Public Policy and Digital Government Public Framework in Romania during the pandemic. The case of aging people

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Abstract

Romania is currently suffering a significant digital divide, which has been exacerbated by the COVID-19 pandemic outbreak. The core point of this paper is an attempt to study governmental policies on aging and digitalization in Romania. The current analysis intends to determine the influence of a poorly built digital system in Romania regarding a vulnerable category, such as the elderly population. What are Romania's current digitalization difficulties, and what solutions are available to improve the lives of senior citizens with technology and digitalization? What are the most significant consequences of the COVID-19 epidemic on the Romanian digital system? Is there enough potential for digital growth in Romania, and if so, how might this element improve the quality of life for the elder people? A review, synthesis, and analysis of the current literature are used to address the research questions. The paper is based on a secondary literature review research that aims to provide insight into the Romanian scenario. The goal of this study is to identify the barriers to technology use among Romanian older adults and establish the framework for a larger investigation. The article will also discuss the public policy in the digitalization process and in the same time the impact of the pandemic's economic, social, cultural, and political crises on the well-being and quality of life of the elderly.

Key words: public policies, digitalization, elderly people, digital era

Introduction

Romania is currently witnessing a massive digital divide, which has been worsened by the COVID-19 outbreak. Even before the crisis, technology had been an increasingly important part of the humanity. When Covid-19 hit it generated societal changes all throughout the world. Governments quickly established restrictions prohibiting large gatherings, limiting in-person corporate events, and encouraging people to work from home as much as feasible. Because of the internet, businesses and institutions alike began to look for ways to continue operations remotely. For all of this, it is vital to investigate all of the effects that individuals have suffered. The present study has two purposes:

a) The first one is to recognize the link and relationship between the phenomena of digitalization and the quality of life of Romanian senior people (our group of interest) particularly during the last two years of pandemic times;

b) The second goal of the article is to examine the governmental policies of aging and digitalization by emphasizing the shortcomings, the flaws, and strengths of Romanian public policy and the digital Government public framework.

All of these going to be realized through a critical examination of public policies on demographic aging and digitalization, official papers, reports, documents and academic research. Furthermore, a critical evaluation of the process by which these policies were developed, the measures implemented and the current situation from Romania is on the list of interest. Finally, one of the article‘s primary topics is how the Romanian system is dealing with digitalization and the use of technology by vulnerable groups such as the elderly (65+). Aside of that, what the limits of digitalization‘s benefits are, how Romania implements public policies on digitalization, how the pandemic times have affected the Romanian system and people, and, last but not least, what other challenges older people face? What digital possibilities and limitations can Romania‘s senior population encounter as everyday life activities shift online, such as online shopping, requesting support

from various organizations via online platforms, accessing online medical assistance, and so on? How have digital disparities influenced the lives of elderly persons in Romania? The study tackles these research questions through a review, synthesis, and analysis of prior research and current situation in Romania, official documents and data, reports and academic articles, current information from and about Romanian system. The last part of this work presents some conclusions, based on the data that has been discovered, limitations, and implications for future research. The current topic is very important nowadays because the phenomenon of digitalization underpins almost everything around us. From the connection between people from all over the world via social media and the internet, to space explorations and trips, and digital printing of vital organs, to telemedicine, humanoid robots, algorithms that detect people's sexual orientation, and the replacement of the workforce with intelligent machines.

As previously stated, the main research questions we are dealing with during this paper are what are the positive and negative aspects of digitalization in Romania? What actions should Romanian government system take to improve life quality of elderly people throughout the usage of technology and digital tools? What are the needs, the gaps, and the successful points of Romania regarding to the policies of digitalization, social exclusion of old category especially during crisis times? The literature abounds in many studies that are connected to the idea of digitalization but is also poor in the practical aspect of it. How can lack of digitalization affect people who are less fortunate than others are, such as low-income children, elderly people, and disadvantaged groups of people, due to their financial situation, health, or social standing? Who are the key actors and stakeholders in the process of public digitalization policies and their execution, what are the weaknesses and strengths of the Romanian system in terms of the digital situation in Romania, before, during, and after the epidemic, and so on? Is technology the future? Is the digitalization the solver to some of the main problems that people are facing with? Could people live without digital tools, without internet, event to return to the years when a smartphone was just an imaginary dream? Of course, we address the following questions rhetorically. What are the consequences of the digital revolution? How can humanity defend

human rights and maintain security? What is the government‘s role in this story? What effects will the digital revolution have on social, economic, and cultural inequalities? Questions like these will be tackled with. We used the common secondary literature review research method for a reliable, accurate, and valid paper. This technique is based on a theoretical review perspective is which there some steps for a successful approach are: developing the research questions, examining the existing literature, data extraction, data analysis, and so forth. Above all, I applied the process of investigating, reading, analyzing, assessing, and summarizing academic data such as articles, journals, books, government and non-government records, official websites, magazines and other sources in order to answer to the research questions. Previous studies and research were analyzed and interpreted and a critical synthesis attempt was made from all of that, since the goal was to provide audience with a significant outline of the main ideas associated with this topic, to pinpoint gaps in the existing literature and to generate new conceptual framework.

Finally, this document is the outcome of a thorough desk study based on secondary data analysis of statistics, studies, and reports from governmental and private entities.

The main body

Today, we are continuously preoccupied with answering the phone, *WhatsApp*, e-mail, responding to comments on social media, constantly looking for information, and documentation. In these latter days, we utilize virtual libraries instead of public or private libraries. We no longer listen to music on cassette, tape recorder, or pickup, but rather on YouTube. We watch movies and TV shows on the internet. Today, we buy aircraft tickets and check in from the comfort of our own homes, using a computer or a mobile phone. We pay our taxes and utility bills through mobile phone. We reserve performance tickets by cell phone. We plan our vacations on our phones and shop online. Essentially, digital technology pervades every aspect of our lives[1] (Asociația Internațională a Consiliilor Economice și Sociale și

[1] Eng. Sub. International Association of Economic and Social Councils and Similar Institutions (The entire document in Romanian language can be found here: https://www.ces.ro/newlib/PDF/Raport-activitate-AICESIS-RO.pdf)

Instituţiilor Similare, 2019). Recent studies demonstrate that the pandemic served as a digitalization accelerator. In 2021, according to the World Health Organization, elderly people are frequently believed to be fragile or reliant, as well as a drain on society. Public health professionals and society as a whole must address these and other against beliefs, which can lead to discrimination, influence policy development, and limit older people's possibilities for healthy aging. Globalization, technical advancements (for example, in transportation and communication), urbanization, migration, and changing gender norms all have an impact on the life of older people, both directly and indirectly. A public health response must assess existing and predicted trends and develop policies accordingly. At the biological level, aging is caused by the "accumulation of a wide range of molecular and cellular damage over time" (World Health Organizaton, 2021). This results in a steady "decline in physical and mental capacity", an increased risk of disease, and, eventually, death. Aside from biological changes, aging is frequently connected with other life transitions such as retirement, move to more suitable housing, and the loss of friends and companions. Some WHO statistics states that by 2030, one in every six individuals on the planet will be 60 or older. The world's population of individuals aged 60 and older will have more than quadrupled by 2050 (2.1 billion). "The number of people aged 80 and up is expected to triple between 2020 and 2050, reaching 426 million." These numbers are "projected to more than double by 2050, reaching over 1.5 billion individuals". "The share of older people in the global population is expected to increase from 9.3 per cent in 2020 to 16.0 percent in 2050. By mid-century, one in six people globally will be aged 65 years or older" (United Nations, 2020).

Because of poverty, bad health, or social isolation, the elderly are frequently at danger of social exclusion. The Internet has the potential to improve people's quality of life in a variety of ways, including providing "access to facilities and information that they would not otherwise be able to access due to mobility, lack of transportation, or cost, such as health services, banking, shopping, learning opportunities, communication with family, or participation in civil society" (Cazacu, et al., 2020).

Now, we can again ask if would be the technology the solution to some of the problems of old people? Would digitalization and the use of technology

be of help for the elderlies? Let us take an example such as the connection between medicine, health, and technology. At the moment, we can ask ourselves what a "digital health tool" would be. What does that mean? Would be that helpful for all the actors involved? There is a simple answer to that. "Digital health is a type of revolution and innovation in traditional medicine" that uses cutting-edge technology, such as telemedicine, patient-monitoring using smart instruments outside of regular clinics, digital help, and the interchange of medical data. Other instances may be associated with assisted living facilities. Voice assistants like Amazon Echo / Alexa and Google Home aid seniors in remembering their daily schedules (such as when they need to eat, take their medicine, or go to their doctor's appointments). Age really should not be a barrier to using current technology, whether they be social applications or ones geared at people's medical or psychological well-being. "Learning to utilize technology by persons over the age of 65 must ensure the independence of people in the silver population group, therefore lessening the difficulties created by loneliness / isolation through offline connections." However, the phrases old and technology are hardly used in the same sentence (Cazacu, et al., 2020).

On one hand, the epidemic has raised awareness of the benefits of a digital and green transformation, which must be accompanied by investments and political will (European Parliament, 2021). If we look at some numbers, based on DESI statistics in 2020 the proportion of people who have never used a computer (percentage of people aged 16-74 in 2017) is the highest in the EU. Words are a good indicator of a country's attitude toward digitalization: is it viewed as something evil, terrible, and hurtful? On the other hand, do people consider it as something bright, beneficial, and positive? Let us see in the following sections the answers to our main research questions.

Legislative aspects of Romanian digitalization. The elderly remarked

The aging population in Romania presents a host of issues, fears, and uncertainties. A good, constructive, and clever approach may transcend the "silver" economy and open up new opportunities, bringing genuine

economic value and transforming the entire society into a more inclusive one. An important question is that of the economy related to the elderly`s quality of life? The integration of Information and Communications Technology (ICT) in the silver economy is especially difficult since the elderly are generally the last to embrace and implement change. Nevertheless, because of their limited mobility, lack of digital abilities, and social, emotional, and financial requirements, they are the most prone to being dependent on others. Because of their aversion to change and digital incompetence, integrating digital solutions to assist the older people in living a healthy lifestyle might be difficult. However, if suitable training and assistance programs are in place, and e-services are developed with a user-friendly interface, the senior population is likely to adapt (Butt, et al., 2020).

According to an ECA[2] special report, the European Commission (EC) initiated the Digitizing European Industry (DEI) program in 2016. This soft-law initiative sought "to boost the EU's competitiveness in digital technologies" and ensure that any firm in Europe, regardless of industry, location, or size, may fully benefit from digital breakthroughs (European Court of Auditors, 2020). Romania's 2016-2020 results are listed here:

Romania	-	-	✓	✓	✓

✔	CSR directly related to the DEI initiative (e.g. referring to the digitalisation of industry, digital skills, and/or digital infrastructures)
✔	CSR indirectly related to the DEI initiative (e.g. referring to innovation)
-	CSR not related to the DEI initiative

Source: ECA analysis based on Country Specific Recommendations.

Check out the annexes list for a more thorough chart.

Before we move forward, we should advance definition of digitalization: all European digital changes typified by the convergence of modern technologies

[2] European Court of Auditors.

"and the integration of physical and digital systems, the domination of creative business models and new processes, and the development of smart products and services" (Albu, et al., 2018). According to IER[3] Increased momentum in reform implementation, European Union budget absorption, and legislative framework adjustment are all vital if we are to keep up with emerging technology and global competition. Digitalization is a critical component of both the economic recovery and the resilience of Europe's health and care sectors in the aftermath of the COVID-19 epidemic. By supporting e-health and promoting generic technologies like as cloud computing, quantum computing, and high-performance computing, digitalization has provided the EU an additional push to expedite the technological shift (European Council, 2021). More than that, if we talk about kind of definitions, let us bring some light also above the term of silver economy, a concept used for the creation of this article. A clear definition for silver economy could be various forms of products and "services for older persons and an aging population, including working life extension, volunteerism, and active citizenship for older people or in a broader sense, a combination of favorable supply circumstances for products and services and the increasing spending power of older customers" (Klimczuk, 2016, p. 2).

One of the red string of this article is the emergence of the COVID-19 pandemic in Romania for old people or, as we call it, the silver population. The necessity of digitalization and supporting the silver economy in minimizing the effect of this health catastrophe is also underlined. It is so important to tailor the idea of "creating activities and sectors of activity on the elderly, known as the silver economy", because it might become a saving factor, turning the challenge of an expanding senior population into an opportunity. According to Organization for Economic Cooperation and Development (OECD), the COVID-19 epidemic has emphasized the significance of investing in digital transformation to demonstrate the resilience, responsiveness, and agility required of public sector organizations (OECD, 2020).

We will come across also the term "digital skills" several times throughout this article, so let us also define it first. A person needs fundamental digital

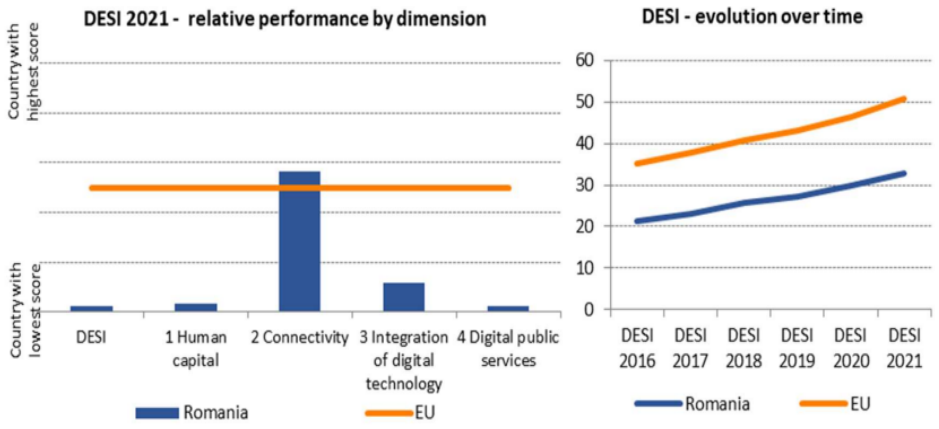
[3] European Institute from Romania.

abilities in order to engage with and use technology. It can be soft digital skills category as soft digital skills for collaboration, management of change, entrepreneurial spirit, or decision-making based on data. The hard digital skills are cyber-security, cloud computing, analytical services, website creation, design, and development of mobile applications, science of data, massive amounts of data, management of master data, designing a user interface etc. (Asociația Internațională a Consiliilor Economice și Sociale și Instituțiilor Similare, 2019)[4].

Furthermore, on December 21, 2018, the Romanian government issued the Emergency Ordinance on the accessibility of public sector websites and mobile applications. This regulation act intends to create rules for the accessibility of public sector "websites and mobile applications in order to make them more easily accessible to users", particularly the elderly and disabled. "Citizens will benefit from greater access to public sector services through web sites and mobile applications, which will simplify their daily lives and make it easier to exercise their rights at the national and European Union levels, particularly the right to free movement and the right to establish and provide services" (European Comission, 2020). The epidemic increased the use of, and demands for, digital public services, as well as hastened the Ministry of Internal Affairs' digital transformation, which included efforts to design and implement numerous ICT systems in a timely and secure way. Although Romania is in an excellent position in terms of internet network speed and quality, it does not excel, on the contrary, it is in a weak position in terms of the other factors that make up all analyses of Romania's digital condition (European Commission, 2021). See more details in the charts below:

[4] *Eng.* International Association of Economic and Social Councils and Related Organizations.

Image. 1



Source: DESI, 2021

In November 2019, The Ministry of Transport was amalgamated with the Ministry of Communications and Information Society as part of the reorganization, resulting in the Ministry of Transport, Infrastructure, and Communications. The old Agency for the Digital Agenda of Romania, which was overseen by the Ministry of Communications and Information Society, was disbanded, and a new Authority for the Digitalization of Romania ("ADR") was established inside the Government's work apparatus in its place. Among the ADR's objectives are: the "digital transformation of the Romanian economy and society, electronic governance of public administration in Romania, and meeting the European Union's objectives set for Romania in its financial aid programs, within the ADR's domains of competence". As responsibilities, we can remember the "national strategy for automation, robotics, and artificial intelligence; the national plan for the development of digital skills within the public administration; policies for the establishment and development of innovation centers and business incubators in collaboration with the Government Secretariat; and the policy for the efficient management and use of domain names" (Popescu & Ştefura, 2020).

Digital Economy and Society Index (DESI)[5] statistics give a big awareness to Romanian status: the main obstacles for Romania's education system are quality, equity, and infrastructure: these challenges limit Romania's capacity to establish a modern knowledge-based economy and allow social mobility. The Romanian Recovery and Resilience Plan include projects that are either wholly or partially linked to digital capabilities. The primary goal is to strengthen the education system's resilience by modernizing school infrastructure and related facilities to assure participation in a quality, modern, and inclusive education process. The National Plan for Economic Recovery and Resilience (PNRR) is a strategy plan built on two priorities: reforms and investments, which provides Romania the viewpoint of modernization and substantial changes anticipated by civil society, business, and the public sector (EU, 40Ready Interreg Europe, 2021).

Romania proposes a number of reforms and investments to achieve this, including reforming the compulsory education system, establishing a professional route, increasing digital competence for public service and digital education for citizens, adopting a legislative framework for digitalization of education, digitalization of SMEs and universities, and cybersecurity skills for society, among others. Public-private as well as intra- and inter-sectoral collaboration is becoming increasingly important in realizing Romania's digital potential (Spiridon, et al., 2018).

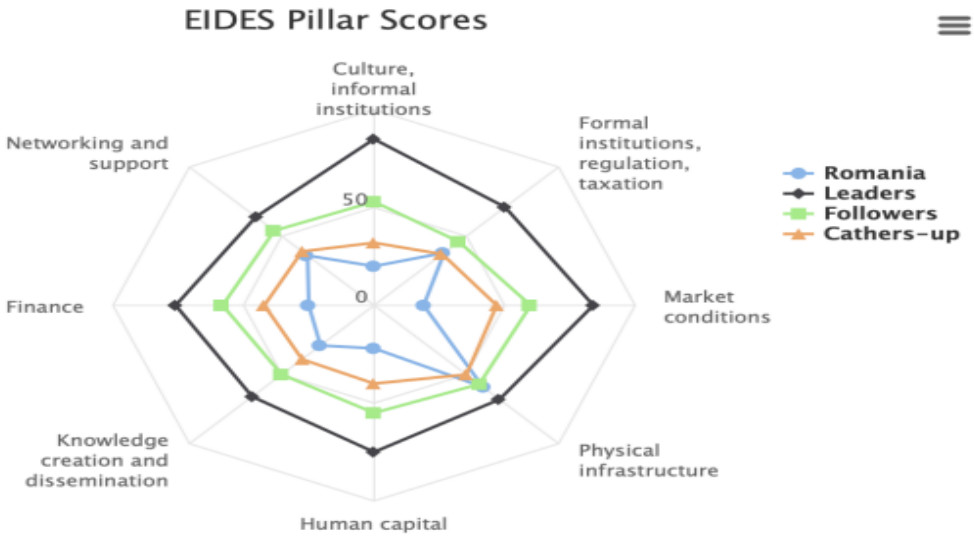
Another vital question is does Romania know and is it possible to take the necessary measures in order to become a digitalized country according to a modern and developed world? Despite the fact that there are structural hurdles to good growth, there is at least a recognition of the need to advance in this direction. The ADR's focus is mainly on the effect of normative desirability and not one of real understanding of the role of advanced digital technologies (Dragoman, et al., 2021)[6]. From an entrepreneurial point of

[5] Digital Economy and Society Index (DESI) 2021 Romania, the entire report could be consulted at file:///C:/Users/Bella/Desktop/DESI_2021__Romania__eng_KtpAmqacSjNHwM9aeFBRhzVl3I_80496.pdf.

[6] Eng. Sub.: *Barriers to Digitalization public and private environment in Romania.*

view, EIDES[7] index, in addition to conceiving and assessing the circumstances that characterize an enterprise's digital transformation, assumes the digital conditions as a general framework for the other two pillars, with this element reflecting the degree of digitalization of a given economy. See the chart from below to understand that Romania is, on average, at the bottom quartile of the hierarchy. It can be noticed that the digital aspect ratings are near. All of them are significantly weaker than those on the non-digital parts of the pillars (Dragoman, et al., 2021):

Image 2:



Source: ADR

The conclusion of the study is that it is critical the Romanian workforce acquire the requisite "digital skills in order to develop an inclusive digital economy and society". Lifelong learning, whether for training or retraining, is a vital component for citizens to be ready to take advantage of changing labor market opportunities. The number of adults taking courses and training should increase eightfold in order for Romania to reach the rank of Digital Frontrunner (northern European countries).

[7] European Index of Digital Entrepreneurship Systems.

Some traits, according to RSM Dahman Auditors (RSM)[8], are crucial for digitization, and without them, the risk of failure is high. The first thing that individuals and the system must remember is the need for experts who specialize in the field and understand the advantages and downsides of digitalization as well as the digitalization process itself. It is crucial to remember that digitization is a process that has a big impact on individuals and the procedures they follow. People and procedures, not technology, define the success of a digitization project (RSM, 2020).

Positive sides of digitalization

An important question we have to keep in our minds is in the face of enormous social difficulties, how might digital transformation contribute positively? By 2025, digitalization may generate over 6 million new employment in the electrical and logistics industries alone. We can be certain that there will be three categories of employment, classified according to the percentage of modifiable tasks inside the role: Those who shall vanish (lost the race against the machine) for example "clerks and administrative personnel or truck drivers". Those that collaborate with machines / algorithms (run with the machine) for example doctors and surgeons are two examples of jobs that rely on cognitive and social qualities. Those jobs that are either entirely new or have remained basically unaltered (running faster than the machine or running a different race). Ones in the creative arts, for example, are unlikely to be automated, as are new roles involving managing machines and more data (World Economic Forum, 2015).

Various works in the humanities and social sciences, especially organization studies, have observed that internet and platform businesses' dominant political and economic positions have unpleasant and unanticipated implications for employees, consumers, and citizens. According to studies, these corporations are increasingly relying on a low-wage, insecure labor force that lacks appropriate worker rights, and where employees have been

[8] RSM is one of the world's largest audit, tax and consultancy network, with 820 offices in 120 countries, even in Romania.

surveilled and aggressively penalized for attempting to restore such rights (Trittin-Ulbrich , et al., 2021).

The COVID-19 pandemic, through its global difficulties, restrictions, and social distancing measures demonstrated us that technology has helped the humankind a lot. Children could still have courses at school in online format, interviews, meeting; video calls and so on are just some of the good aspects of having the access to a so important tool. Many sectors are experiencing constant growth as more and more services are connected through digitization. Consider agriculture, where digital platforms link buyer and seller directly, removing the intermediaries (Pillai, 2016).

The "positive effects of digitalization on society include the creation of new jobs, greater flexibility in working conditions (remote job positions), work automation that increases labor productivity, and a broader range of goods and services available to consumers, allowing them to meet their significant needs". In terms of business, digitalization has generated new trade marketplaces, "made capital management more effective and lucrative", and increased competitiveness. Furthermore, digitalization enables a greater number of inhabitants to participate in "public activities at the government level, increases the number of services accessible to society", and provides circumstances for the state machinery to operate in an efficient and transparent manner (Česnauskė, 2019).

Negative sides of digitalization

As the harmful effects of digitalization become increasingly obvious, requests for regulation are becoming more vocal. However, many experts claim that comprehensive regulation is impossible since we do not know enough about social media's mechanisms and companies refuse to divulge trade secrets (Römmele, 2021). Let us have an imagination game. How would Romania manage? What if the educational system would be digitalized? What kind of negative aspects could we face? The answer comes from a study, which argues that there are some possible negative outcomes of education's digitalization, like the following: "information overloaded, an increase in cognitive distortions";

a deterioration in the efficiency of training in the building of "students' interpersonal communication skills, the deepening of the digital divide, the formalization of education" (Frolova, et al., 2020).

Unfortunately, internal absorption of professional solutions and services in central and local government, as well as in enterprises with majority local capital, is still relatively low. Multinational corporations, with a few notable exceptions, are the forerunners of digital digitalization in the private sector. Financial services, telecommunications, retail, transportation & logistics, and manufacturing are among the industries where such pioneers can be found (Aninoiu & Ionescu, 2021). Digital transformation is a long process that requires a strategic approach and consistent effort, but offers opportunities right away. It is not just a means for an organization to accomplish things better and faster; it is a way to do things that were not possible before. Our country is also known for its extreme polarization: on one hand, 49% of households have access to high-speed internet; on the other hand, "a fifth of Romanians have never accessed the internet and only one-third have basic digital skills". We are on the last place with reference to the degree of economic and governmental services' digitalization (Aninoiu & Ionescu, 2021).

According to some research studies of The Enterprise World, people's addictions to social media and other digital platforms have merely expanded. Almost everyone is on his or her phones at a get-together or any other casual event. Not just social media, but even gaming, may be addicting. As soon as a person finishes one game, he begins to consider purchasing the next edition of the game. Addiction is one of the harmful consequences of digitalization (The Enterprise World, 2022).

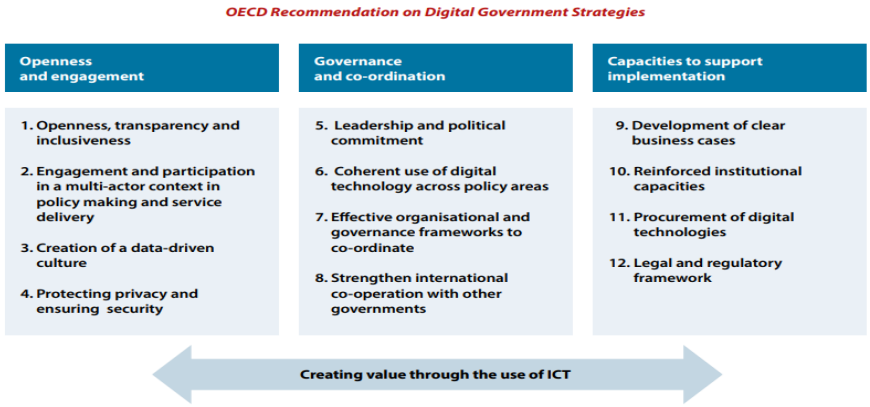
Moreover, it is true; digitalization has several drawbacks, such as conflicting commercial interests in many economic sectors, a lack of appropriate regulation, and restricted competition across digital platforms. Alternatively, notions such as fast labor automation can lead to job losses, "increasing structural unemployment, and growing inequality in society"; the state and organizations might utilize digital technology to control individuals rather than improve their possibilities and rights.

Romania: questions and again questions

According to the OECD's 2016 Public Governance Review assessment on Romania, the digital transformation of the public sector necessitates the presence of certain important ICT enablers. "To better sustain the development of digital government in Romania, investments in interoperability frameworks, public base data registers, national electronic identification systems (including e-authentication and e-signature), and shared services that can promote better integration and optimization of IT solutions across the public sector" are a priority (ASPEN Institute Romania, 2019).

According to OECD, digital government is the use of digital technology to provide public benefit as part of government modernization plans. It is based on "a digital government ecosystem composed of government actors, non-governmental organizations, corporations, citizens' associations, and people to enable the development of – and access to – data, services, and content via interactions with the government" (OECD, 2016). Romania has "a unique opportunity to use this digital transformation as a central lever of its social and economic development model". What did Romania during the pandemic times? One of the answers is provided by the National Statistical Institute of Romania, which established real-time data collecting and sharing to better understand economic activities during the pandemic (OECD, 2020).

Image 3:



Source: OECD

What are the effects of digitalization for Romania represents an essential development issue. An important research (Noja & Pânzaru, 2021) offers different impacts of digitalization that are related to Romanian socioeconomic characteristics. These could be listed as follows: the digital dived which means the gap and the differences between young and old generations. Another factor that adds to the digital divide is age. Technology distinguishes younger generations from elder generations. Demographic ageing has a significant impact on the Romanian population. Over two-thirds of internet users (77.7%) are between the ages of 16 and 55, while only 22.3 percent are over the age of 55. In terms of the presence of a digital divide, the case of Romania is quite relevant. The lack of Internet access not only widens the digital divide, but it also widens social inequalities.

Furthermore, to adapt to the digital age, educational strategies must be rethought, with investments in human capital being more vital today than ever before. Another impact would be the digital skills gaps and according to the PwC Romania Workforce Disruption Index, around 275,000 Romanian employees will need to learn new or improved digital skills (upskilling) during the next decade in order to keep their jobs or find new ones. Aside from artificial intelligence, autonomous vehicles, and smart devices, jobs that are at high danger of being automated are a major source of concern for the Romanian system, since the robotization of some professional sectors has put a large number of Romanian people at risk. One could also mentioned digital nomadism and civil engagement. The conclusions of this study are adequate in adopting proper methods for the digital age, educational strategies must be rethought, with investments in human capital being more vital today than ever before. Primarily, the promotion of lifelong learning, as well as adaptation, flexibility, critical thinking, and creativity, appear to be key components of future solutions. *National Strategy on Digital Agenda for Romania for 2020* document‘s key objectives were actually fully achieved; this success resulted not from effective state action, but primarily from its modest assumptions, and the fact that the document‘s authors probably did not anticipate such a rapid development of the internet in society and business, which the pandemic also contributed to (Calus, 2021).

Romania plans to improve public services by implementing e-Government 2.0 and optimizing the use of technology for more effective government operations. "Romania has identified four primary areas of focus for its efforts to boost economic growth and enhance competitiveness in a digital society":

"a) Field of action 1 – e-Government, Interoperability, Cyber Security, Cloud Computing, Open Data, Big Data, and Social Media" — contemporary administration increases efficiency and reduces public sector expenses in Romania

"b) Field of action 2 – ICT in Education, Health, Culture and e-Inclusion"

c) Field of action 3 capitalizes on regional Romania's comparative advantages and promotes private-sector economic growth.

"d) Field of action 4 – Broadband and Digital Services Infrastructure" – provides social inclusion and allows for the advantages of the other fields of action to be realized (SCOOP4C, 2018).

We might now ask, what does the Digital Compass suggest for its 2030 goals? A technologically literate community and a pool of highly qualified digital professionals: At least 80% of all individuals should be proficient in fundamental digital abilities. Sustainable digital infrastructures that are both secure and performant: All European households should have gigabit access, up from 59% in 2020, and all inhabited locations will have 5G coverage, up from 14% in 2021. Business transformation through digital technology means: cloud computing, big data, and artificial intelligence should be used by three out of every four businesses; compared to 61 percent in 2019, more than 90 percent of European SMEs should achieve at least a minimum degree of digital intensity; and, last but not least, digitalization of government services. All major government services should be available over the internet, all citizens should have access to e-medical data, and 80 percent of residents should adopt a digital ID solution (European Commission, 2021).

The necessity for synchronization of all players in public administration cannot be met unless there is significant genuine political backing. The

digitization project is now being stymied by a lack of operational capability at the government level. Code for Romania provided seven ideas for Public Policies for Romania's Efficient Digitization (Code for Romania, 2021):

1. Centralize all duties related to service digitalization under a single authority reporting directly to the Prime Minister. Enhancement of technical and operational capabilities

2. Acceptance of the user experience designer profession;

3. Recruiting mixed teams comprising one business analyst, one user experience designer, and one software design: integrate these teams in public institutions for a certain amount of time to analyze requirements and propose viable digital solutions.

4. Establishment of a legislative duty for local and central government to generate digital goods under an open source policy, with a three-year phase-in time; Institutions providing the required infrastructure for open-source development; providing help and training programs for IT personnel at educational institutions; creating an online library of open source digital administration solutions

5. Broad regulation governing the development and execution of digital solutions in the public sector

6. Auditing the institutions' information systems and public platforms for accessibility to people with disabilities; making government software available

7. Evaluation of public-sector personnel' digital competency; training for civil officials

When we look at other countries at the forefront of the digital index rankings, we can see that all financial assistance actions have been preceded by digital training and development initiatives that started with primary school kids and continued with the active population and elderly. To make digital digitalization/ transformation ambitions a reality, digital literacy will be required (FRAMES, 2021). With the fast advancement of technology and digital media, "the lines between online and offline discourse are becoming increasingly blurred",

enabling for the emergence of new forms and uses of language. One of the most important resource that can contribute to the success of digitalization projects and the entire system in Romania is IT infrastructure. This structure is linked to ideas as stable, cutting-edge, capable of supporting process complexity, stakeholders (trustworthy external partners with competence in implementing digitalization solutions, personnel informed about changes) and government policies (the digitalization of the state, digital education for the general population) (Beck et al., 2021). An important and main actor in this entire process is the Digital Agenda for Romania are Employment, Research, and Development (R&D). Among the objectives of the Agenda are "the climate change and energy sustainability, education, fighting poverty and social exclusion". These mean the idea of promoting and increasing "the use of information and communication technology (ICT) tools and solutions in the context of education, health, culture, and digital inclusion". All of these through broad sectoral support and consistent ICT investments, as well as improving "broadband and digital services infrastructure to support increased connectivity, more devices on the Internet, and ensuring social inclusion across Romanian regions" (European Union, Dgital Skills&Jobs Platform, 2021).

Policies and policy

A study on public policy contains some analysis that may shed some light on how the measures for a well-executed digitalization transition in Romania are progressing. Public policies are critical in establishing the necessary framework conditions for Romania to adopt the digital era. The key to success of this great process of digitalization is a connection between society, governmental system, and people. Governments may perform a role in this area, either explicitly or implicitly, by offering direction and encouragement, for example. Among the mechanisms Romania could implement are:

-a collection of best practices;

-increased awareness of the importance of digitization in Romania;

-increased efforts by the government to expand information and communication technology services for residential and commercial customers;

-a growth in the number of people with digital literacy;

-well-executed government policies of the digitalization structure;

-most notably, a shift in attitudes about the elderly, social exclusion, life-long learning, and Romanians‘ awareness of the necessity of digitalization.

We need technologically neutral and sensible laws in the digital era, as well as a long-term vision and the ability to keep up with all technical changes. The best part of the entire story of the development and implementation of different public policies is that Romania possesses the required advantages (internet speed, IT sector development, cutting-edge technology currently present in big manufacturing facilities, skilled personnel) to undertake the transition to digitalization and Industry 4.0. Romania has some programs and here we can remember: POC 2014-2020, POR 2014-2020, POCU 2014-2020, Creative Europe Program Horizon 2020, and Strategy for the Digital Agenda of Romania 2020. When we talk about digitalization, we talk about internet access, 5G Technology, Robotic Working and machine learning, virtual reality, big data and cloud and artificial intelligence. The EU's key areas development are AI, Cybersecurity, advanced digital skills, high performance numerical calculation and digitalization of public administration and interoperability.

Both a legislative foundation and a governance structure for digital public services are missing. Individuals in society, both public and private, may be able to help enhance the targeting of digital technology usage in the public sector. A public policy recommendation is to reconsider the governance structure in light of digitalization. Another piece of public policy advice is for stakeholders at all levels of decision-making and from diverse backgrounds to collaborate on digital governance structures and approaches (Durach, et al., 2021).

Digital skills are required for all types of workers in Romania, and their lack is a significant impediment to economic progress. Continuous efforts must be made to change the education system in order to enhance citizens‘ digital abilities and maximize the potential of available human talent. Given Romania‘s dwindling work force and aging population, this is quite relevant (Capannelli, 2016).

According to the objectives of the Digital Agenda 2021-2027 (The Authority for the Digitalisation of Romania, 2014), Europe will advance to the next level beginning in 2021, with the main goals being:

- "the realization of high-speed and high-capacity supercomputers",

- "the incorporation of artificial intelligence in products and services",

- "the increase of cyber security",

- "the intensification and expansion of digital education of the population",

- "the expansion of the use of digital techniques in administration" (European Institute of Innovation & Technology, 2021).

Despite the fact that interest in digital transformation and, indirectly, digital skills has surged. During the COVID-19 pandemic, it is critical to remember that the pandemic did not result in true transformation, but rather imposed a succession of unsustainable solutions that must be recreated in a post-pandemic society. Durach states that one of the first answers, together with the national agenda and plans to speed the digitalization process, might be to increase the number of individuals with digital competence. This includes standardizing digital skills development programs, lifelong learning, and evaluation, digitizing learning content, developing hybrid services, and focusing on the citizen in any digital transformation process. Technological competitiveness will be determined not only by new technological investments, but also by the number of persons who do not fall behind (Durach, et al., 2021, p. 16).

An important public policy recommendation addressing the digitalization of government management was presented in June 2021, with several stages indicated for implementation. It includes the following:

-the establishment and operationalization of the governmental nodal point of interoperability at the level of public administration;

-the development of the national catalog of public services, and the thorough identification of the data registries required for future electronic public services;

-the consolidation/adjustment of framework law provisions in the realm of e-government;

-the creation of non-sectoral initiatives to contribute in the expansion of e-government (big data projects, AI, block chain, quantum computing etc.) (Bratu, 2021).

The Digital Competence Framework 2.0 is a new version of the Digital Competence Framework.

DigComp 2.0 highlights the main components of digital competence in five categories, which are summarized "digital content creation, safety, problem solving, communication, and collaboration, information and data literacy" (European Commission, 2020).

Conclusion

Romania is "a classic example of a developing country, with elderly people being the late adopters of technology" (Ivan & Cutler, 2022). Despite having one of the fastest internet speeds, according to DESI, Romania ranks last in statistics (European Comimission, 2021) regarding: "fixed broadband subscriptions – technology market shares in the EU" (percentage of subscriptions), July 2020: the lowest in Romania (17%);

Digital Intensity Index by level (percentage of enterprises), 2020: in Romania and Bulgaria, it is below 35%.

E-Government users communicating "online with public authorities over the Internet in the last 12 months" (% of internet users), 2020: Romania scores less than ten points. Digital public services for citizens: Romania scored less than 60.

Digital public services for businesses: Romania scored below 70 (out of 100).

User centricity breakdown (Score 0 to 100): Romania scoring less than 85 points.

Transparency breakdown (Score 0 to 100): Romania scoring less than 55 points.

Key enablers (Score 0 to 100): For instance, "Malta, Estonia, Finland, Denmark, and Lithuania are in the lead on key enablers, scoring more than 90 points in 2020. Romania, Greece, Cyprus, and Ireland are lagging behind, scoring less than 40 points". Romania, Hungary, Poland, Greece, and Bulgaria are the nations with the lowest cross-border flexibility and advancement, with scores below 40.

If we objectively examine all actors participating in the digitalization process at national level, we can conclude that everyone has certain key stages to accomplish in order for the process to be successful. From the perspective of Romania's governing system, we can say that it should regulate and deregulate certain aspects of the system, improve and accelerate the construction of digitalization-friendly infrastructure, and implement both locally and nationally the means and tools required to exist and begin with a digital administration / e-government. In terms of the commercial environment, this player should bring innovation to the services he provides to citizens and strive to meet European standards.

Furthermore, increasing the number of users who accept and integrate new concepts in order to set a positive example for local and national government is an advantage that the much-desired digitalization process may gain. The last player participating in the digitalization phenomena, and one that plays a critical role in this process, is civil society. Civically engaged people who exert pressure on authorities through petitions and other forms of civic engagement may have the desired effect of rebalancing the scales in favor of everybody. Furthermore, public-private partnerships aiming at educating the people, increasing online contact of institutions with citizens "through the creation of digital platforms", and delivering incentives to users are an alternative for raising awareness regarding the country's urgent need for digitalization.

However, there are also significant positive aspects that people must focus on, such as employment possibilities, productivity increases, commerce, capital utilization, public sector capability, participation, welfare of consumers and competition between businesses (Česnauskė, 2019).

Romania has significant development potential; however, there are certain challenges to achieving the goals due to priorities, the national budget, the public agenda, and a lack of public engagement. As previously demonstrated, there are several actions and pathways to take in order for Romania to get at its intended destination. An important idea is "Lifelong learning will likely become even more important in the future" (European Economic and Social Committee, 2017).

Digitalization has already demonstrated its ability to improve citizens' quality of life and foster the development of a flourishing socioeconomic environment. It is now up to us to choose how and when we can apply these tools to Romania's benefit. Digital transformation must be founded on trust, and it can only be done via data-driven choices that are shared transparently and utilized "to improve the quality of services provided and the running of government" (ASPEN Institute Romania, 2021). If policymaking is collaborative and digitalization is seen as an advantage, a proactive discourse evolves, in which digitalization is promoted and investments that help workers and businesses survive and prosper in the digital economy are prioritized (Marenco & Seidl, 2021). In addition, let us remember the motto: "the biggest fear of people was to not be overcome and overwhelmed by technology" (Marcuş, 2020).

Limitations

Nonetheless, these findings should be regarded with caution, and a number of caveats should be considered. A few instances of these limitations would include author's mother tongue, a lack of many years of experience conducting research and producing academic papers of such a large size on an individual level and a lack of previous research studies on the topic. Furthermore, the access to data and the chosen method because different methods provide different opportunities and the quality of the data a person obtains frequently depends on the method the person chooses could be other examples of limitations for this academic paper.

Further research

More research and development are required, and further study on digitalization strategies should focus on building a clearer image of how

the Romanian government reacts with unanticipated crises, and how the overall system assists disadvantaged groups in Romanian society. For the reason that technological advancement is in full swing and it has achieved a number of significant milestones, it is critical to comprehend the necessity for digitalization. To promote awareness of its good and bad consequences, to develop particular frameworks to match the categories of the Romanian people, the state‘s economic situation, and Romania‘s link to the level of the block of which it is a member, such as the European Union.

An important answer is the one to this question: will the proposed study be relevant in three, five to ten-twelve years? The answer is definitely affirmative, based on all the academic literature, official report, studies, and research. In addition, the empirical side has something to say. Technological growth is an unimaginable phenomenon that today rules our lives and is constantly evolving. We can see this in every facet of our everyday lives. Taking all of this into account, we can state that there are some other study avenues to pursue. There are a number of gaps in this research addressing public policies of digitalization, technology, and the connection of old people to the digital era. More methodological work is needed in a physically examination of how elderlies understand the digital world, how digitalized the public administration and the Romanian system is, and what civil society and the government can do to solve the issues are existing.

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This article is a subset of the author‘s ongoing research.

Annexes list

Annex III — Country specific recommendations relevant to the DEI initiative

EU Member States as of 31.12.2019	2016	2017	2018	2019	2020
Belgium	✓	✓	-	✓	✓
Bulgaria	-	-	✓	✓	✓
Czech Republic	-	-	✓	✓	✓
Denmark	✓	-	✓	✓	✓
Germany	✓	✓	✓	✓	✓
Estonia	✓	✓	✓	✓	✓
Ireland	-	✓	✓	✓	✓
Greece[1]	-	-	-	✓	✓
Spain	✓	✓	✓	✓	✓
France	✓	✓	✓	✓	✓
Croatia	-	-	-	✓	✓
Italy	-	-	✓	✓	✓
Cyprus	-		-	✓	✓
Latvia	✓	-	-	✓	✓
Lithuania	✓	✓	✓	✓	✓
Luxembourg	✓	✓	✓	✓	✓
Hungary	-	-	-	✓	✓
Malta	-	-	-	✓	✓
Netherlands	-	-	✓	✓	✓
Austria	-	✓	✓	✓	✓
Poland	-	-	✓	✓	✓
Portugal	-	✓	✓	✓	✓
Romania	-	-	✓	✓	✓
Slovenia	-	-	-	✓	✓
Slovakia	-	-	✓	✓	✓
Finland	-	-	-	✓	✓
Sweden	-	-	-	✓	✓
United Kingdom	-	-	-	✓	✓

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