# CONCEPTUALIZATION OF DIGITALIZATION: OPPORTUNITIES AND CHALLENGES FOR ORGANIZATIONS IN THE EURO-MEDITERRANEAN AREA

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Digitalization is radically interfering and changing the fundamental assumptions of the way of life and organization of work in a postmodern society, which is becoming more globalized and more digitalized than ever before. Therefore it is becoming increasingly important for organizations to quickly, efficiently, and appropriately plan the digital transformation to achieve flexibility and to maintain market competitiveness. In this context, the understanding of digitalization and related concepts is vital. The paper focuses on the social and organizational level and highlights the conceptualization of digitalization and the results of previous research, which support the hypotheses of significant organizational changes while highlighting the opportunities and challenges that digitalization brings to society and organizations in the Euro-Mediterranean area and around the world.

*Key words*: Digitization, digitalization, digital transformation, digital convergence, digital globalization

## INTRODUCTION

Digitalization is a term that has been used more and more frequently in public discourse in recent years, with many variants of the term used, and in many cases, misused or misleading. In general, using the term digitalization, we aim to change the impact and consequences of information and communication technology on society and its systems (e.g., economic, political, cultural, social). Caution must be exercised when using the term as different conceptual meanings define different processes of digitalization and the role that these processes play in the context of the impact of information and communication technology on society and its systems. The purpose of the paper, by the analysis of texts and studies, is to analyze different definitions of digitalization and related concepts, to find relatedness and differences, and to offer an original definition which will contribute to the possible unification and in-depth understanding of the concept of digitalization. That is necessary for understanding the studied field and with that contribute to the easement of the search for appropriate solutions for the opportunities and challenges that will come with digitalization at the company and organization level in every country of the Euro-Mediterranean area and beyond, since digitalization is a global phenomenon.

The structure of the article thus covers the definition of the digitalization process and related concepts such as digital transformation and digital convergence based on the analysis of secondary sources. It also presents some of the key opportunities and challenges posed by digitalization, as it is a long-term process of which result is still is not entirely known.

## DIFFERENTIATION BETWEEN DIGITIZATION AND DIGITALIZATION

There are two conceptual meanings of digitalization that are closely linked and often used interchangeably across a wide range of literature - Google Scholar finds approximately 571,000 »digitization« hits and approximately 221,000 »digitalization« hits, confirming the importance of the precise conceptual definition of digitalization. The first meaning refers to digitization as the

process of digitizing, that is, the conversion of analog data (e.g., images, video, text) into digital format (The Oxford English Dictionary 2019; Gartner 2019a). Also, Brennen and Kreiss (2016) define digitization as the material process of converting individual analog streams of information into digital bits. The second importance is related to digitalization as the acceptance or increase of the use of digital technology by organizations, industries, countries. (The Oxford English Dictionary). According to Brennen and Kreiss (2016), the process of digital transformation is how many domains of social life are restructured around digital communication and media infrastructure. A simple example can also show the difference between conceptual meanings. In the context of digitization, we use a digital tool to scan an analog contract record into a digital contract record, which is then saved in digital PDF format and then stored on a hard disk on our computer. In the context of digitalization, we use a digital tool to scan an analog contract record into a digital contract record, which is then saved in digital PDF format. This PDF is then uploaded via the Internet to a cloud service, which can be accessed at any time, anywhere. In both cases, the process was digitized, but in the second case, the process was also digitalized, as we took more significant advantage of digitization opportunities. While digitalization implicitly expresses a positive connotation, in the case of digitization, this is generally not the case. The example also shows that digitization is urgently needed to realize digitalization.

Digitization is, therefore, a technical process of converting analog streams of information into digital bits that have discrete and discontinuous values or are based on two separate states (Feldman 1997). These two separate states are a characteristic of the digital world, which leads us to conclude, in the words of Robert Pepperell (2003), that digital information is „discrete and pure" while analog information is „continuous and noisy". However, Robinson (2008) defines his analogy much more in detail when he notes that it is analogous as smoothly changing, possessing the properties of the apparent impeccable and untouchable credibility of space and time. It compares analogyness with space and time, which allows for infinite division, and

in association with them (space and time), connects something authentic and natural to the artificial and arbitrarily truncated precision of the digital. Digitization can also be understood as a process that, in addition to being symbolic, has material dimensions and generates information that can be expressed in many different ways, through many different types of materials and in many different systems. From a theoretical point of view, almost any material with two simple states can be used to store and communicate digitized signals, including silicon transistors, punch cards, or atoms (Brennen and Kreiss 2016). Manoff (2006) emphasizes the intangible quality of information obtained through digitization while reducing the importance of the physical systems (transistors) on which information is stored. In this context, the authors' key finding (Manoff 2006; Hayles 2003) is that digital information is stored on and communicated through the physical orientation of material transistors as bits. Although digitized information is not limited to specific types of materials, in the end, it is still based on material configurations. This is precisely how digitization mediates between the material and the intangible, making digitization a unique process. Verhulst (2002) further argues that just as digitized information can be represented on any set of transistors, all forms of data - alphanumeric texts, graphics, still and moving images and sounds - can be digitized. Van Dijk (2006) points out that the conversion process occurs through precise technical mechanisms and requires a specific technical infrastructure that re-aligns the original signal itself. While popular belief often describes digitization as a technical process, we humans have made certain choices about what to keep and what to discard on algorithms that perform the digitization process. Jonathan Sterne points out in the example of the history of sound reproduction that the same applies to analog technology (2003). Analog technologies produce images that are more faithful to the original than digital images that continuously reconstruct bits in an instant, but both necessarily interpret the world. Digitization, therefore, generates data with a series of distinctive characteristics, or, as Negroponte (1995) points out, it is the universality of digitized information. Also, Flew (2005) believes that any

bit can interact with any other bit, regardless of the shapes that were initially converted to digits or what these digits represent when made available to the end-user.

However, the universality of digital information presupposes the withdrawal of all non-essential supplementary information (Dretske 1982) and any inherently unnecessary repetition (Negroponte 1995). In this context, Van Dijk (2006) boldly argues that digitization by reducing communication to its essential components produces a lingua franca, capable of facilitating universal communication. Digitized information can be easily stored and transmitted due to a lack of errors, repetition, and statics, which also enables easy manipulation and display of this data (Verhulst 2002). They enable data compression (Negroponte 1995) and large-scale controlled storage (Verhulst 2002). Digital data, because it can be easily manipulated, gives users additional control over information (Beniger 1986; Owen 2007). According to Feldman (1997), this additional control enables users to formulate their own digital data experiences. Digitization, therefore, allows for a considerable measure of interactivity between the user and information. Lessig (2008) uses this thesis in his popular idea of digital technologies that support the democratic form of remix culture.

Because digital beats have only two possible states - 1 and 0, nodes will make less data transmission and decoding errors than analog systems. Van Dijk (2006) argues that this is reflected in the transmission of information without loss, which in turn results in fewer errors and fewer duplications of errors, while also giving more opportunity for accurate processing. At the same time, the transmission of digital information does not involve the transmission of any physical material but is merely a transfer of transistor configuration information or copying. Groys (2008) sees this as an erosion of the distinction between original and copy. It is precisely this idea, as Benkler (2006) confirms, that has particular weight on intellectual property legal issues. As Lessig (2008) notes, this can have troubling implications for the spread of intellectual property, since legislation either regulates reproduction or copying. However, with every use of creative work in a digital context, technology creates a new copy. Lessig (2008)

thus identifies the central tension of digitized information: digitized information, on the one hand, is non-competitive, meaning that it can be reused repeatedly by different people without the original digital object being reduced or degraded. This, combined with the near-zero marginal cost of reproduction, allows for cheap, accurate, and widespread copies of digitized content (Brynojolfsson and McAfee 2016). A simple way to reproduce digital information, interactive accessibility, which has resulted in the proliferation of creative recombinations of cultural content, and smooth distribution of digital creative work have challenged the monetization of copyrighted content and undermined the ability to claim recoverable copyrights over cultural property (Ananny and Kreiss 2011; Boyle 2009; ; Lessig 2008; Benkler 2006; Fisher 2004). On the other hand, industries have responded to digitized information by creating numerous technological solutions in the digital rights management area (Gillespie 2007) that in fact lock consumer products and prevent even fair use of copyrighted content and by pushing platforms and individuals after removal of all potential copyrighted content, including those judged by the courts to be fair use of copyrighted content (Vaidhyanathan 2003). As Mansell (2012) writes, these issues, which are actually at the intersection of digital law and accessibility, have spurred two decades of activity and work in the field of internet regulation, in addition to existing efforts in the areas of competence and governance.

Copyright protection is not the only legal dilemma in the field of digitization. The last few years have seen justifiably critical concerns about the relationship between digitization and control. A quarter of a century ago, Negroponte (1995) correctly concluded that digitization produces metadata that is generated by radically simplifying or reducing the information in digital form. The system produces information about digital streams by summarizing signals to their most basic form. Metadata enables computer systems and infrastructures to index, search, and store digitized information. Mathes (2004) points out that it is the users who often themselves produce digital metadata in ways that allow the classification and indexing of information.

In various contexts ranging from knowledge production, social science research, to government control, metadata has proven to be a crucial aspect of digital media. They contributed to the creation and accessibility of big data, including revealing the network structure of blogs and social networking patterns on online social networks, patterns of online social media usage during the Arab Spring, political online media traffic, and message diffusion patterns regarding health. State agencies aimed at monitoring people also proved to be extremely useful. In discussing the use of metadata for state control purposes, Healy (2013) demonstrated the power of metadata, using the concept of organizational affiliation to find Paul Revere and his revolutionary colleagues without considering the content of their messages. Digitization and digitized information are characterized by radical uniqueness, as the digitization of information is expected to offer important and meaningful features, such as the characteristics of digitized information, and its consequences will radically transform the entire media environment. Thus, the ultimate implication may be that digitization echoes across social groups and social interactions. However, when discussing changes in social structures at the macro level, a different meaning is often used, that of digitalization (Brennen and Kreiss 2016).

Since the emergence of the term digitalization, the effects of digitalization on society have been at the heart of the discussion. The first modern use of the term digitalization in connection with computerization can be seen in an essay published in the North American Review in 1971. Robert Wachal (1971) describes the implications of digitalization on society, in the context of countering objections to and the possibility of computer-aided exploration of social phenomena (Sanders 1974). Studying and exploring the concept of digitalization has produced enormous amounts of literature, highlighting the ways in which the digital media structure shapes and influences the modern world. In this context, digitalization has begun to address the structuring of diverse areas of social life around digital communication and media infrastructure. Wachal sees digitalization as one of the key, if not crucial, features of the modern

world. He is supported by Van Dijk (2006), stating that we are on the way to having for the first time in history a single communication infrastructure that will connect all the activities of the society. This communication system is shaped by new digital media, which are often defined as old media that have been transformed into devices that allow digital signal management (Verhulst 2002). The authors analyze in various ways how digitalization is shaping the modern world. Among other things, they focus on the rise of the globalization process due to the use of digital technology (Sassen 1998). The processes of digitalization and globalization of the economy have eroded national sovereignty, transformed the concepts of materiality and space, and facilitated the new circulation of culture, capital, goods and people. Research thus shows that digital media have already become a central pillar of global capital flows (Knorr Cetina and Bruegger 2002). Although many authors have written about the information society, most of the explanations and modern understandings of the information society come from the earlier works of Fritz Machlup (1962) and Daniel Bell (1972). One of the more significant findings of the above authors is that the rise of the information society is causing widespread shifts in national economies and occupational patterns. Within the established framework, researchers have argued that the computer technology of the information age represents what mechanization represented the industrial revolution (Naisbitt 1984). However, as Webster (2006) writes, some have implicitly recognized technological determinism in this thesis.

## DIGITAL CONVERGENCE AS A RESULT OF DIGITALIZATION

In the context of digitalization and its impact on society, the notion of digital convergence should be emphasized. Tilson, Lyytinen, and Sørensen (2010) point out that digitalization has a profound impact on society as it promotes convergence across sectors. This is based on the convergence of (digitized) media, which drives social and technical change in the fields of production of culture and knowledge, political participation and collective action, statehood, globalization, and social structures

(Brennen and Kreiss 2016; Yoffie 1996). The idea of digital convergence (Watson 2012) has been explored through different processes and domains in society, with different forms of convergence identified. Four key dimensions of digital convergence are highlighted in both meanings (digitization and digitalization): (1) infrastructure (network), (2) terminal (device), (3) functional and in relation with it rhetorical, and (4) market convergence (Brennen and Kreiss 2016). Oblak and Petrič (2005) point out that in order to adequately address digital convergence, technological changes must be observed at every step of the information infrastructure, from content design to its distribution and consumption. This is a case of technological convergence, which refers to the "fusion of all modes of mediated communication into electronic, digital formats supported by computers" (ibid.).

Jenkins (2001) also presents social or organic convergence as a multitasking strategy for consumers to move in the new information environment. As an example of organic convergence, he gives an example of a student watching a sporting event on television, listening to music over the stereo, processing text on paper, and writing an email to his friends. In addition to social or organic convergence, Jenkins (ibid.) also presents the importance of the culture convergence process, which he describes as the emergence of new forms of creativity at the intersection of various media technologies, industries, and consumers. We need to understand it in the context of media convergence because it fosters a new participatory culture by giving average people the tools to archive, record, capture, and distribute content. Ingenious and pervasive businesses leverage this kind of culture to foster consumer loyalty and produce low-cost content. Media convergence also promotes transmedia storytelling, which marks the development of content across numerous communication channels. While producers are harnessing organic convergence, storytellers will use each communication channel to communicate different types and levels of narrative information, using each medium to do exactly what it does best.
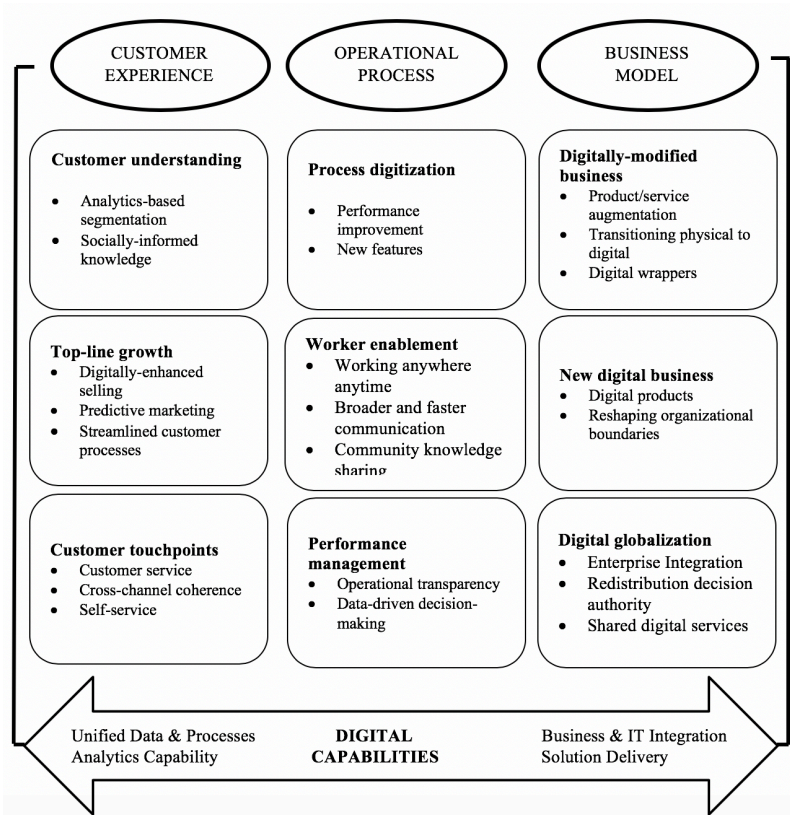
## DIGITAL TRANSFORMATION AS A TOOL TO TACKLE THE CHALLENGES OF DIGITALIZATION

Changes in the political, economic, cultural, or other processes that are the mainstay of digitization result in digital transformation. It can be defined as a process of shifting an organization from old approaches to new ways of working and thinking through the use of digital, social, mobile, and emerging technologies. This process involves changes in the organization's management, presupposes different thinking, encourages innovation and the development of new business models, incorporating asset digitization and increased use of technology to enhance the user experience of the organization's employees, customers, suppliers, partners and shareholders (Agile Elephant 2015). At the organizational level, according to Gartner (2019b), in the case of digital transformation, the use of digital technologies to change the business model, generate new revenue and create new opportunities for value creation. Although digital transformation is used in a predominantly business context, its impact also extends to other (government, non-government, international) organizations. Often, these organizations use existing and emerging digital technologies as a tool to address societal challenges. One example is the Internet, which has resulted in the digital transformation of the advertising industry.

Westerman, Bonnet, and McAfee (2011) conducted an in-depth study of digital transformation at the MIT Center for Digital Business and Capgemini Research Institute to help them understand how companies are undertaking digital transformation. They interviewed 157 executives from 50 large companies with over $ 1 billion in annual sales coming from 15 different countries. About half of the interviewees were business executives, and the other half were technology and IT executives. All the companies involved were characterized by the path of digital transformation but implemented it at various speeds and with different results (Westerman et al., 2011). The interview analysis showed the authors a clear pattern of how digital transformation is taking place in companies. The components of digital transformation are presented in the figure below.

Figure 1: *Building blocks of the digital transformation*

| CUSTOMER EXPERIENCE | OPERATIONAL PROCESS | BUSINESS MODEL |
|---|---|---|
| **Customer understanding**<br>• Analytics-based segmentation<br>• Socially-informed knowledge | **Process digitization**<br>• Performance improvement<br>• New features | **Digitally-modified business**<br>• Product/service augmentation<br>• Transitioning physical to digital<br>• Digital wrappers |
| **Top-line growth**<br>• Digitally-enhanced selling<br>• Predictive marketing<br>• Streamlined customer processes | **Worker enablement**<br>• Working anywhere anytime<br>• Broader and faster communication<br>• Community knowledge sharing | **New digital business**<br>• Digital products<br>• Reshaping organizational boundaries |
| **Customer touchpoints**<br>• Customer service<br>• Cross-channel coherence<br>• Self-service | **Performance management**<br>• Operational transparency<br>• Data-driven decision-making | **Digital globalization**<br>• Enterprise Integration<br>• Redistribution decision authority<br>• Shared digital services |

Unified Data & Processes Analytics Capability **DIGITAL CAPABILITIES** Business & IT Integration Solution Delivery

Source: Westerman, Bonnet and McAfee (2011).

The authors found that although large traditional companies are different from digital companies, many are successfully starting the digital transformation. Although they are transformed at different speeds and with different results, it is common to all that digital transformation is driven by the pressures of customers, employees, and competitors. Successful digital transformation is not only based on the implementation of new technologies but above all, the changes in the organization that can take advantage of the opportunities that new technologies offer, including the transformation of customer experience, operational processes, and business models. Companies that are in

the process of digital transformation are changing the way functions work, redefining interactions between functions, and testing new boundaries of the business. The authors point out that a successful digital transformation will occur when it is primarily from the top down and not the bottom up. They also note that the transformation process must focus on managing change, not change itself. Successful digital transformation is reflected in the transformation of an existing organization so that it can leverage existing strategic resources in new ways (Westerman et al., 2011). The key to successful digital transformation, therefore, lies not in the use of new or traditional technologies, but in the re-design and management of changes related to the operation of the business. It is not only a technological challenge, but most of all, a challenge related to management, managers, and employees. (Westerman et al., 2011).

Managers are digitally transforming three key pillars of business: customer experience, operational processes, and business models. Each of these pillars has three different elements (customer understanding, top-line growth, customer touchpoints, process digitization, worker enablement, performance management, digitally-modified business, new digital business, and digital globalization) that are changing. The combination of pillars and elements represents nine components of digital transformation. The authors point out that none of the companies studied completed the transformation of all nine areas by the end of the survey, confirming that digital transformation is a long process (Westerman et al., 2011). Many managers are aware that these changes are necessary. The authors (Westerman et al., 2011) cite examples of companies introducing digital products to complement traditional products. At the same time, they can gain global synergies through digital technology and integrated information while remaining responsive locally. Organizations of this kind also benefit from the potential of global shared services in finance, human resources management, and even core capabilities such as manufacturing and design. Global shared services promote efficiency, flexibility, and reduce risk. For local unit managers, this form of centralization can be tedious, but it is also balanced by the benefits of increased efficiency and

the ability to focus on strategic activities while giving them a broader view of the business. The digital globalization of shared services also envisages a changed management approach to policy-making, based on fewer direct decisions and the provision of more guidance or guidance (Westerman et al., 2011). Digital transformation, therefore, requires strong leadership that can implement and direct change and a vision that defines the specific parts of the organization that will transform (Westerman et al., 2011).

## AT THE CROSSROADS: THE OPPORTUNITIES AND CHALLENGES OF DIGITALIZATION

In the last decade, we have witnessed ideas (Benkler 2006) that highlight radical changes in the production of culture and knowledge. They argue that in a world dominated by digital platforms (such as Facebook, Twitter and Wikipedia), entirely new forms of non-marketable and non-proprietary production of knowledge and culture have emerged due to the unique accessibility of digital technologies, which have changed the ways and criteria of creating sociability ( Brennen and Kreiss 2016). The rise of digital media brings, among other things, the low cost of creating and disseminating virtually all digital information, be it movies on smartphones or political commentary on blogs. Digitalization needs to be critically addressed due to its disruptive properties, and besides the opportunities, the challenges and dangers it brings must be highlighted. The nature of ongoing technological change does not allow it to capture all the opportunities and challenges precisely, nor does it make it possible to anticipate the disruption and effects of technology on the economy. The article highlights opportunities and challenges at the company and organization level. Digital convergence is changing the organizational environment to such an extent that the effects are manifested from multiple angles - in terms of religion, culture, political and other views, expectations and desires (Zzauer 2017; Revoredo 2017; Bentivegna and Guerrieri 2011; Chung 2007; Storsul and Stuedahl 2007; Global Performance Improvement 2015). Frey and Osborne

(2017) point to the convergence of different sectors of the industry, which will reflect in the reduction of needs for certain professions, despite the emergence of new ones. However, the transition to new professions will not be without challenges, as there will be a vast need for retraining and lifelong learning, and everyone, due to various factors (age, gender, the region of residence, quality of life), will certainly not be able to perform the transition. The forecasts are confirmed by data from the World Economic Forum (2016) since between 2016 and 2021, more than 35% of the skills identified in 2016 as important for the job will be replaced.

To help understand the specific opportunities of digitalization, we highlight the elements of change that digitization brings to organizations in the case of paperless business:

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| *Increased productivity* |
| *Cost efficiency* |
| *Enhanced security* |
| *Enhanced information preservation* |
| *Disaster recovery* |
| *Space-saving* |
| *Stay competitive* |
| *Environmentally friendly* |
| *Digital transformation* |

Source: Westerman, Bonnet and McAfee (2011).

Document digitization represents the first digitization step in the context of operational processes (Westerman et al., 2011; Aptara 2018). Microsoft (2018) predicts that digital transformation will contribute more than $ 1 trillion to GDP in the Asia-Pacific region by 2021, highlighting artificial intelligence as a primary catalyst for continued growth. However, the integration of artificial intelligence into society is not possible without digitization, digitalization, and digital transformation of organizations, economics, and society as such. Leading organizations in digital transformation are highlighting digital

competencies and cybersecurity as a critical challenge in digitalization. Data capabilities in the context of using advanced analytics tools that enable organizations to respond quickly and effectively in a fast-changing market are often highlighted as a challenge (Microsoft 2018). Digitalization provides unprecedented access to knowledge, reduced costs, and greater interdisciplinarity, which is also a necessity, as trends indicate that younger generations will, on average, perform far more different occupations than generations in the 20th century (Mittal et al., 2018). Some authors (Standing 2008; Williams and Lansky 2013) also point to the problem of the proliferation of forms of work, which is characterized by the combination of ordinary forms of work and precarious work with illegal status, together with the problem of the spreading of the informal sector and informal forms of employment. These problems can, of course, be linked to the trend of digitalization, because of their disruptive nature, it empowers the trend of proliferation of deregulation of employment regimes, with the situation of classic employees slowly but steadily equaling the position of the most deprived categories of non-standard employees. These problems are topical and especially acute because of the negative effects projected on the inability to maintain social dialogue by social partners throughout the (un) developed world. Changes in the nature of interpersonal relationships are noticeable at the societal level, and various forms of mental illness have been on the rise, considered harmless to society several decades ago, but today show the potential to seriously threaten the healthy development and advancement of society (Harteis 2018; Tal and Torous 2017; Faibrun and Patel 2017; Utley 2016; Dávideková 2016; World Economic Forum 2018; Makridakis 1995). Political science, communication science, and other sciences are already facing the challenges of digitalization in interpersonal and other forms of communication (Charvat and Brunner 2017; Michalska and Lilleker 2017). For example, the phenomenon of fake news is pervasive, but it has gained in intensity precisely through information and communication technology, which enables real-time broadcasting.

Digitalization has a massive impact on the economic field, which plays a vital role in the development and advancement of society (Denecken 2016; Evangelista et al. 2014; Katz et al. 2014). To this day, we do not know precisely what the concrete effects of online social networks are, although studies clearly show that there is a change in brain function itself (Giedd 2012; Crone 2018; He et al. 2017). Changes in the perception of reality have been conditioned throughout human history by the existence of a kind of dominant institution, i.e., system, while in the age of information and communication technology, the perception of reality can be affected by a single viral posting of text, images or videos on an online social network. Digital solutions offer advantages that can, in the context of the country, simplify security and intelligence systems, facilitate economic processes, and standardize infrastructure and information transfer. The company can, among other things, look for improvements in the implementation and use of public services, the issuance of personal documents and certificates, the management of finances, and access to services provided by the public or private sector.

Digital solutions also bring about positive changes in the context of government-imposed regulation, as approvals can also be issued online. The digitization of bureaucracy, meanwhile, brings about accelerated processing and processing of processes and, together with digitalization, contributes to a more exceptional sectoral organization. In the context of the impact of digitalization on public transport, Davidsson et al., (2016) identify the following categories of challenges: business models, privacy and integrity issues, security, interoperability, scalability, usability, data collection and deployment. These categories of challenges are practically universal and can be applied to all areas of human activity. Nevertheless, this very universality of challenges also shows how global digital convergence really is. On the one hand, it offers more opportunities to address the challenges of digitalization, and on the

other hand, due to convergence, it brings increased risks that can lead to significant harm if unsuccessfully solved.

## CONCLUSION

The process of digitalization requires an entirely different mindset, the high availability of resources for investment and digital transformation purposes, and the different competencies and knowledge that the existing workforce possesses. Such reasons give rise to various training initiatives for the workforce and consumers intending to develop digital competencies that are not only crucial in the context of work and employment but also in the context of the use of services and the organization of professional and private life. So how do we research and study a phenomenon that is so complex and the consequences of which are not yet fully known to society? In order to truly understand what the digitalization process and its related concepts bring about and what changes it causes, we must first understand the conceptual differences in the various meanings of the said process and related concepts (e.g., digital transformation, digital convergence). We need to understand that digitization refers to the process of converting analog data to digital format, digitalization defines the use of digitization as a lever to achieve change in processes, while digital transformation refers to the process of shifting organizations to new ways of working and thinking. The result of these activities is the convergence of different sectors or digital convergence. We further believe that this kind of research and study of digitalization can be carried out based on already established research models. Due to a completely different relationship between digitalization on the one hand, and the spatial and temporal dimension on the other, we cannot expect that the academic community will be able to, with sufficient speed, produce scientific findings, conclusions and pragmatic forecasts that would otherwise be necessary at this time. This is also confirmed by the review of Slovenian literature on the subject, which is rather scarce. Although some articles and publications on this topic can be found, none of them offers an in-depth study of the impacts and consequences of digitalization at the

level of society, organizations, and individuals. Scientific knowledge, however, is essential for organizations to help them prepare for the opportunities and challenges of digitalization and to identify trends in digitalization that affect the organizational environment more easily.

Exploratory empirical research of the concept under consideration also opens up the possibility of making pragmatic predictions based on the research done. Such forecasts are essential to organizations in terms of ensuring overall development orientation, as the rise of the digital economy and the effects of digitalization, on the one hand, increase uncertainty and hinder long-term planning opportunities, and on the other hand, with the development and implementation of new technologies, make it more accurate and more sustainable long-term planning. It is no coincidence that the European Commission (2015) identified digitalization as one of the ten key priorities. Therefore, the scientific paper seeks to make a meaningful contribution to the unification and in-depth understanding of the digitalization process and related concepts through the analysis of studies and texts and also highlights some of the key opportunities and challenges of digitalization at the level of society and organizations (U.S. Department of Transportation, 2016). In addition to those mentioned above, the level of the individual that is not explicitly addressed in the article is relevant, which is a limitation of the article or a limitation of the level of discussion.

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| 111 |

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