Virtuality and Reality. The Digitalization of Societies and the Possible Consequences

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ABSTRACT

The spread of the internet - the brightest symbol of digitalization and the introduction of newer and newer digital tools is turning its back on analog development. The internet has developed into a giant digital network, which has caused comprehensive transformations in the work environment, the created products, the interpersonal contacts, and the competitive relations of the organizations. Their double being and positioning - in the realities of the internet and physical reality brought out an abundance of critical scientific topics - the consequences of mixing realities and spaces, the trust in digital information, the directions of digital and analog developments, the educational effects. Some of the defended ideas are based on a sociological survey conducted by the authors, and others on the analytical rethinking of the prevailing theoretical achievements. The thesis is launched that analog and digital developments should be interconnected.

Keywords: Virtuality and Reality, Digital and Analog Developments, Positive and Negative Effects of Digitalization

INTRODUCTION

The discovery and implementation of digital communication tools have resulted, as is well known, in the emergence of an unsuspected metamedia web product - the internet, which has become a symbol of digitalization and digital transformations in societies. From a network of limited specialized interactive communication (in the military in the beginning), it has developed into a giant digital communication network, which has contributed to the digitalization and "virtualization" of many activities and relationships carried out through it and in this sense to double the existence of existing reality. The respective online and offline performance of activities in society, which corresponds to the two realities - that of the internet and the physically existing reality puts on the agenda the topic of the existence of a virtual world, of virtually performed real activities within the webspace. The internetization of the means of communication - both as opportunities for the digital production of all kinds, and as a mechanism for digital distribution, and as digital consumption by people, revolutionizes social life largely. The digitalization and internetization of society as modern digital communication developments have provided and continue to offer incredible potential for improvements of all kinds and innovation in all areas. The mediatization of home and work, sports events, etc., has provided an abundance of digital resources for creating digital products. In addition, internet space is saturated with many organizations created and functioning only in it. Virtual or online activities from home, streets, or institutions have grown in everyday life. The human side of digitalization has unfolded through internetization - the creative potential of many people and organizations has found forms for public realization. At the same time, questions about the real and virtual worlds, the connections and dependencies of analog and digital developments, the convergence between them, the consequences of digital transformations, including the educational achievements of students in ordinary and extreme situations, continue to be important topics in today's post-digital age (Gaylard, n.d.).

THEORETICAL CONSIDERATION

The first theoretical interpretations in the specialized literature are related to the conceptualization of digitalization, its immanent characteristics, stages, and transformational consequences (i-SCOOP, 2016). In the specialized literature, there is an almost clear view of digital development as a substitute and destroyer of analog development, as a transforming factor of social activities and relations, and as the main consequence of this - as a creator of tools for extremely high-quality products. Respectively to ensure competitiveness in all social spheres and areas. There is also relative unanimity on the terminological framework of the phases of its deployment. Three sub-processes are derived and labeled in a structural sequence - the digitization preceding the digitalization, the very development of the digitalization in the separate spheres and areas based on the permanent digitizations of processes and products, and digital transformations causing universal and beneficial changes

(Holand, Svadberg. 2019). In fact, "digitization" and "digitalization" are the two conceptual terms through which the digital transformations in society unfold. There is also talk of several waves of the digitalization process through which digital changes take place.

The first wave focused on converting analog to digital information.

The second wave established the internet as a global communication infrastructure, resulting in changes in firms' value creation logic and new types of businesses. In contrast, the third wave we are experiencing today is the converging SMAC (social, mobile, analytics, and cloud) technologies that have made the vision of omnipresent computing very close to reality. According to Legner (Holand, Svadberg, 2019), the current wave of digitalization is driven by us. All emerging technologies such as AI, Big Data, augmented reality, advanced robotics, autonomous vehicles and 3D-printing, technologies such as IoT, Cloud, and Fog, as well as Blockchain, have highly competitive consequences from an economic point of view but also contradictory effects related to the digital divide, the trust in information, cyber security quo Vadis? (Mäkiö, Miroliubov, Zhgun, 2018).

The second of the theoretical interpretations of the consequences accompanying digitalization is the existing perusal of the "virtualization" of digital communication. The conceptualization of the virtual reality created by the digitalization of the media is debatable and has not yet been unequivocally completed. Physically existing people who own physical computers and the necessary language stock of physically existing programming languages and programs, including internet connectivity, create products. Are they real or virtual? Would it be relevant to call human communication via computer and the virtual internet communication, student learning virtual, etc., because it is based on previously created digital language tools or more and more mediated mechanisms in the communication chain? It seems that the social consequences for people of this type of communication are the further increasing mediation, which turned out to be especially important for the conceptualization of digitalization, regardless of the professional profile of researchers.

METHOD AND RESULTS

The main method used was an individual direct online representative survey conducted in the period - May-June 2021 by media specialists from the Department of Sociology at the South-West University "N. Rilski" within the research project "Digital media literacy in the context of the society of knowledge: Status and challenges KP-06-H25/4), funded by the Bulgarian Research Fund. The main conclusion is that digital media literacy is needed among all segments of the population, which is important for dealing with the consequences of mixing the two types of realities - virtual and physical. The object of the study was the positives and negatives of the interpenetration between the real and virtual worlds in the society of knowledge and the effects of the determination of digital activities and

relationships between people from the new digital communication technologies. The research we conducted revealed a high saturation of modern digital communication means in our country and that mobile digital means have a high degree of use, occupying the leading positions in contact with the digital world. Contacts with cyberspace become every day mainly through mobile phones (over 95 percent of respondents). In second place are communications via laptop - 90.1% and to a lesser extent through other digital media in the world - tablets, smartwatches, bracelets, desktops, smart TVs, etc. The study reveals that contact occurs everywhere in physical space. In other words, while ten years ago, contact with the digital world became predominant from home or work, today high values are "closed" in the answer "everywhere" over 80 percent of the respondents.

Despite the many advantages, including saving time, web-based student learning is the predominant non-preferred tool. The multi-level complexity of computer-mediated internetized virtual communication is far from the preferences of students. The results of a study of the objectively necessary use of digital web platforms for student education during the pandemic Covid-19 situation are indicative. Only 13.8 percent of the respondents expressed preferences for this type of participation in the educational process. Mixed preferences for analog and virtual through different internet platforms were revealed by 27.5% of respondents. The majority of students (56.2 percent) are categorical in their face-to-face (analog) training preferences. The students' answers to the shortcomings of digital forms of education have a predominant analogous explanation. Students see the ranking of the reasons in several directions: the impossibility of direct contact between teachers and students - 87%; impossibility for communications between the students themselves - 74.6%; difficulties for students to cope with, caused by the state of the digital technological environment - quality of the internet connection, technological noises, etc. - 38.8%. The digital divide between countries and within countries between settlements and households is also an indicator of satisfaction/dissatisfaction. The division in the degree of the digital skills of individual teachers and students also turns out to be a significant factor. A quarter of the respondents point out similar reasons - 26.1%. The non-synchronization of the analog teaching aids with the digitally conducted learning also becomes a severe essential reason for negative experiences in the digitally driven educational process. It turns out that different digital divisions accompany the virtually created objectification of digital resources for their effective mass use. One-third of the respondents pay special attention to this type of asynchrony, respectively, to the failure of the digitally conducted educational process. It turns out that analog developments should not lag behind digital ones. Their synchronization must constantly accompany digitalization processes because, as is well known, there are no fully digitalized communication resources. The technological development of societies must necessarily be in this direction.

Another critical aspect of the negative consequences of digitization is the set technological possibilities for manipulating analog facts and processes, activities, or products. The infinitely increased technological possibilities for improvements, for mixing realities through hypertexts, or digital products of multimedia nature, provide both positives for creative

realizations of a considerable number of people and reveal the enormous potential for unpredictable abuses of the authenticity of the final products - photos, texts, visual images, sounds, images, audio and video clips, etc. The possibilities for creating and depicting improved and/or deteriorating realities are similar to the options for using nuclear and nuclear energy - for peaceful or military (deadly) purposes. Our respondents' answers on this topic are extremely worrying, as are the answers spread around the world. In this case, over 80 percent of the respondents partially trust the incredibly increased number of media sources. As we see in Figure 1only 2.6% fully trust the information from the media in our country. 17.3% of respondents do not trust at all.

Figure 1. Trust of internet, according to the survey respondents
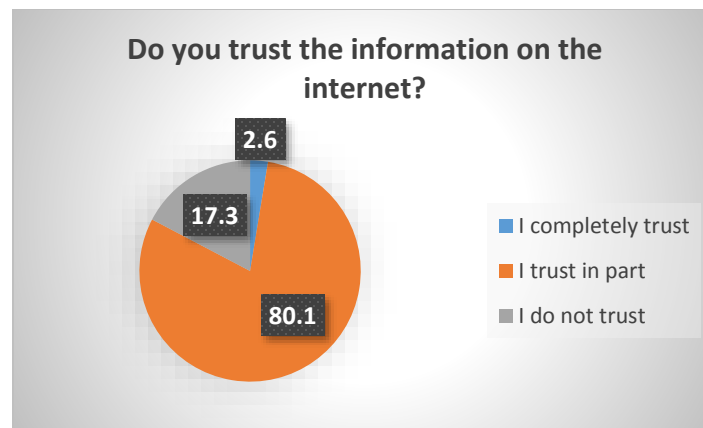
Technology gives, but it also takes, says Neil Postman - one of the founders of the Media Ecology Association. But there are always people behind the technology. The future of digitalization in its latest post-digital developments - the Internet of Things, artificial intelligence, etc., depends again on people. Will the analog paper textbooks, live lectures, physical seminars go to the dump?!

DISCUSSION

Based on the basic etymological framework of the concept of virtual or virtuality, respectively imaginary and imaginary reality, which is usually used to label the entry of recipients into the worlds of literature, art, painting, etc., we can challenge this "contribution" of digitalization to various of human digital communication. Indeed, on the internet, we too often communicate with strangers or with products by unknown authors. This fact makes them imaginary or virtual for the recipients. But in art and the internet are real people who exist or have existed in time and space. The reality they create or recreate is far from virtual

but real, and only the imagination of the recipients makes it virtual; even before the digitalization of communication tools and products, one communicated with anonymous or strangers and with their or other people's products. The history of culture abounds with examples of such multilevel mediated communication between the subjects and objects of communication, distant in time and space. The digitization of the means of communication adds another or even several levels of mediation. And it is well known in the specialized literature on the sociology of communications, regardless of the form of mediation. In analog and digital communications, one can speak of a high degree of mediation during the ongoing processes. The double existence that characterizes the creation of many communication products, as well as the double existence of the activities performed in both the physical and computer-mediated world, with all their spatial and temporal relativity and remoteness and their interconnection and complementarity, is a contribution but also a problem of the efficiency of communication processes. It is no coincidence that in today's post-digital times, the degree of application of digital technologies alone is no longer considered the most critical competitive advantage. Based on many studies, it has been established that the orientations are for moving towards the application of forms for satisfying personalized experiences. Satisfying the specific experiences of individuals becomes an ongoing marketing strategy - a "momentary market"(Matt, Trenz, Cheung, Turel). An intelligent enterprise that was until recently a goal that enables companies to integrate into people's lives, changing their way of working and living is also no longer seen as a differentiating competitive advantage. Success will be based on the ability of the organization to provide personalized "realities" for its customers, employees, and partners. These custom "realities" involve different types of instantaneous combinations of digital instruments, artificial intelligence, augmented reality, quantum computing, and many traditional and new analog developments. It is no coincidence that the next revolution in computers will be associated with the rise of analog systems over which digital programming no longer has control. Nature's response to those who believe they can create machines to control everything will allow them to create a machine to control them instead (Schallmo and Williams, 2018). The conversion of analog means of communication into digital does not change their constant spatial multiplication and duality. Still, it changes the quality characteristics of the reproduced processes and products, the opportunities for innovation in the programming itself. Digitization assumes the unprecedented deployment of the World Wide Web and its resources, as a result of which the conditions for creating and combining different web tools, respectively for creating and distributing network platforms of other, including combined nature, increased enormously. The opportunities for the creativity of managers and ordinary people in the production processes, for the realization of spontaneous creative ideas, combining and/or transferring learning in the digital interaction environment, etc., have increased unprecedentedly. It is well known that every real space of the various physically existing social ecosystems receives a web existence. The network has become a digital haven and a parallel digital existence of all social ecosystems. The digital presence of the realities in the shared webspace provides, in turn, tools for creating new digital industries, spheres, and subject areas. Perhaps the most evident reason to label, albeit conditionally, the digital nature of the means of communication as virtual is rooted in their mathematical, linguistic

nature. The language in which the products are created, as it is known, has a mathematical nature, contains mathematical symbols - + and − in analog technologies, and 1 and 0 in digital. Of course, in a historical and cultural plan, all technological means of communication are based on their language to be understood. Some of them are more complex, and others are simpler to decode. However, the digital language(s) encodes and objectifies the previous languages into products of a new higher and effective quality level. The decoding is, accordingly, also at a higher level.

Moreover, the audience often becomes a digital creator and distributor of their digital products. Another issue is their information reliability. In this sense, it is reasonable to talk about virtual worlds. As some ideas and imagines, virtual worlds are in unison with the human nature of perception of realities. But they are valid for both means of expression in both analog and digital. Taking advantage of both types of expression is perhaps the most rewarding use of the post-digital age. Digitization, digitalization, and digital transformation processes presuppose the emergence of different kinds of realities. Physical and web-based realities are products of two approaches to the reproduction of nature and society: the creation and dissemination of knowledge, creative realizations, perceptions, etc. However, this should not mean that people are transformed into virtual people, at least because perhaps they always have, albeit to varying degrees, existed as an imaginary and physical whole.

CONCLUSIONS

The possibilities for combining interpersonal, group, and mass media (analog or digital), as well as the permanent interaction of the three functioning communication models - single-line, interactive, and two-step, increasingly redirect traditional thinking and behavior of people in the direction of combining realities - analog and digital, including the virtualization of facts in their minds. Through the internet, physical reality itself, without being eliminated, is transformed into virtual reality, and virtual reality, in turn, is increasingly becoming an organic part of physical reality. The interconnection and interpenetration of the two realities not only caused the emergence of new areas in society and their accompanying activities and professions but also modified the foundations of the development of societies and people through the emergence of new types of education, learning, work, games, entertainment, nutrition, health, transport, localization and globalization of activities and relationships. However, the growth of people in the world of cyberspace, regardless of whether for communication with others, for work and study, for the creativity of various kinds, etc., is hardly an appropriate basis for their designation as digital, respectively virtual; it is unlikely that their growing dependence on new digital communication technologies is decisive for such labeling (Steven,2016). And isn't it fashionable for so many researchers to turn to this topic? Isn't it caused by the "intelligent" sound of the word digital at the root of its spread? There may not be as many people involved in the subject if we use its literal translation, a mathematical category - numeral, numeratization, numeralization, numeral systems, numeral

metamorphoses. After all, isn't this a postmodern development of industrialization, as digitalization is often placed in the frame of" Industry 4.0 "? It is no coincidence that the term "internet economy" has been easily replaced by the term "digital economy," "e-commerce" with "digital commerce," and even "media literacy" with "digital literacy." It has even appeared in universities and the discipline "digital sociology," and what interest would it have if it was called numeral sociology?! And what about the numeral economy, numeral enterprise, numeral culture, etc.

The fact is that there is no straightforward communication between people, and there are no completely digital means. The relevant interpretation of digital communication is communication in the traditional sense plus a long series of mediating attributes - air, vocal cords, vision, hearing, cables, waves, receivers, transmitters, antennas, analog recording instruments, digital instruments for switching from analog to digital, algorithms, etc., which ultimately increase the mediated digitally created mechanisms. The possession of programming knowledge, respectively in a specific programming language by the communicators (programmers) in the creation of digital software products to be used as pre-elements of the traditional and interactive communication chain (communicator – message - recipient) is not a reason to assume that virtual or digital communication is taking place. And don't analog means of communication also have a reason to be labeled similarly? The simultaneous presence, sharing, or existence in the so-called virtual world through digital tools is an expression of participation in real, not virtual, communication. Communicating on a smartphone, viewing two people in photos, or watching videos simultaneously in the same or different spaces is real authentic human communication with digital mediation. The simultaneous residence and connection of the virtual with the real world introduce a "feeling of touching the experienced" and a fusion of realities and a newly built diverse physical reality. Sociology faces many challenges with ambivalent consequences (Kravchenko, 2019). "Smart" objects, cities, villages, communities, artificial intelligence, multitudes that are positive in themselves, but also pose severe risks to people's behavior and thinking, to relationships, to games, alienation, and falsification, have emerged. Turns or combinations are probably the most reliable trend.

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