Digital technologies lead to a reduction in the cost of obtaining information and knowledge in an electronic communication environment, but not in every case this entails a reduction in resources and efforts spent on their preservation and processing. On the one hand, the technologies themselves are not available for the overwhelming majority of society, on the other hand, in a situation of "digital abundance" it is much more difficult to ensure the preservation of knowledge for future generations.

The digital realities catalyse two interrelated innovations – big data and open data. Their numerous estimates of the current potential economic significance range from hundreds of billions to trillions of dollars per year and, at the same time, record an unsatisfactory situation in the processing of information that has developed in the world. Only 0.4% of the world's total big data is subject to analytics. Large amounts of useful data are lost. Currently, less than 3% of 23% of potentially useful data, which could find application with Big Data technologies, is used. Furthermore, widespread access to information about people's lives, which is a consequence of the data revolution, provides repressive autocratic regimes with dangerous advantages in the fight against their citizens.

The digital media space creates unprecedented conditions for organising the preservation of cultural, scientific, and digital heritage, but exacerbates economic and technological problems in preservation, integration, and provision of access to electronic resources, and also highlights the contradiction between the high dynamics of the accumulation of information of digital origin and the rate of technical and technological aging of means of its processing. Furthermore, the transformative potential of the latest technologies reveals the opposite legal aspect of preserving digital heritage – the lack of commitment and ways to establish a fair balance between the legal rights of authors and other rightsholders and the interest of society in gaining access to the materials that make up the digital heritage, that is, it emphasises

the necessity of finding a compromise between interests of copyright holders and the main tenets of an open information society. The newest digital cross-media platforms have the potential to challenge corporate and government domination, help empower citizens, and at the same time contribute to gaining control over them in public life. Advances in digital identity technologies, e-government and electoral voting systems, digital payment systems, e-transactions and e-commerce all contribute to public sector capacity building, institutional reforms, the development of the digital economy and the 'shared economy', but is often accompanied by growth of the level of cybercrime, falsification, manipulation of information during the electoral process.

Investments made in the development of digital technologies show a pattern of increasing the influence of elites and large corporations, which leads to a lack of competitiveness in the business environment and monopolisation of the information sphere of production, markets, etc. Illustrative in this case are the activities of Google, which receives almost a third of all global digital ad revenues, and Amazon, which used its market position to promote its own pricing policy. The volume of investments in digital governance also in some way determines the development of individual regions and countries. For example, currently the main part of investments falls on Western Europe – 2.49\$/GB of data, USA – 1.77\$/GB, China – 1.31\$/GB, India – 0.87\$/GB. However, studies show that the infrastructure of the digital world is becoming more and more interdependent: nowadays information is not concentrated in the region where it is used. With the development of cloud computing, this is not necessary – in the interval between the creation of a byte and its use, the data is stored and processed in the "cloud".

Digital technologies create unprecedented opportunities for reformatting educational standards, curricula, teaching and self-education methods, but they do not have the potential to increase the motivation of humanity to receive new information, acquire knowledge, qualifications, skills, etc. Furthermore, the institutional education system is still slow to respond to the challenges of the digital environment, in contrast to large corporations that create training initiatives whose professional skills correspond to the trends in the development of the information society and the digital media environment. A good case in point is the Microsoft Data Science Curriculum project, which was launched in 2016. The educational project was developed in cooperation with

leading universities and employers. It makes provision for distance training of personnel who have the opportunity to master research methods, analysis, and data processing, modelling methods and their visualisation, as well as by means of creating a new generation of intelligent solutions. Another example is the Facebook fellowship programme for postgraduate students in computer science, which is designed to encourage and support promising research in artificial intelligence, human-machine interaction, database development, Data Mining, Social Computing. The above facts once again emphasise the trend of monopolisation of the digital media space by powerful techno-corporations, the development directions of which are virtually determining the deployment of the information mainstream of society.

Digital technologies cause a change in intellectual production – the aggregation of scientific information resources occurs mainly in digital networks. The development of the digital media community entails radical changes in ensuring global interaction and openness of scientific communications of scientists, enabling an increase in the efficiency of scientometric systems. Therewith, the arsenal of digital technologies distorts the idea of the use of citation indices as a means of scientific information search, a way to identify the most important works, study directions of influence, and analyse intellectual dynamics. Scientometric systems appear as a tool for calculating academic status, contribute to the redistribution of prestige between scientific disciplines with various prevailing citation practices, and to the emergence of the so-called citation cartels. Digital technologies effectively stimulate factors of production, complement skilled labour and at the same time polarise the labour market, causing release of human resources, competition for low-paid jobs in non-ICT areas, i.e. provoke the so-called technological unemployment.

CATEGORIES OF SOCIAL COMMUNICATION IN THE INFORMATION SOCIETY

Social media as an interactive model that is alternative to conventional means of communication and mass media, is a powerful communication phenomenon in the evolution of the digital media space, which serves as a tool for spreading the ideas of democracy and at the same time gives rise to many problems. With the development of social networks, the blogosphere, the media, the issues of privacy, cybersecurity, censorship, filtering, management of information flows on the Internet, changes in the

“institution of authorship” and mechanisms for the creation, distribution, consumption of information content become relevant; the problems of confidential wars in the system of social communications are aggravated; communication asymmetry, communication deviations in society are surfacing.

Nowadays, the digital media space is more frequently considered as a new communicative galaxy. It creates a new sociocultural dimension, that is temporary, fleeting, fragmented, globalised, boundless, interconnected, and characterized by high mobility of a person, social systems, social institutions, and a new level of development of their communication interaction. In studies of the features of the digital media space, multimedia, virtualisation, interactivity, integrity, dispersion, multimodality, convergence, hypertextuality, transcoding, scalability, etc. are mainstreamed. It is extremely important to study the phenomena, the occurrence of which is associated with the development of the digital media space, in particular, in the scientific environment, they acquire such verbal markings as digital revolution, digital age, digital universe, digital shadow, digital divide, digital destruction, digital introduction, digital culture, digital aborigines, digital immigrants, digital tribe, digital nomadism, digital militarism, hacktivism, social digital activism, “bite-sized” content, media memory, dark media connecting spaces, information overload, digital dementia, digital detoxification, and digital oblivion. In the academic world, new directions of scientific research are justified, such as digital anthropology, digital humanities, digital history.

Scientists view the digital space as a socio-cultural phenomenon, the contours of which contribute to the development of a digital society – a new stage in the development of a technogenic post-industrial civilisation. Its main features are determined by ignoring the natural environment, landscape, geographical space: here is another form of space, there is no concept of time as a sequence. The emergence of nonlinear temporality as a characteristic of the culture of the information society becomes significant – the attitude towards time is changing, its restructuring takes place at the social and individual levels. The researchers emphasise: the development of communication in a digital society is extremely idiosyncratic: along with the acts of perception, haptic, communication, contacts with the objective world, which are familiar to representatives of previous generations, there are psychological mechanisms that mediate communication interaction. In the culture of a

digital society, there is a substitution of values that unite people.

The specificity of the digital media space of modern society lies in the fact that it is an information-rich communication media space. Its main phenomenon is the exponential growth of the production and transmission of all forms of information by numerous means, primarily telecommunications, and then digital, which exceed the human ability to record or process it. On the one hand, this raises the question of structuring, mapping, developing tools for semantic convergence and navigation in information flows. On the other hand, it leads to the uniqueness of all the features of the modern communication model of society: participants are virtual, information is multimedia, all communication formats can be implemented. The digital space and technologies are gradually absorbing all forms of social communication and activities, joining the everyday life of people – they cover the professional, ideological spheres; reflect phenomena, events, and relations in society at the individual, social levels; affect economic, political, religious, ethnic, organisational, communicative, psychological processes, sociocultural dynamics, etc. In the digital media space, many different forms of communication are developing, which are divided into 4 main categories: asynchronous communication: to each other; asynchronous communication: many to many; synchronous communication: one to one, one to several, one with several; asynchronous communication: many and one, one to one, one and many.

At present, the communication model “many-to-many” prevails more frequently in the digital media space, which organically presupposes both the interactive interpersonal interaction of individuals with each other and communication directly with the digital environment itself. In this model, each link in the chain “sender – information – intermediary – consumer” can widely vary. Currently, a “transactional media communication” can be observed. It provides for the transition to such interpersonal communication relations where each party can in turn act as a sender, receiver, or transmitter of information. Therewith, information is not only transmitted from the sender to the consumer, but the environment itself is created and modified under its influence and, in a new transformed form, is perceived by all its participants.

As the technology matures in the digital media space, the perception of the phenomenon of communications is changing. Digital realities create

qualitatively new communicative contexts, in which, on the one hand, interpersonal forms of communication, attributes of subjective, personalised experience, and on the other hand, are massive, focused on impersonal consciousness, overcoming the boundaries of a personalised subject of speech, which did not intersect up until now. Digital communications are becoming a technological basis for the development of media communications that determine the process of creation, processing, and broadcasting, as well as the exchange of information in individual, group, mass formats in various channels of mass communication with the use of various communication means – verbal/non-verbal, visual, auditory, audio-visual, means web communications. All this together leads to the fact that in the communication practice of society, the expansion of intersensory means of presenting information and knowledge constitute the basis for the development of a media reality, in which connections between social systems and participants in social interaction turn into virtual and multimodal.

Media reality appears as a movement, a stream of meanings, as a sphere of fulfilment of a person's productive activity, as a space where the difference between the material and the ideal disappears. Media reality transforms the idea of the picture of the world, which constitutes the basis of social memory in its mental and cognitive forms, common in the channels of social communication, and is supported by various carriers of the social genome. The new social reality appears as "nature of the third order" and is characterised in terms of virtuality and interactivity due to the becoming of the media space of our time and its spatial organisation. The achievement of certainty of the technosphere, infosphere, semiosphere, and cognitosphere (if it has not yet reached its maximum manifestation today, but is expected in the near future) in the structure of the media space leads to the necessity of realising systemic connectivity and changing their role in ensuring the functioning of the media space as a new reality. The study of the digital media space as a component of the global media reality, which is currently characterised by the acquisition of signs of integrity, the integrity of interaction in society, allows to consider it as a technological basis. From this position, the digital media space concentrates numerous communicative means, provides multimedia support for the entire process of social interaction in all forms and types, determined by the needs of society in the creation, storage, processing, presentation, and consumption of information.

The role of the digital media space in shaping the structure of social dialogue is becoming more and more important. The widespread adoption of digital technologies is changing the way social interaction systems are organised. Technology is the dynamic axis around which the pyramid of everyday life is built and a detailed methodological experiment is carried out in various spheres of social activity. The gradual development of interaction in society, based on a variety of technical applications, currently determines the development of an integrated system of social interaction. It received the name of a multimedia or media system, which is based on multisensory methods of interaction with the use of technological systems.

The technical basis of the media system – the technosphere of interaction in modern civilization – was formed by multimedia technologies. Multimedia, which have a more significant impact on the emotional sphere of a person than those that have existed until now, have allowed to change the quality of communications in networks and systems, have contributed to the intensification of information exchange, to overcome geographical boundaries, space, have led to the blurring of boundaries between the centre and the periphery, and made the integration of individuals into world processes. Multimedia technologies have changed the technological nature of the function of creating cultural heritage and its promotion. The possibilities of multimedia served as the basis for the process of semantic stimulation in the culture of developing a common vision of the world, covered most types of cultural expression in all their diversity, designated the syncretism of the digital universe.

The arena of technological innovation in the digital space has become the main prerequisite for the development of a global system of social relations. From the standpoint of the evolution of the spatial architecture of the communication environment, the development of the digital space can be considered as one of the stages of the historical process of globalisation. The digital space has proven to be conducive to this key 21st century trend and even accelerated it as the Internet and other communication tools became more accessible. By borrowing social communication forms and "intertwining" them with technological trends, the digital space has developed its own meaning. Under the influence of technological innovations in communication, all links of the system of social relations have joined the organisational

processes of social differentiation and integration, based on the unprecedented flexibility of the development of communication "alliances" within the world community. On this basis, the spontaneity of the informatisation process started acquiring an organised nature. In due course, it was no longer possible to say that information exchanges only accompanied material ones. Material exchanges started playing a service role in relation to information exchanges; in terminology, instrumental actions were reduced to a fragment of communicative actions.

As a kind of global coordination centre for social ties, a network has emerged as a special social basis for coordination ties and relations. It acted as a system organising the communication process. In connection with its deployment, new forms of cooperation and solidarity began to emerge, based on individual ties. With the development of the world system of communication ties, the factors of identification of an individual, nation, and state no longer serve as a living dominant of social development and a stabilising element of cultural evolution. The development of a network of social interaction based on electronic communications and connections led to the following: change in the material basis, which unites various loci of social interaction; changes in the perception and determination of the parameters of the spatiotemporal coordinates of the world system of collective cooperation, collaboration; changes in modelling methods, construction of various objects of social reality; transformation of the structure of the civilisational format, the dynamics of metabolic processes in the world community; transformation of the system of human values, the emergence of new forms of responsibility and understanding of freedom under the influence of open communication standards, increased requirements for personal freedom.

The network organisation of society has made all the elements more sensitive to the states of subjects who contact, converse, and communicate, offer their views, thoughts, desires. In general, contact means connecting to a common network of interaction with the use of all possible means of communication; conversation involves establishing connections over obstacles and issues of different scales; communication involves the achievement of communication unity, that is, mutual understanding based on the coincidence of mental and cognitive structures and the achievement of unity of action in accordance with a common goal.

CONCLUSIONS

At present, society operates based on a network and various forms of its organisation – social and file-sharing services, resource databases, search engines, web services, etc. Therewith, integrated networks of interactions of electronic computers have created a special form of distributed communication, which it turned out to be possible to project onto social communication. People involved in automated communication processes started reproducing it in social interaction. Communication turned out to be organised through the programme of network processes embedded in computer technology, started developing as a projection of computer networks, acquiring information-network forms, methodically lining up according to models set by the technologies of system integration of processing, transmission, and broadcasting of information.

Nevertheless, the network acts only as a set of subjects connected with the help of technical devices, but without settings for the perception of the other as oneself. Therewith, contacts in the network practically reflect the processes of the organisation outside it, but there are more cynical, frank ones due to the fact that they are hidden behind the shell of the network image of the subject. Internet communication is getting harder than real communication. Public insults, fraud, and trolling are far from all cases of ethical blindness that users of the global web face every day. They are called "gaps, disconnections", which create many problems of a socio-psychological nature and require immediate solutions. Experts state that the content of the network communication space depends on the people who are attached to it, "living in it," who establish communities according to special rules of existing in the said space. The function of energy in the technosphere is performed not by technical resources, but by human knowledge.

Thus, the deployment of the digital media space, which is currently undergoing the evolution of high-tech communication tools and web technologies, the expansion of communication infrastructure, resource bases, optimisation of search engines, the emergence of Big Data technologies, prioritisation of the position of the latest media in the modern world contributes to the development of the digital landscape of society. The digital media space is described by new technical and technological, communication, social, and economic dynamics that cause global transformations of society, individual industries, institutions, and the life of individuals in the long term.

REFERENCES

- Al-Zahrani, Sarah and Bahjat Fakieh. 2020. "How dev-ops practices support digital transformation." *International Journal of Advanced Trends in Computer Science and Engineering* 9(3): 2780–2788.
<https://doi.org/10.30534/ijatcse/2020/46932020>
- Astakhova, Lyudmila V. 2020. "Issues of the culture of information security under the conditions of the digital economy." *Scientific and Technical Information Processing* 47(1): 56–64.
<https://doi.org/10.3103/S0147688220010062>
- Beskow, David M., Sumeet Kumar and Kathleen M. Carley. 2020. "The evolution of political memes: detecting and characterizing internet memes with multi-modal deep learning." *Information Processing and Management* 57(2): 102170.
<https://doi.org/10.1016/j.ipm.2019.102170>
- Cimini, Amy. 2020. "We don't know that we don't know what a body can do ..., or Spinoza and some social lives of sonic material." *Intellectual History Review* 30(3): 465–488.
<https://doi.org/10.1080/17496977.2020.1732707>
- Das, Ranjana and Paul Hodgkinson. 2020. "Affective coding: strategies of online steganography in fathers' mental health disclosure." *New Media and Society* 22(5): 752–769.
<https://doi.org/10.1177/1461444819869611>
- Datta, Pratim, Laurie Walker and Fabrizio Amarilli. 2020. "Digital transformation: learning from Italy's public administration." *Journal of Information Technology Teaching Cases*.
<https://doi.org/10.1177/2043886920910437>
- Davydova, Oksana, Nataliia Kashchena, Tetiana Staverska and Hanna Chmil. 2020. "Sustainable development of enterprises with digitalization of the economic management." *International Journal of Advanced Science and Technology* 29(8): 2370–2378.
- Dunn, Hopeton S. 2020. "Creative resilience and globalization from within: evolving constructs for analysing culture, innovation, and enterprise in the global south." *Annals of the International Communication Association* 44(1): 4–18.
<https://doi.org/10.1080/23808985.2018.1547121>
- Frank, Rebecca D. 2020. "The social construction of risk in digital preservation." *Journal of the Association for Information Science and Technology* 71(4): 474–484.
<https://doi.org/10.1002/asi.24247>
- Gambino, Francesco. 2020. "The new digital grammar in the culture of institutions." *Studies in Logic, Grammar and Rhetoric* 59(1): 27–45.
<https://doi.org/10.2478/slgr-2019-0027>
- Ivushkina, Elena B., Elena V. Dashkova, Natalya Z. Alieva, Irina B. Kushnir and Anton N. Samodelov. 2020. "Museum in a single digital space." *Lecture Notes in Networks and Systems* 129: 637–646.
https://doi.org/10.1007/978-3-030-47945-9_69
- Jiang, Nan. 2020. "Role of digital image processing in image art under the background of Big Data." *IOP Conference Series: Materials Science and Engineering* 750: 012095.
<https://doi.org/10.1088/1757-899X/750/1/012095>
- Laptev, Vasiliiy and Vladimir Fedin. 2020. "Legal awareness in a digital society." *Russian Law Journal* 8(1): 138–157.
<https://doi.org/10.17589/2309-8678-2020-8-1-138-157>
- Larionova, Nina I. 2020. "Development of digital clusters in modern information culture." *International Journal of Scientific and Technology Research* 9(4): 3065–3067.
- Masyitoh, Ilim S., Fauziah Rahmat and Saad W. Tanszil. 2020. "The role of the e-encyclopedia media of Indonesian customary law systems as a means of strengthening national identity and student concern on local wisdom values." *IOP Conference Series: Earth and Environmental Science* 485: 012101.
<https://doi.org/10.1088/1755-1315/485/1/012101>
- Riddle, Elizabeth and Jill R.D. Mackay. 2020. "Social media contexts moderate perceptions of animals." *Animals* 10(5): 845.
<https://doi.org/10.3390/ani10050845>
- Rochman, Gina P., Odah, Ivan Chofyan and Firman Sakti. 2020. "Understanding the smart society in rural development." In *IOP Conference Series: Earth and Environmental Science* 447: 012016.
<https://doi.org/10.1088/1755-1315/447/1/012016>
- Ruhlandt, Robert W.S., Raymond Levitt, Rishree Jain and Daniel Hall. 2020. "Drivers of data and analytics utilization within (smart) cities: a multimethod approach." *Journal of Management in Engineering* 36(2).
[https://doi.org/10.1061/\(ASCE\)JME.1943-5479.0000762](https://doi.org/10.1061/(ASCE)JME.1943-5479.0000762)
- Soboleva, Elena V. and Nikita L. Karavaev. 2020. "Characteristics of the project-based teamwork in the case of developing a smart application in a digital educational environment." *European Journal of Contemporary Education* 9(2): 417–433.
<https://doi.org/10.13187/eiced.2020.2.417>
- Toffler, Alvin. 1980. *The Third Wave*. New York: Bantam Books.
- Zhao, Xingzhi. 2020. "Communication and culture in the meta-media era. A perspective from the semiotics of communication." *Chinese Semiotic Studies* 16(2): 217–227.
<https://doi.org/10.1515/css-2020-0012>

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