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DIGITAL TRANSFORMATION: A NEW MODEL OF ECONOMY AND PUBLIC ADMINISTRATION IN ROMANIA

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ABSTRACT
THE DIGITALIZATION PROCESS OF SOCIETY INVOLVES THE ACCELERATION OF THE WAY WE LIVE OUR LIVES, A DIRECT EFFECT OF IT IS THE INCREASE OF THE SPEED WITH WHICH DECISIONS ARE MADE. THE TERMS "DIGITALIZATION" AND "DIGITAL TRANSFORMATION" ARE ALWAYS UNDERSTANDED AS TWO UMBRELLA CONCEPTS THAT COMBINE BOTH TECHNOLOGICAL CHANGES AND THOSE WHICH APPEAR IN SOCIETY ON A LARGE SCALE.
DIGITAL TRANSFORMATION REFERS TO THE ACCELERATED PROCESS, WHICH IS CARRIED OUT ON A GLOBAL SCALE OF TECHNICAL ADAPTATION AS A RESULT OF THE DIGITALIZATION OF INDIVIDUALS, SOCIETY AND NATIONS, WHICH CAN BE PERCEIVED SIMILAR TO GLOBALIZATION.
BOTH THE ADMINISTRATIVE AND THE ECONOMIC PROCESS ARE IMPOSSIBLE TO MANAGE WITHOUT THE USE OF DATA AND INFORMATION AND COMMUNICATION TECHNOLOGIES, GIVEN THE FACT THAT, IN AN INTERCONNECTED WORLD, IT OCCUPIES MORE AND MORE SPHERES, WHILE ALSO CREATING NEW OPPORTUNITIES FOR SOCIO-ECONOMIC DEVELOPMENT.
ALSO, GLOBALIZATION, TRANSFORMATION OF FINAL CONSUMER BEHAVIOR AND ACCESS TO INFORMATION RADICALLY REMODELS THE GLOBAL ECONOMIC AND SOCIAL SYSTEM. AN EFFICIENT DIGITAL ECONOMY CAN OPEN OPPORTUNITIES FOR THE CREATION OF NEW BUSINESS MODELS AND A NEW DATA MANAGEMENT SYSTEM BOTH IN THE PRIVATE AND PUBLIC ADMINISTRATION SECTORS.

KEYWORDS: DIGITALIZATION, DIGITIZATION, DIGITAL TRANSFORMATION, PUBLIC ADMINISTRATION

INTRODUCTION

Throughout history, the economy has been transformed by revolutionary inventions, and the "digital economy" is a concept that emerged in 1995, a year considered a benchmark in the production of information technology equipment.[3] The idea for digital services started

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[3] O. Kravchenko, M. Leshchenko, D. Marushchak, Y. Vdovychenko, S. Boguslavska, „ The digitalization as a global trend and growth factor of the modern economy" published in 2019, available at https://doi.org/10.1051/shsconf/20196507004 accessed on 09.09.2020, 1-5.

in the 1990s, when certain industries turned to media for advertising campaigns. Also in the early 1990s, the first 2G cellular network appeared in Finland. In recent times, the emergence of social media platforms has led to a change in the way a business is promoted.

Digital transformation involves rethinking old processes and transforming them into new, faster, more efficient and sustainable processes and decisions. Daniel Schallmo defines the digital transformation of modern business as a process that acts from the individual level to the level of networks of actors, fundamentally changing business models.[4] Transformation involves the use of new technologies to deliver services. This process requires skills that allow data collection and exchange, as well as the ability to analyze and evaluate options, which are then used to initiate new processes.

Digital transformation is facilitated by increasingly accessible technology, thus becoming an instrument of the modern economies of the 21st century, when sectors with a high level of digitalization are experiencing the fastest economic growth. According to the literature, digitalization involves building a network of all sectors of the economy and society, which is why we can put an equal between the digital transformation and the transformation of the economic and administrative environment. The spread of know-how, knowledge and technological expertise is growing and has, first and foremost, an impact on the world economy, with transnational companies facilitating the spread of innovation around the world.

The primary challenge of the theoretical framework derives from the transition from the static world, in its physical form, and the digital world, unseen, which requires certain specific skills and abilities to be able to improve organizational relationships in this ecosystem.

Technological systems are developed by humans being a reflection / materialization of the essential needs of civilization, becoming indispensable to society, which validates the statement made by Platon who said that "necessity is the mother of invention." The emergence of technology in everyday life has created a domino effect, influencing each other, society indirectly contributes to the creation of new technologies based on meeting essential needs, new technologies change the way society behaves and functions, in the end affecting the evolution of society itself.

At the macro scale, society can use technology to survive, to evolve and achieve higher levels of global processes, and to increase social efficiency. At the same time, at the micro scale, technological evolution changes human behavior to the level at which it impacts the development of the body of individuals.[5]

In our paper, we will try to define the concept of “digitization” and “digital transformation”, to identify the characteristics of digitalization, to see what digitization entails from a normative point of view both at European and national level, to analyze the evolution and features of the new type of administration system adapted to the digital age. Management in the digital age or digital leadership does not consist in leading an organization in the digital age, but rather in having those skills needed to stimulate technology and innovation and harmonize them with the human factor.

[4] Daniel Schallmo & Christopher A. Williams & Luke Boardman, 2017. "Digital Transformation Of Business Models — Best Practice, Enablers, And Roadmap," International Journal of Innovation Management (ijim), World Scientific Publishing Co. Pte. Ltd., vol. 21(08), 1-17.

[5] D.J. Wardynski, „Technology and Society: How Technology Changed Our Lives”, published on *Brainspire*, october 2019, available at https://www.brainspire.com/blog/technology-and-society-how-technology- changed-our-lives accessed on 09.09.2020.

This paper proposes an evaluative approach to what digitalization means at European and then national level, compared to the level of training and education of the general population and then correlated with the skills of local government representatives. As research methods we will use both qualitative research in analyzing the works that address our topic of interest, but also quantitative methods in order to complete a questionnaire applied at the level of local administrations of different sizes. We will analyze the extent to which the digital age poses challenges in terms of leadership and organizational management, especially in the field of public administration.

At the same time, going beyond the theoretical framework, in our case study we will try to determine how digitization influences the creation of a digital strategy at the level of local administrations. Based on the questionnaire applied to a sample of territorial administrative units, we will see how the symbiosis between technology and the human factor is created and how this process contributes to the improvement of relations between the administration and citizens.

DIGITALIZATION: CHALLENGES AND TRANSFORMATIONS

Saul Berman analyzed digital transformation and its effects on business models, encouraging leaders to focus on two complementary activities: using digital technology for greater collaboration and customer interaction, and reshaping customer values to transform the entire business model.[6] Bounfour also proposes the following definition: "digital transformation is a new development of digital tools, systems and symbols inside or outside organizations".[7] The Swedish government, recognized for its performance in this field, explains digitalization as the "catalyst, facilitator and engine of society's development in the coming decades." Brennen and Kreiss base their definition on social life: how human interaction has evolved from traditional methods such as letters, phone calls, to digital methods such as e-mail, chat and social media, digital essentials items.[8]

In recent years, all states in the European area have made progress both in terms of the development of communications infrastructure and in terms of public access to this infrastructure. For example, the European signal coverage on mobile phones, more precisely the percentage of the population living in areas with a cellular signal, is close to 100%, of which 98% are in 3G areas. Thus, the market for mobile telephony and telephone service providers has seen an increase in profits. However, there is still a visible gap between urban and rural areas.[9]

The Brookings report focuses on how digitalization has an impact on people, as "digitalization is transforming the world of work", as mentioned in the report "acquiring digital skills has become a prerequisite for individual, industrial and regional success" which ultimately changes people's jobs.[10] In the literature a clear distinction is made between digitization and digitalization. Digitization is a process of converting information from the physical environment into data in virtual space while digitalization involves the use of technology and the enhancement of digitization by exploiting digital opportunities to improve

[6] Berman, Saul J.. "Digital transformation: opportunities to create new business models." *Strategy & Leadership* 40 (2012): 16-24.
[7] Bounfour, Ahmed. (2016). From IT to Digital Transformation: A Long Term Perspective: 11-29.
[8] S.J. Brennen, D. Kreiss Digitalization - K.B. Jensen, R.T. Craig, J.D. Pooley, E.W.Rothenbuhler (Eds.), The International Encyclopedia of Communication Theory and Philosophy, John Wiley & Sons (2016), 1-11.
[9] Report "Digital trends in Europe 2021", produced by International Telecommunication Union.
[10] Report to the Metropolitan Policy Program in Brookings, Mark Muro et. all, ,, Digitalization and the American workforce ", 2017, 5-15.

business processes or increase the quality of life among the general population. Digital transformation is then defined as a process used to restructure economies, institutions and society at a systemic level. The large number of opportunities generated by digitalization puts pressure on institutions to analyze or rethink their current strategies and on the systemic and early identification of new opportunities, which requires continuous adaptation by decision-makers in these institutions.

As digitalization becomes more important, it becomes an area of strategic importance that needs to be managed at the supranational level. Thus, a digital strategy proposed by the European Commission becomes indispensable.

The digitalization of the public sector, implicitly, also imposes difficulties for citizens, depending on their level of training in interacting with online platforms, because a service that was previously provided by a civil servant becomes a self-made one, which can raise problems among the population, especially among the elderly population.

Digitalization is both a development opportunity and a necessity.[11] In this context, the European Commission is developing a policy of training European citizens to acquire the necessary digital skills, promoting initiatives such as the digital agenda and the skills agenda for Europe.

The economic crisis of 2007-2009 highlighted various structural problems of the Union and the need for a strategy and long-term goals to ensure a rise in living standards and at the same time the need to bring European countries back on the path to smart, sustainable and inclusive growth. The Digital Agenda for Europe was one of seven pilot initiatives proposed by the Union under the Europe 2020 Strategy, drawn up in 2010 at the end of the recession, with the aim of defining the key role that the use of information and communication technology will have to play in achieving the objectives of the strategy. In essence, technology allows us to address fundamental challenges, providing a better quality of life. The Junker Commission said the Digital Single Market Strategy was one of the ten priorities, committing a € 61.3 billion fund. The digitalization of the single market helps to break down barriers and create cross-border markets by changing the way consumers and suppliers interact. However, there is also a problematic part of the issue of digitization: the degree of digitization is not uniform at Member State level, and in terms of regulations we cannot talk about optimization, which can have a negative impact on the final consumer.

Regarding the digitalization of public services at EU level, we can see a trend of increasing the degree of digitalization and interaction of citizens with public authorities through online sites / platforms. From this point of view, in 2018 Romania was on the last place in the European Union, only 12% of the total population uses digital public services, this low percentage highlights on the one hand the lack of these types of services, and on the other hand, the absence of citizens' basic digital skills.[12]

DIGITAL EUROPE

Digital Europe should reflect the best version of the Union: open, fair, diverse and democratic. The development of Industry 4.0 and the creation of the digital single market is a priority on the EU's agenda, meaning that the Union is expanding its legal support to boost economic activity, including: "European Digital Agenda", "European Broadband: Investing

[11] Alina Avram, „Digitalizare serviciilor în statele membre ale Uniunii Europene” published in Journal of World Economy of the Romanian Academy, Vol. 12, Nr. 1, on 2020, 49-52.

[12] Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, "A Digital Agenda for Europe", 2010.

in Digitally Friven "Growth", "Towards a thriving Data-Driven Economy", "Information society", "The age of Artificial Intelligence: towards a European strategy for Human-Centric Machines". According to these documents, digitalization also has social implications, yet we live in a world where there are still problems such as poverty and social exclusion. Thus we must keep in mind that the higher the level of digitalization, the lower the risk index of poverty and social exclusion of the population.[13]

A recent report by the United Nations reaffirms that the data circulating in the online space is the basis of the decision-making process, so the role of digital technology is becoming increasingly clear. The pace of human evolution demonstrates that only those who understand digital power can thrive. At the Digital Summit in September 2017, European leaders discussed the issue of accelerated digital competition in the European single market. The priority of the European Union is summed up in the following phrase: "a suitable Europe in the digital age". Another key objective of the strategy is to make Europe climate neutral by 2050. Thus, the European approach is based on three pillars:

I. TECHNOLOGY THAT WORKS FOR THE BENEFIT OF PEOPLE

Investments in research and innovation must be pooled within Europe to increase interconnectivity between countries, promoting the digital transformation in public administrations being a Union goal. Connectivity is the cornerstone of transformation, it is the foundation that allows data transfer and cooperation around the globe. In order to meet these goals and achieve the EU 2025 targets, appropriate infrastructure investments at Member State level are included in the new multiannual financial framework of the EU.

The implementation of reforms and the intensification of investments in research and development, together with the implementation of new technologies has the potential to increase the gross domestic product by up to 14% by 2030, also contributing to creating new job. In addition to the investment side, the real digital transformation starts at the level of the general population but also of business owners who must trust digital tools as safe.

Vulnerability in the online space increases in direct proportion to the level of interconnectivity, which is why it is necessary to establish consistent rules for companies, mechanisms to protect the exchange of information and ensure operational cooperation between Member States and the Union, while building a synergy between civil cyber resilience and cyber security law enforcement. Citizens need to be confident in the technology itself and in the way it is used, especially when it comes to Artificial Intelligence, meaning that the European Commission is presenting a White Paper on Creating Ecosystems of Excellence and Trust in this area, based on European values.[14]

In the general view of the European Union, education and training in digital skills is the key to digital transformation. As technology enters in our professional and private lives, digital literacy has become a prerequisite for effective participation in today's society, process automatization produces changes beyond the technological dimension.[15]

[13] Aleksy Kwilinski, Oleksandr Vyshnevskyi, Henry Dzwigol, ,,Digitalization of the EU Economies and People at Risk of Poverty or Social exclusion", in Journal of Risk and Financial Management, 2020.
[14] WHITE PAPER Artificial Intelligence - A European approach focused on excellence and trust Brussels, 19.2.2020 COM (2020) 65 final accessed at https://ec.europa.eu/info/sites/default/filacaccessed at es / commission-white-paper-artificial-intelligence-feb2020_ro.pdf on 26.07.2021
[15] Aleksy Kwilinski, Oleksandr Vyshnevskyi, Henry Dzwigol, ,,Digitalization of the EU Economies and People at Risk of Poverty or Social exclusion", în Journal of Risk and Financial Management, 2020.

II. A fair and competitive digital economy

The digital economy is defined as part of an economic outcome derived exclusively or primarily from digital technologies with a business model based on digital goods or services. The development of the digital economy can be described, in broad terms, as the process by which information technologies, such as the Internet or other communication tools, change economic and social relations, in a way that reduces a number of barriers in economic relations, or in some cases, completely removes them. According to Thomas Friedman, new technologies have the ability to unite the world by forming their own strong bonds through a combination of the following processes: production, research and marketing, and control over these processes through the latest technological tools. The society we live in is an informational one, and knowledge and information are the main inexhaustible and renewable resources.[16]

Ensuring a level playing field is essential in the digital age and the rules that apply offline must be transposed into the online environment, in order to gain the consumer's trust in the first place.

III. An open, democratic and sustainable society

Citizens have the right to reliable technology, where what is illegal offline, is also illegal online, since ethical and social rules must apply equally. In recent years, the Union has focused on creating an open, fair, inclusive and people-oriented virtual space through its General Data Protection Regulation and its rules for cooperation between platforms and companies. The rules applicable to digital services across the Union need to be strengthened and modernized and the illicit sale of dangerous or counterfeit goods and the dissemination of illegal content are issues that need to be addressed in the online environment at least as effectively as in the offline environment. A universally accepted public electronic identity is necessary for every consumer to have access to the data provided in the online environment in order to use products and services safely. A reliable online environment is the key to democracy and cultural diversity.

This digital component is the key to achieving the Union's ambitions, proposed in the Green Deal and goals for sustainable development. Digital solutions can advance the circular economy and at the same time reduce the social footprint on the environment of products placed on the European Union’s market.[17]

The European Digital Strategy proposes a vision that covers all the challenges involved in cyberspace and emphasizes the fundamental role of a strong data ecosystem, a system that promotes agility and innovation in the system of governance by regulating working ways and tools. The results of this strategy will be, on the one hand, a commission prepared to use all digital tools in collaboration with Member States, and on the other hand the successful implementation of the strategy, materializing in creating new digital solutions for European Commission policies, based on real data, but also of a secure virtual space. This strategy can be seen as the Commission's response to the European Council's call for full governance in the digital space to serve as an example. This means a fundamental change in the way the Commission works, so that it uses all the tools that follow exactly the needs of the people. Essentially, the staff will have access to tools that add value to the quality of work, which ultimately means the delivery, to citizens, of services or products that ensure a

[16] Thomas L. Friedman, Lexus și măslinul: cum să înțelegem globalizarea, București, Editura Fundației PRO, 2001, p.35.
[17] Comunicare din partea Comisiei Europene, „Shaping Europe’s digital future”, 2020.

better life or the simplification of cumbersome bureaucratic processes. Some objectives proposed by the strategy in order to implement this vision are:

• Support the Commission's priorities and political activities with secure, state-of-the-art digital solutions;

• Provide the Commission with high-quality, reliable, borderless digital public services, implementing its policies at a EU level, facilitating the free flow of data and stimulating the digital single market;

• Enable the transformation of the Commission and maximize its role in policy making by exploiting the potential of Commission data;

• Make the Commission a world-class "open administration" - an institution open to collaboration, innovative and agile;

• Ensure that the Commission's IT assets are secure, that unauthorized access to, or use of information is prevented and that the institution is protected from cyber attacks;

• Ensure the resilience of the Commission by ensuring the security, efficiency and effectiveness of its digital infrastructure and portfolio of digital services.[18]

DIGITAL ROMANIA

The state of crisis generated by the current pandemic of COVID-19 underlined the importance of digital assets in all fundamental areas, starting with education, the economic environment and last but not least for what public administration means. Basic and advanced digital skills support education and savings, enabling work to continue through networks and connectivity. Thus, digitalization plays a key role in crisis management and an important role in economic recovery, reinforced by the Council and the European Commission, which are committed to structuring recovery support in line with the dual transition to climate neutrality and resilient digital transformation.

For a solid recovery it is necessary to implement 5G technology and very high-capacity networks, digitalization of enterprises and public administration and implicitly the development and learning of digital skills. Consulting the report on the Digital Economy and Society Index, we can see that Romania ranks 26th out of the 27 member states of the European Union.

This situation is caused by the slow progress made in general, but also by the evolution of domestic policy, as the instability of governments has had a negative impact. Our country has the best results only in terms of connectivity, being on the 5th place in the EU, due to the high use of very high-speed broadband and the wide availability of very high-capacity fixed networks, especially in urban areas, but nevertheless, in terms of digital public services and the use of internet services, Romania's performance is the lowest among the member states of the European Union.

In 2012, Romania adopted the National Strategy on the Digital Agenda for Romania 2020 in which four areas of action are defined, but the achievement of the established objectives has not been evaluated.

Two Government Decisions from 2020 provide:

- GD no. 89/2020 the organization and functioning of a new body, the Authority for the Digitalization of Romania, which takes over the activities and structures of the Ministry of Communications and Information Society;

[18] Comunicare din partea Comisiei Europene, Strategia Digitală, „A digitally transformed, user-focused and data-driven Comission", 2018.

- GD no. 90/2020 abolishes the Ministry of Transport and the Ministry of Communications and Information Society and creates a new entity, the Ministry of Transport, Infrastructure and Communications.

The results of this 2020 report must be corroborated by the pressure on digital infrastructure and services during the pandemic and the immediate action taken by other EU Member States. Regarding the coverage of very high-capacity fixed networks, Romania suffers in terms of the digital divide between urban and rural areas: 82% in urban areas (EU average being 86%) and 39% in rural areas (EU average being 20%).

In terms of human capital, Romania ranks last in the Union in terms of the level of basic digital skills, as less than a third of people aged between 16 and 74 have at least basic skills, and only 10 % of the population is above the elementary level.

There are several government-run projects aimed at improving digital skills levels across the country, but the results are limited. But we must keep in mind that precisely these digital skills are essential for capitalizing on the benefits of digitalization both in the school environment and in the workplace. The low level of use of the variety of online services reflects the lack of trust in digital technology.

We must be aware that it is precisely these digital skills that are essential for capitalizing on the benefits of digitalization both in the educational environment and in terms of public administration and the field of work.[19]

The main impediment to the digitization of the public and private environment, as well as the successful use of these services, is the lack or insufficiency of digital skills among citizens. According to the European Commission, digital skills are defined as "safe, critical and responsible use of technologies for work, leisure, learning and communication, consisting of: information and knowledge, communication and collaboration, digital content creation, security and problem solving. This situation is an alarming one because it draws attention to the lack of theoretical development of the field and highlights the knowledge gaps that citizens face.[20]

The need for continuity in all areas and the 2020 pandemic accelerated the digital literacy process given that technology was brought to the fore.

In this context, the Romanian Digitalization Authority has the role of establishing technical standards and regulations in the field of e-government, information society and interoperability, which become mandatory throughout the public administration with the following responsibilities: the main state authority with responsibilities in implementing strategies and policies in the field of digital transformation and the information society; coordination of public authorities in the elaboration and implementation of national sectoral strategies for the digital transformation of Romania; elaboration of public policies regarding the establishment and development of innovation centers and business incubators, technology transfer centers and digital innovation; lays down technical standards and regulations in the field of e-government, the information society and interoperability which become mandatory throughout the public administration; last but not least, it will exercise control of state authority over compliance with domestic and international regulations.[21]

[19] Report of the European Commission on the Digital Economy and Society Index in Romania (DESI), 2020.
[20] Sorin Șandor, Simona Crețа, Tiberiu Fechete, "Digital competences among the Romanian population" published in the Transylvanian Journal of Administrative Sciences, Nr. 2, 2020, 132-147.
[21] Government Decision no. 89 of January 2020 on the organization and functioning of the Romanian Digitalization Authority, published in the Official Gazette in February 2020.

Perhaps the most important initiative proposed by the Romanian government aimed at accelerating the process of transformation and digitalization of public administration, is included in the National Recovery and Resilience Plan. This plan is drawn up as part of the recovery and resilience mechanism that the European Union is proposing as financial support in the context of the crisis caused by COVID-19 and is intended to accelerate the implementation of sustainable reforms and related public investment in the Member States.

Digitalization is just one of the factors that determine economic growth along with other tools to standardize data processing and storage at the level of central public administration and coordination between public institutions. The low level, or even lack of these services indicates a systemic problem. Although Romania has started the digitalization of public institutions, the degree of their use in practice is very low due to the lack of digital cooperation at inter-institutional level. In order to respond to the recommendations of the European Commission on economic recovery, promotion of the green transition and digital transformation, Romania needs to introduce flexible, reusable and interoperable tools. Among the measures to reduce the administrative burden is the creation of the government cloud for migration and integration into existing data structures of all available data so that the real-time provision of online services is supported.[22]

As highlighted in national or European documents, the McKinsey Digital Report on the group of countries in Central and Eastern Europe, emphasizes once again that the technology-based economy can become an engine of economic growth in Romania, the economic potential based on the benefits of digitalization being estimated at 42 billion euros of additional revenue by 2025, generating an increase in gross domestic product by about 20%.

According to the report, Romania has a solid foundation on which digitalization can be strengthened, given that in the period 2012-2016 Romania's digital economy grew by 10.8% per year, a growth almost four times faster than that of the states in the “Big 5” group (the top five economies in the EU), in addition, the digital infrastructure is of high quality

For Romania to reach its potential, it needs the involvement of policy makers by promoting the adoption of technology, both in the public and private sector, supporting workers in the process of qualification and requalification through various programs, given that the most pressing issue is the lack of digital skills among adults, creating opportunities for innovation and start-up programs. The same analysis points out that by 2030, 54% of workplace activities can be automated using only existing technology.[23]

Lucky Belder said that it is necessary to address the entire life cycle of technology, from design to implementation and control in order to have an overview of how the digitalization process can be regulated in relation to the values of a democratic society.[24]

There must be a direct proportional relationship between the level of technological development and the development of a legislative framework at state level. Given the spread of digitalization horizontally, internet access in society, it is necessary to regulate cyberspace, not only from the perspective of government institutions, but also the private sphere, here we refer mainly to the "giants" in the world of technology because they control how the tools they make available to the general public work. The state, as a political entity or form of

[22] National Recovery and Resilience Plan, presented by the Ministry of European Investments and Projects in April 2021.
[23] Jurica Novak et. al., „The rise of digital Challangers. How digitalization can become the next growth engine for Central and Eastern Europe. Perspective on Romania”, in the McKinsey Group Digital Challangers Report, 2018, 7-31.
[24] Belder Lucky , „The digitization of public” in Culture and International Economic Law, 2015, 175-190.

organization perceived by democratic societies, exercises control of the force and justice on its territory in order to protect the rights and interests of its citizens, but when we talk about virtual space, especially after the emergence of the blockchain, of the digital market, the state loses control because it is not able to exercise it in this space.

According to Schrepel, this shortcoming is counterbalanced by states with the emergence of a new ecosystem he calls "Lex Crypographia" in which states do not ensure respect for fundamental rights, but technology, a system in which the law must be perceived as an ally rather than a possible threat.[25]

The challenge here is for those who build the legislative framework because it is their responsibility to find the ways and tools to persuade users to comply with legal requirements, because this system is in a dimension outside of justice.

Lex Cryptographia is a series of new legal principles, a body of laws that authors such as Wright and Fillipi suggest should be considered by the authorities.[26]

The public sector plays an important role in transformation by using digital technology to make processes and services faster and easier for both institutions and citizens. An analysis of the labor market is needed, in order to establish the role of the education system and the need to develop skills and talents according to the structure of the labor market, but also taking into account the changes that are taking place globally. We can say that the transformation starts from education, so the solution is to ensure the standard digital infrastructure in all educational institutions and support the transformation through teachers. They can integrate digital tools into their online teaching that will ultimately increase student performance compared to the traditional education system because it will be adapted to today's reality. The proactivity and flexibility of citizens in this regard can materialize in new opportunities. Authorities can support the citizen in this whole process, in different ways: improving the ecosystem for start-ups and digital innovation opportunities and, finally, can support retraining and improving the quality of work.

LOCAL GOVERNMENTS IN THE DIGITAL AGE

Most organizations, public or private, are in the process of adapting, seeking and exploring the digital environment for their benefit and that of employees, and a digital transformation strategy serves as a central concept to integrate full coordination, prioritize the transition to digital and implement transformation. The digital strategy is developed in parallel with the economic one, it is built from different perspectives, depending on the objectives pursued. From a citizen-centered perspective, the strategy focuses on transforming products, processes and organizational aspects. A digital transformation involves creating a plan that supports the management team in managing the transformations that occur as a result of technology integration.

There is still no "recipe for success" with all the steps to follow, but only some examples of good practice that can be role models. Strategy planning is a process of defining strategy as well as deciding on the resources that are allocated. While procedural issues govern the development, implementation and evaluation of digital transformation, the

[25] X. Groussot, A. Zemskova, E. Gill-Pedro, ,, Towards General Principles 2.0: the Application of General Principles of EU Law in the Digital Society" published at Lund University legal research paper series, nr. 2, in November 2019,p. 3-6, 9, 18.

[26] Wright Aaron, De Filippi Primavera ,,Decentralized blockchain technology and the rise of Lex Cryptographia", 2015, pp. 2-6. available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2580664, accessed on 06.10.2020.

strategy defines what they should consist of. Several studies have identified four dimensions from which the strategy can be viewed, among which we identify certain common elements:

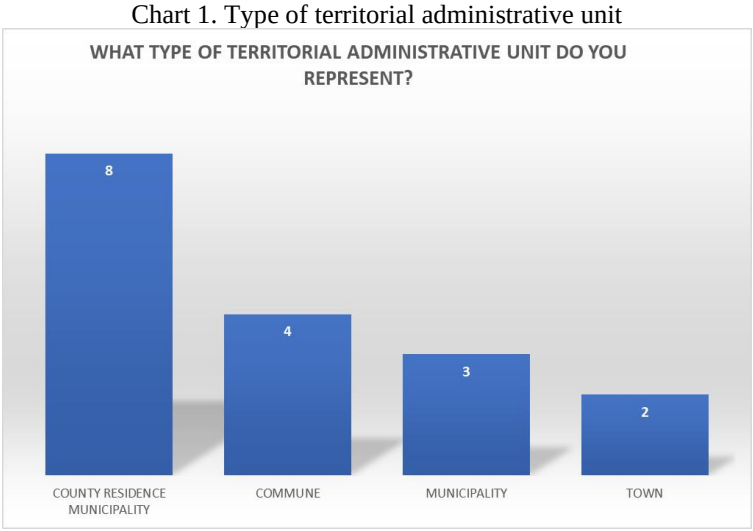
- use of technology: the institution's attitude towards new technologies and the ability to exploit them. The IT area, which has a key role, is desirable for the institution to succeed in creating its own technological tools;
- changes in value creation: the strategy also has an impact on the values of the institution, depending on how much technology deviates the core activity of the institution, offers opportunities to expand and improve services.
- structural changes: it is a basis for new operations and refers to those variations in the configuration of the institution;
- financial aspects: the capacity of the institution to finance the transformation efforts, on which the strategy depends.[27]

According to the European Commission, the digital strategy is the application of information and technology in a governmental or private organization to provide added value to the parties involved, but also to society as a whole, as defined in the organizational vision. In general terms, the strategy must be feasible, add value and sustainable. Although digital strategy suggests a strong focus on technology, digitalization is ultimately about organizational evolution and how it is managed by people.

Therefore, through this case study we aim to identify the level of digitalization and the existence of digital strategies at the level of several local governments, meaning that we applied a short questionnaire, dedicated to people who are part of the management team at the local government level. From a strategic point of view, the digital transformation generates benefits both for citizens and public institutions, as well as for private actors that contribute to the economic development of the city.[28]

As can be seen in chart number one, following the distribution of the questionnaire, we received 17 responses from different territorial units, as follows: 8 County residence municipalities; 4 Commune; 3 Municipalities and 2 Towns.

Chart 1. Type of territorial administrative unit

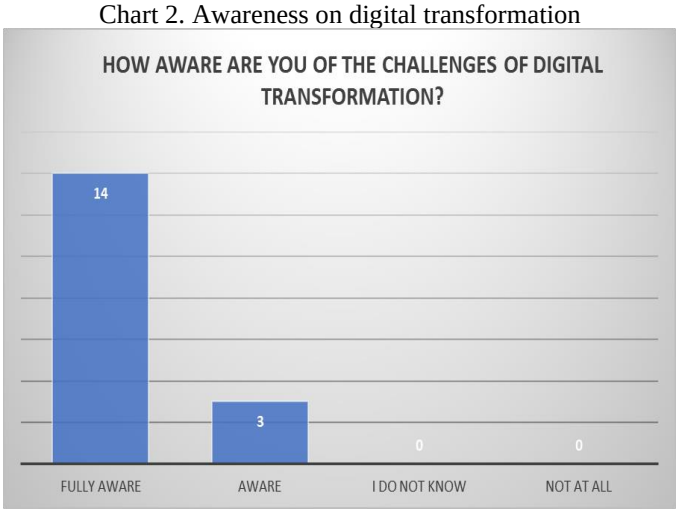


Source: author's representation with data collected using the questionnaire

[27] Christian Matt, Thomas Hess, Alexander Benlian, „Digital transformation strategy" în Business & information Systems Engineering, Vol. 57, 2015, 339- 341.
[28] Strategia de dezvoltare digitală a municipiului Cluj-Napoca, 2021.

The challenges of digital transformation are realized by 14 respondents and only recognized by 3 of them. Thus, it can be stated that the vast majority of the territorial administrative units analyzed are in transition to become more digital.

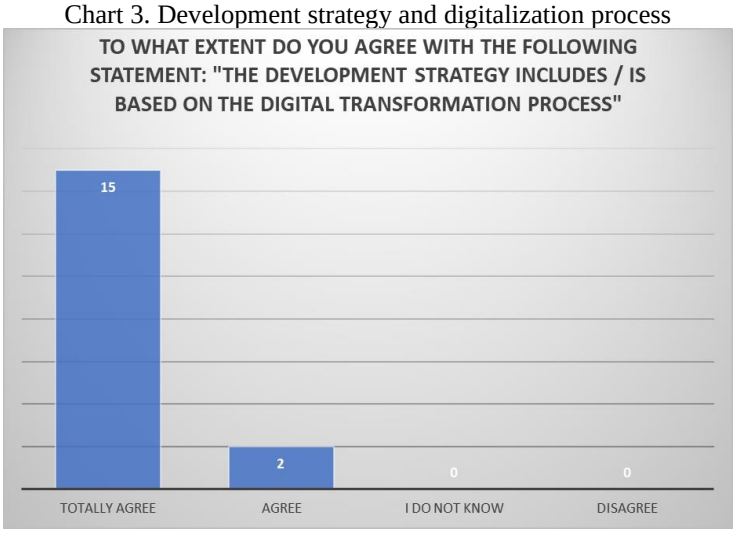
Chart 2. Awareness on digital transformation



Source: author's representation with data collected using the questionnaire

As a development tool, all territorial administrative units, especially those at the level of cities and county seat municipalities, develop their development strategies on fundamental areas, including IT and e-government. Thus, according to the respondents, out of the 17 territorial administrative units, 15 answered that they are fully aware of the fact that the development strategy must include, be based on the digital transformation and 2 respondents are aware of this (Chart no.3).

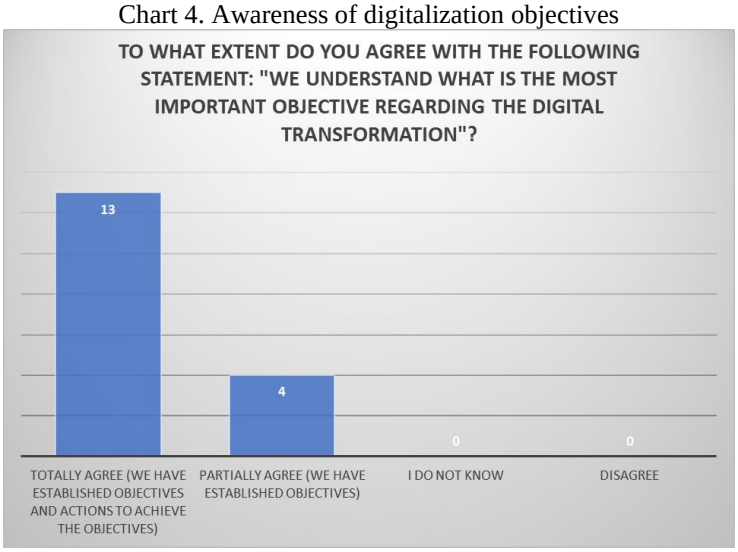
Chart 3. Development strategy and digitalization process



Source: author's representation with data collected using the questionnaire

Regarding the objectives aimed at improving or obtaining the digital transformation process, according to chart number 4, thirteen respondents answered that they set the objectives and the necessary actions to achieve them and 4 of the respondents have set objectives but no action to achieve these objectives.

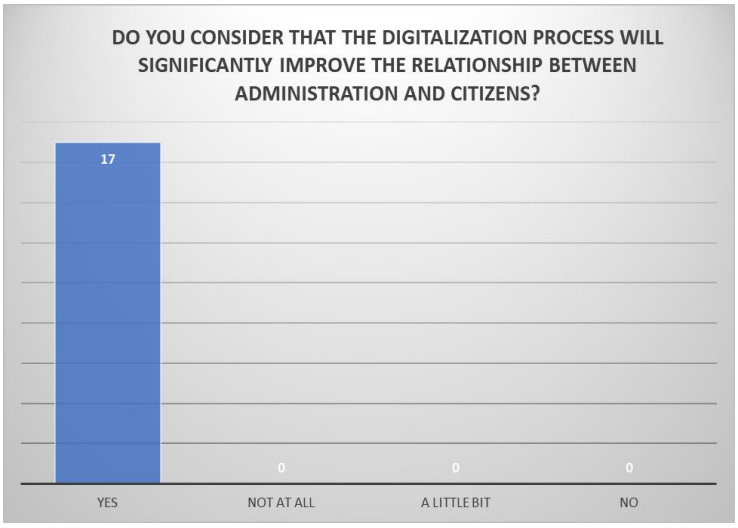
Chart 4. Awareness of digitalization objectives



Source: author's representation with data collected using the questionnaire

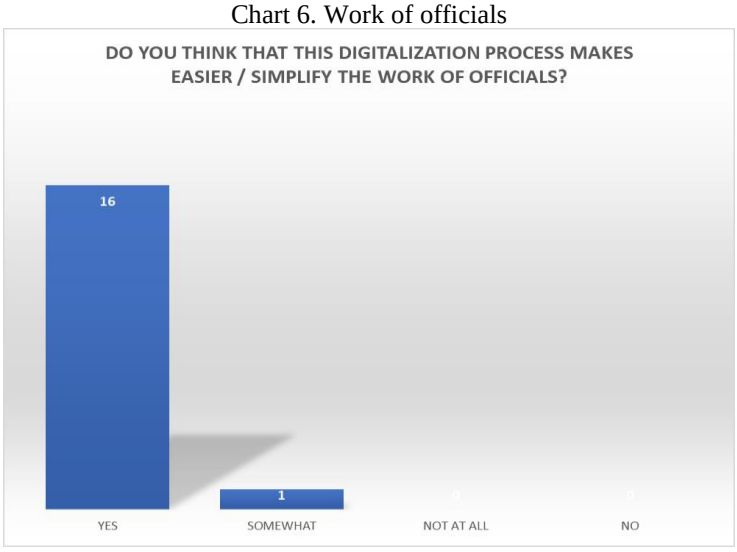
When asked about improving the relationship between administration and citizens, from a digital perspective, all respondents said that this process has significantly improved the relationship between citizens and administration and that this digitalization process also simplifies the work of officials.

Chart 5. Relation between administration and citizens



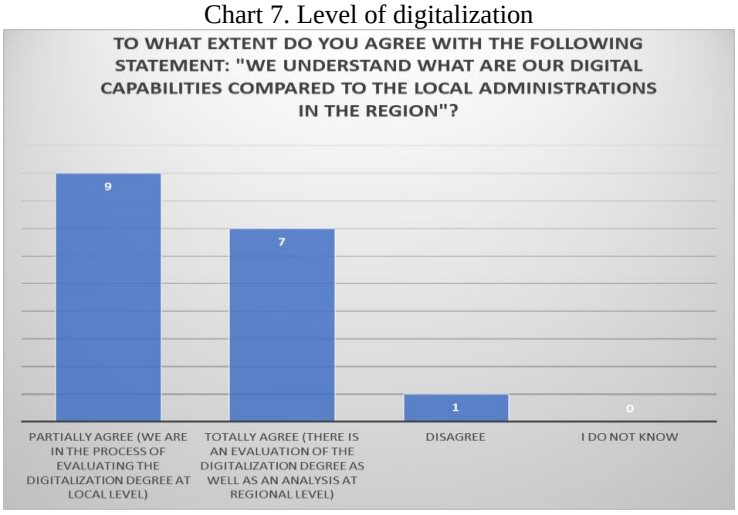
Source: author's representation with data collected using the questionnaire

Chart 6. Work of officials



In terms of regional competition, regarding the level of digitization, seven of the territorial administrative units hold an evaluation or an analysis on this subject/ issue/ matter. Nine of the respondents are in the process of evaluating the regional level of digitization and 1 nor has nor is in the process of assessing such information. (Chart no.7).

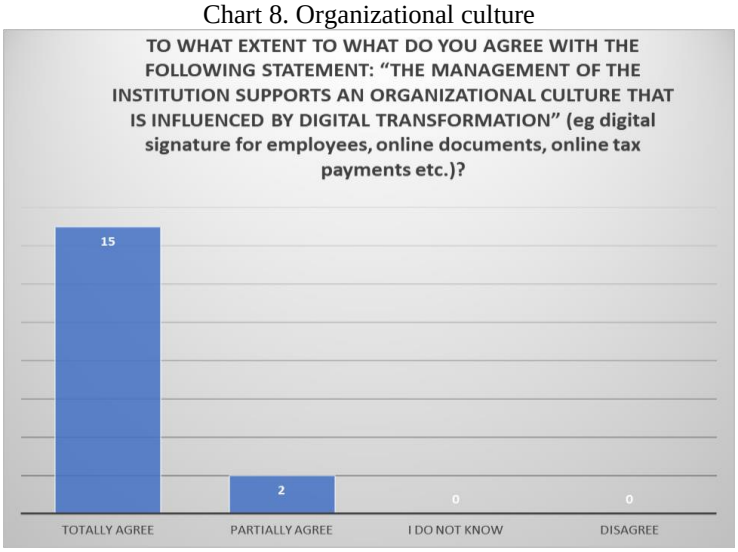
Chart 7. Level of digitalization



Source: author's representation with data collected using the questionnaire

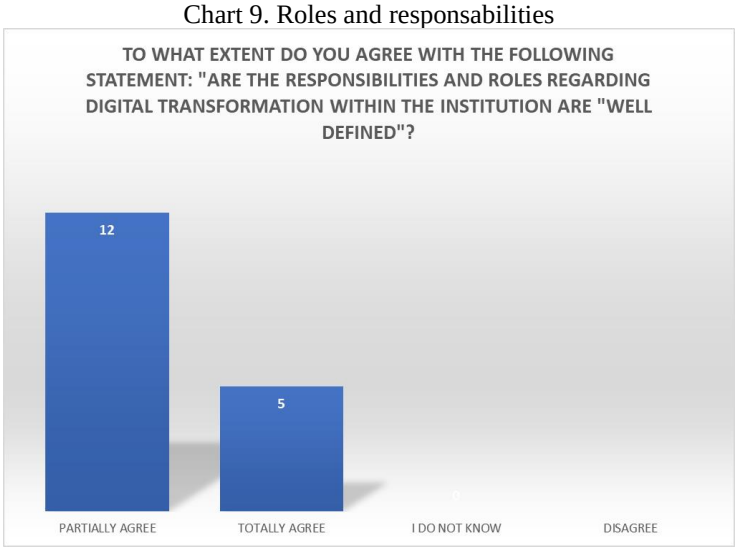
As we said above, management in the digital age, consists in having those skills necessary to stimulate technology and innovation and harmonization with the human factor. Thus, it seems that respondents say that the organizational culture and the process of digital transformation are or are trying to be harmonized and the roles and responsibilities are well defined within the institutions.

Chart 8. Organizational culture



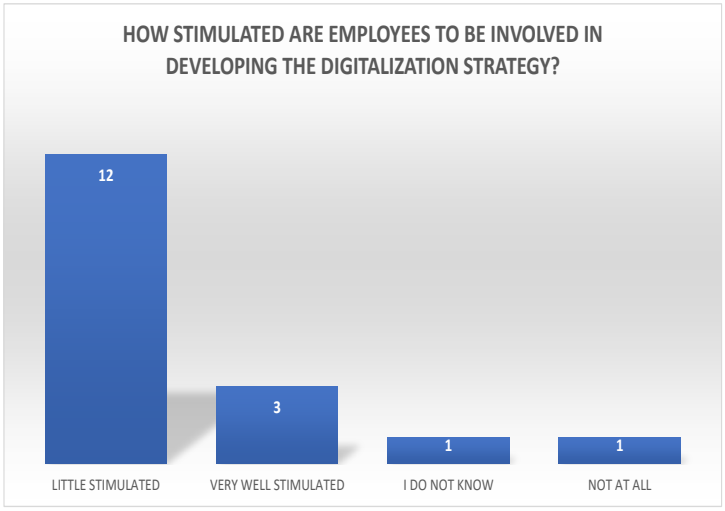
Source: author's representation with data collected using the questionnaire

Chart 9. Roles and responsabilities



Source: author's representation with data collected using the questionnaire

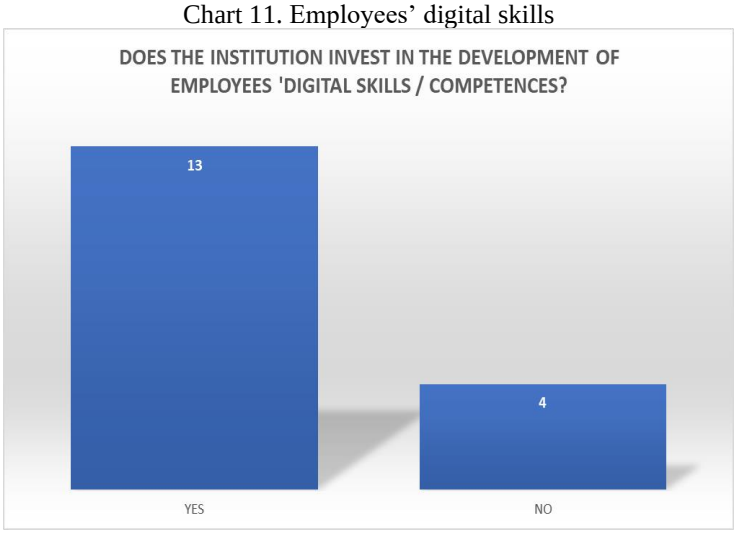
Chart 10. Employees and digitalization strategy



Source: author's representation with data collected using the questionnaire

As mentioned, digital skills have become a prerequisite for individual success and education and training in digital skills is the key to achieving or improving the process of digital transformation. However, only thirteen of the seventeen respondents said they invest in developing digital skills for their employees.

Chart 11. Employees' digital skills



Source: author's representation with data collected using the questionnaire

Regarding the online services implemented at the level of the territorial administrative units, on the first place is the payment of online taxes and fees, sixteen territorial administrative units having implemented such services. Other implemented online services refer to: complaints, online applications, submission and issuance of online documents, transmission of online meetings.

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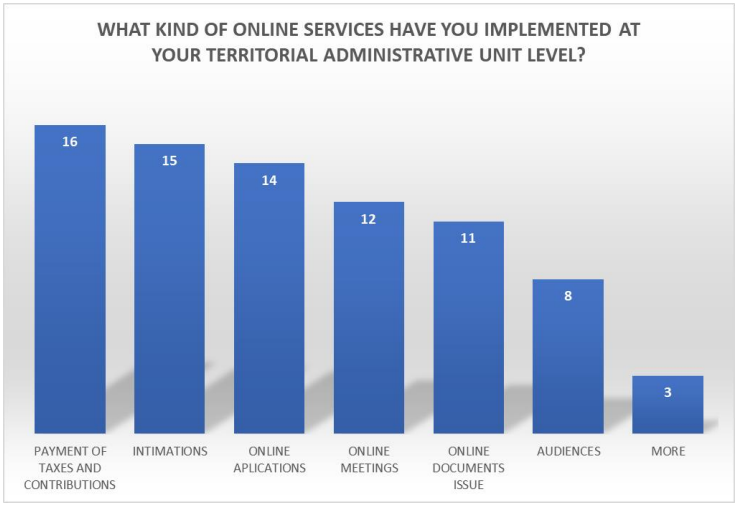
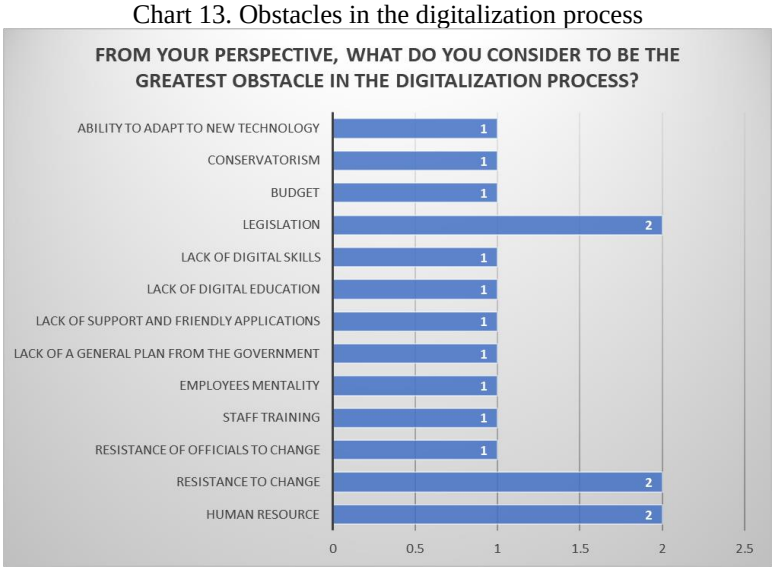
Chart 12. Online services



Source: author's representation with data collected using the questionnaire

Finally, we tried to see what the biggest obstacles are in carrying out this digitalization process, from the perspective of public administration. Thus, in addition to insufficient budgets, issues related to digital skills and education in this regard, respondents identified legislation, resistance to change and the human resource component as the biggest obstacles in the process of digital transformation.

Chart 13. Obstacles in the digitalization process



Source: author's representation with data collected using the questionnaire

CONCLUSIONS

Globalization, the evolution of information technology and the emergence of new technologies, as well as the effect among the population, have created a domino effect, influencing each other. Indirectly, society has contributed to the development of these emerging technologies, based on meeting basic needs, and these new technologies change the way society behaves and functions, ultimately affecting the evolution of society itself.

The digital age, also called the fourth industrial revolution, offers an essential role for decision makers in the field of local administration. In order to take advantage of the

opportunities that come with the implementation of new technologies, decision makers must have the necessary skills to exert influence and the ability to implement a strategy with a positive impact on the process of digital transformation.

The digital transformation strategy represents the central concept for the integration of the entire coordination, prioritizing the transition to digital and implementing the transformation, being complementary to the local development strategy.

In order to have a perspective of the daily reality, we made a questionnaire, dedicated to local public administrations to identify the level of digitization and according to the results, administrations have taken steps towards the digital transition, or have already implemented a series of measures and tools dedicated to digital transformation. For the most part, decision makers understood the essence of digitalization and took the necessary steps to develop a strategy, and in the case of county seat municipalities, there are already implemented tools and programs to improve employees' digital capabilities.

The most important obstacles identified in the digitization process, refer to legislation, resistance to change and lack of digital skills, both in terms of human resources and in terms of the general population, because only 10% of the population has digital skills above the elementary level. In conclusion, the literacy process is the first step in achieving digitalization at all levels. The digital transformation affects everyone's daily life, we face its challenges in the public system, at work or through the effects that digitalization has on the economy by acting as a catalyst in the case of the national economy.

It is necessary to have a close bond between the level of technological development and the updating of the national legislative framework, both from the perspective of predictability and from the perspective of ensuring the general security framework in the cyber and digital field.

Regarding the subsequent dimensions of research, we think that it would be useful an analysis of the level of digitalization of the Romanian business environment as well as the analysis of the interconnection between the economic dimension and that of the public administration.

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