

The Need and Future of Digitalization in Romania - a Delphi Method Research

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Article history

Received 19 July 2022 | Accepted 09 August 2022 | Published online 12 August 2022.

Abstract

Our research objective is to find the level of understanding and the vision about digitalization in Romania among key decision makers in national and local public institution. The purpose of our research is to find the future directions of public policies, the institutional bottlenecks and assets in the sphere of digitalization in Romania. We used the Delphi method, using a back and forth set of questions thru a set of ten key decision makers with high impact on public policies and three with high responsibilities in Digitalization. We use two rounds of Delphi questions applied, with one updated semi structured interview guide. A content analysis was applied. The major findings are: (a) The decision makers we investigate have an unclear view about the needs of digital transformation in Romania. Most of them when talked about the needs for digitalization in Romania refer to EU digital policies and the need for a more transparent and fast servicing public institutions; (b) The vulnerability of strategic infrastructure in case of digitalization is a powerful reason to procrastinate the digital transformation; (c) Decision makers think that EU policies will force Romania to implement digital transformation even the public institutions will not act; (d) Most of them think that the government should have the initiative to digitalize Romanian society (both public and private); (e) All of them think that the bottleneck of digital transformation is mainly public servants; (f) The myth of Romanians who are IT experts, more above the EU media IT literacy is a fundamental perception of all key decision makers. There is a link between digitalization of states and those of companies inside the states. Better digital private companies are better digital public institutions are (in the same state). The digital transformation in Romania it is done in waves, it is not a constant public policy preoccupation, and the effect of no digitalization of Romania society is not understand in depth. The digital literacy of key decision makers is medium and affect public policies in digital dimension.

Keywords: Digital transformation, digitalize, public institutions, competitive advantage, critical infrastructure

JEL classification: M31.

1. The need for digitalization in society

Digitalization became synonym with development for any entity, country, company etc. In technical sense digitalization of an entity means integration of IT&C technology in the entity with the purpose of increasing efficiency and efficacy. As we can find in any kind of entity, from companies to public institutions, the digital shift profoundly change the economic system and ways to produce and deliver value, public administration outcomes, incomes, relations and expectations on behalf of all stakeholders by using new digital technologies, as stated Rymarczyk (Rymarczyk, 2021). The new reality will bring sooner or later digital identity for citizens which will interact more and more in digital way in all kinds of purposes, from social matters to educational, from business to institutional needs.

In this new reality based on digital economy and on industry 4.0, public institutions and governments have only one way to go further, digital transformation. The pay back of not going digital for some reasons are not so obvious for everybody but there are some important effects. Exclusion from big exchange of data and value, lack of competitiveness, incapacity to deliver value to stakeholders as it will become expected. This new institutional reality, digital one will bring more accountability of institution in front of other stakeholders (Androniceanu, et al., 2022).

Some examples of digital public services: "submitting documents/requests online and receiving their solution automatically; reporting problems of public interest online 24/7, even from the mobile phone (abandoned cars, potholes in asphalt, disturbing public order, obstacles on the road, garbage thrown in illegal places, lighting system failures, stray dogs, etc.); payment of taxes, fees, and fines online on the institutions' website; online verification of the status of documents submitted to the institution; real-time information on the status of submitted documents; quick access to information of public interest, automatically published on the site; citizens can automatically obtain certificates and several approvals", financing projects and companies. "By digitizing public services, citizens can directly consult their land, buildings, declared cars, taxes, fines, and other taxes on the website of the institution" (Androniceanu, et al., 2022). The new reality which includes digital economy will force digital transformation of public institutions and will bring with them new leadership criteria (shift from old leadership to new one with data drive culture), re-engineering of organizations including models, processes based on new stakeholders needs expectations and new social values as Androniceanu quotes (Androniceanu, et al., 2022).

2. Romanian digital status

In public documents like PNRR (National Plan for Development and Resilience) which describes national vision and concrete plans for digital transition of the country, we find that "the aim of the component is to address all these challenges and to achieve a coherent and integrated digital infrastructure for the benefit of citizens and businesses, while providing the necessary tools (such as connectivity, skills development or cybersecurity) for the transition to digitized economy and society. In particular, the component includes the reforms needed to establish the government cloud and ensure interoperability, improve connectivity, strengthen the protection and cyber security of public and private entities, and increase digital skills in the public sector. The underlying reforms include the development of the government cloud, the digitization of health, the judiciary, the environment, employment and social protection, public procurement, non-governmental organizations, connectivity in white areas, and cybersecurity for different structures and the improvement of both the skills of civil servants and the general population. An essential investment refers to the introduction of the electronic identity card for Romanian citizens" (Finances, 2022).

The reality Romania came from, in terms of digital status we show below in Figure 1.:

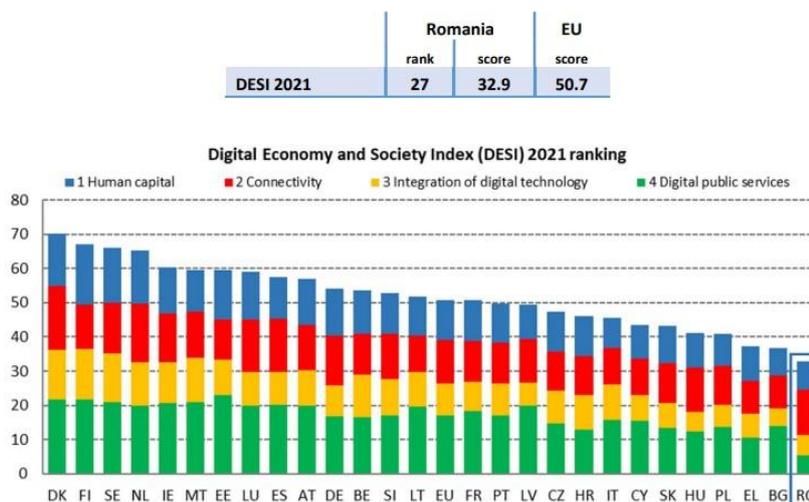


Figure 1 Digital Economy and Society index (DESI) 2021 ranking, Source Digital Economy and Society Index (DESI) 2021 Romania

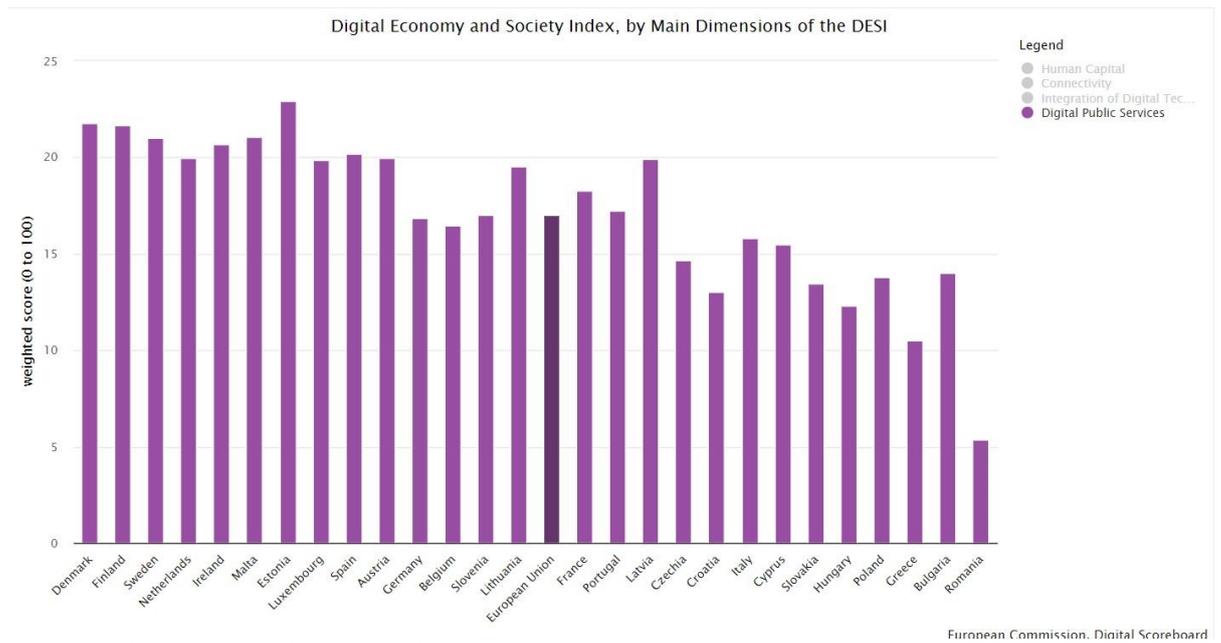
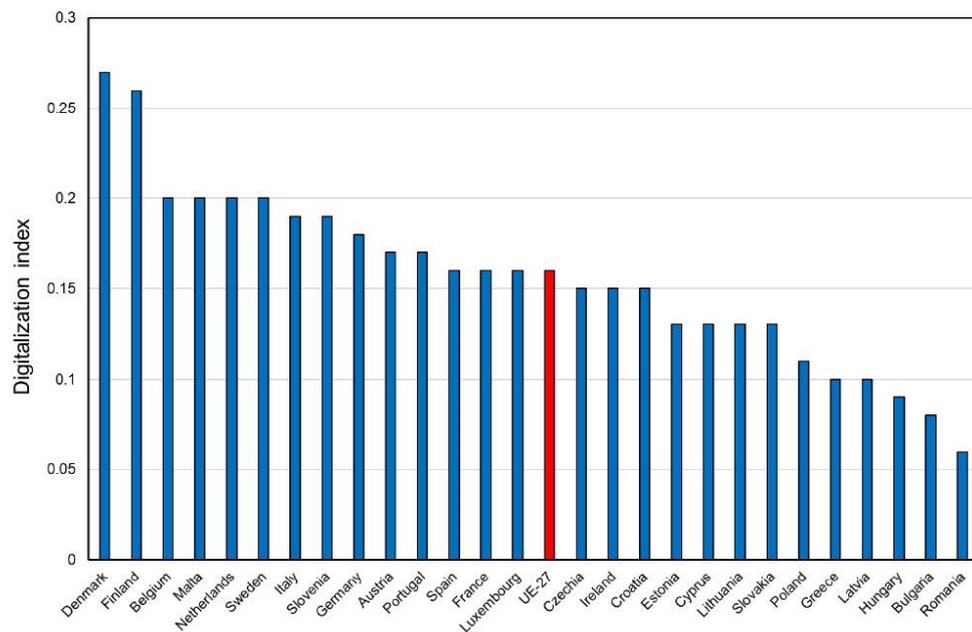


Figure 2 Digital Economy and Society index (DESI) 2021 ranking, Digital Public Services, Source Digital Economy and Society Index (DESI) 2021 Romania



The digitalization index values for the EU-27 countries.

Figure 3 The digitalization index value for EU-27 Countries, (Brodny & Tutak, 2022)

Figure 2 and Figure 3 show us a link between digital transformation of public institutions and of companies, but it is a subject of further research to find the exact correlation. In this respect we find that Romania must do more in the future about digitalization on all components and to overcome the cultural, educational and institutional barriers and bottlenecks.

3. Methodology

The Delphi method is based on expert knowledge or decision makers with the objective of obtaining a consensus about a specific issue, question or solution and use a process of iterative questionnaires and controlled feedback (Okoli & Pawlowski, 2004). The Delphi technique has been used in research of digitalization and digital transformation (Piccinini, et al., 2015). This method has the advantage of not putting in contact different people with different visions, values, political orientation etc. that could broke the communication or collaborative process.

Because we ask about digitalization different decision makers, with different political orientation, we choose Delphi method. We select ten decision makers, four within national, central government with general overview and responsibilities, including Digital Agenda, three with special high responsibilities in digitalization only, 3 from local public administration. We interview them based on 16 questions (Annex 1), we analyzed and extract conclusions from first round and then we re-interview them with a smaller questionnaire of only three questions (Annex 2).

4. Findings and conclusions

Local public administration still doesn't have any interest in digitalization because they want to have direct contact with citizens. More than half from the decision makers think that public servants are against digitalization because of lack of instruction, fear from transparency and responsibilities. Few of decision makers, but the most important one for digitalization in Romania, are preoccupied by the risks of digitalization for national security.

All of decision makers think that Romania is in a strong position not only in EU but worldwide in terms of human resources expert in IT&C and digital literacy, which is in total disaccord to official data from EU institutions. The level of understanding of digitalization, digital transformation, Industry 4.0 components, is not too high with some exceptions. More than that, the level of understanding of the need for digitalization and the effects of not becoming more digital are not to clear.

For most of decision leaders, digitalization is seen as a part of national system, a subsystem, they don't see digital transition area as a holistic one with effects in all dimensions of society, like electricity. The main assumption of decision makers is that despite of bottlenecks for digitalization, EU general policies will force Romania to become more and more digital. More than a half form decision makers think that to digitalize Romanian society (both public and private sector) government should take the initiative, not private sector. They see that private sector is weak and has a selfish agenda.

The first measure the Government should take in order to digitalize Romanian society is education, at all levels. Finally, is still a retard in vision and determination for digitalization.

5. Future discussions

Some issues rise during our research that should do study more, in the benefit of Romanian society: what if a society in EU did not digitalize itself in due time, the bottlenecks for digitalization in public institutions, the institutional architecture and responsibilities for digital transformation.

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Annex 1 – First round semi-structured interview guide

1. Do you know about Digital Economy?
2. How much digitalize is Romania generally?
 - a. Public Sector
 - b. Private Sector
3. If you consider it is not so much digitalized, how much Romania should be?
4. Who should take the initiative for digitalize?
5. Where is the most important deficit in digitalization in Romania?
6. How could help public institution the companies to digitalize?
7. What public institutions are more digitalized and what are poor digitalized?
8. Why do you think Romanian Society should digitalize?
9. What could be the effects of not digitalize Romania?
10. What could be the future of digitalization in Romania?
11. Did Pandemia help the digitalization process?
12. What is the most urgent/important thing Romanian Government should do to digitalize country?
13. Do you understand/know the concept of industry 4.0 and the components (AI, 3D Printing, High Speed Internet, Cloud Computing, Big Data, integration of processes/suppliers/customers)?
14. How do you see the Human Resource in Romania able to support the digital transformation of the country?
15. Do you think that public Data Base should democratize?
16. Do you know public institutions with Big Data implementations?

Annex 2 – Second round semi-structured interview guide

1. What are the barriers and bottlenecks for digitalization in Romania?
2. What should Government do for increase the digitalization in Romanian Society?
3. What should happen if Romanian digitalization process will stagnate?