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ROMANIA'S STATUS-QUO IN REGARD TO THE DIGITAL TRANSFORMATION: OLD OR NEW CHALLENGES?

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ABSTRACT:

The digital transformation, from a broad perspective, consist mainly ofall efforts managed by decision-making actors within a given state in order to fulfil the digital objectives issued either by national or international entities. Furthermore, concerning 2022 DESI's (the Digital Economy and Society Index) report, the Romanian state, unfortunately, was placed at the end of the benchmark due to the poor results regarding the implementation of the digital transformation at national level in comparison with the rest of the European Union member states. The purpose of this article is to explore and to offer a better understanding of the circumstances in which the Romanian public authoritiesare dealing with the transition of the digitalization, as well as the status-quo of the existingissues that need be addressed in order to increase the level of digital transformation. A perspective of distinct obstacles, which normally are rarely highlighted, is also provided.

KEYWORDS: ***Digital transformation, public sector, European Union, human capital.***

JEL Classification: O30

INTRODUCTION

The tendency concerning the transformation and enhancing societies with complex digital means has become recently more significant as a national priority among developed states, consequently a priority which can be noticed also worldwide. Thusly, the digital transformation covers a broad variety ofdomains and activities which were remarkably enhanced due to advanced technologies, such as: communication, services and products,

economics (banks, credits, cryptocurrency, etc.), agriculture, education, labour market, and so on (Małkowska et al., 2021).

Moreover, due to its high importance and potential, at European level, projects and reforms related to the digital transformation are further fostered by the European authorities, such as the European Commission in order to maintain a high level of competitiveness, as well as to prepare EU citizens for the digital future. In this consideration,the digital transition is mainly supported among EU member states throughmultiple financial sources, but mainly through projects covered by National Recovery and Resilience Plan (NRRP), alongside other funds dedicated for technological advancements (European Commission official website - Romania's recovery and resilience plan2021; respectively the updated version 2023).

Nevertheless, even if there are interests concerning the increase of the digital means, at national level each state has a different approach in regard to facingcomplex obstacles that need be addressed in order to adequately implement the digital transformation. These obstacles, broadly, are not necessarily related to the field of digitalization, but rather the background work that persisted even before the digital tendency. Thusly, it is well-known the fact that the public sector behaves differently and slower compared to the private sector in regard to flexibility or similar approaches. Moreover, there is also the issue that the complex bureaucracy could delay further important developments or stagnate distinct project of higher interest. In this consideration, each state could have different approaches in regard to the digital transition, respectively their given status-quo of implementation, for which the digital transformation could be interpreted differently depending on the given state (Alvarenga et al., 2020).

Unfortunately, at national level, Romania holdsalmost the majority of the last positions within the 2022 DESI report in regard to the digitalization status-quo. In this regard, Romania as a developed country, and asan EU member states, also endeavors to enhance its own societies digital means. Nevertheless, the question rise in relation to how are the Romanian public authorities dealing with the multiple obstacles which delays further the digital transformation at national level(*EU official website DESI report 2022*).

LITERATURE REVIEW

As we already acknowledge, the process of digital transformation already commenced due to its high efficiency within the economic field as well as within other societal implications. For instance, when it comes to the idea of changing the "*mindset philosophy*", this factor of influence could also be considered as a starting point in understanding how could a digital transformation be more efficiently implemented within a society, considering the different level of methodological and technological advancements in comparison with traditional approaches. In this respect and as example, within the banking field, financial entities lean further on less human interactions and more on technological means due to software's banking applications, or other forms of communications, such as: communication through emails, Artificial Intelligence (AI) and Machine Learning (ML) assists bots, banking applications and self-service type approaches, etc. In this consideration, private entities are highly interested to invest further on technological and digital means due to the given economic advantages and increased competitiveness (Alvarenga et al., 2020;Solberg et al., 2020).

Moreover, ever since the occurrenceof the sanitary crisis worldwide, the digital transformation received overall special attention and benefited from an accelerated development within public and especially within the private

sectors, due to the reactions and public policies issued and imposed by governments. In addition, within the private sector, there were also multiple cases of adapted interests and investment opportunities for researching digital means, as well as other similar services, or products, in comparison with the previous ("traditional" or "ante-pandemic") period.This situation occurred also because the private sector was not willing to invest before the sanitary crisis, due to the high economic risks and competitiveness (Mazzucato and Kattel, 2020;Pinzaru et al., 2020; Subramaniam et al., 2021). In addition to the behaviour of the private sectorduring the pandemic, the private sector (alongside with the public sector) also took economic risks in order tochangepriorities and highly invested within the digital transformation, proving that the change could be alsoanalyzed as a type of "*path-breaking*"approach, due to the extraordinary or uncommon situation (Crouch and Farrell, 2004).

Nevertheless, from a broad perspective, the process of digital transformation does not mean necessarily one simple investment in the field of digital technology, but rather a complex process of analyzing the current societal status-quo and infrastructure, economic opportunities, financial supports programs, international tendencies, and many more, from which projects could or will be developed and implemented. In this consideration, there are clear physical barriers concerning implementing emerging technologies, or at least enhancing existing infrastructures within society, thusly, a clear struggle for governmental officials responsible with the digitalization process. For instance, there is a clear difficulty to implement (or construct) a 5G telecommunication system in a zone where no electric infrastructure is in place or functional. In this consideration, the costs of investments could be high and the benefits low, meaning that the private sector would not be willing to be involved, at least not without governmental support. Another example could represent also the lack of interests from the citizens in the context where they do not use smartphones,hence modern communication means are not fully desired, and possibly relying on existing "outdated" technology. This circumstance could also represent the unwillingness of the change among communities, whichdo not accept technological advancements. Nevertheless, there are also other factors to consider in regard to migration, for instance, the cause of youth migration persists worldwide due to the lack of economic alternatives, academic endeavors, or other opportunities implicitly facilities offered mainly by big cities (Henrietteet al., 2016;Brunetti et al., 2020).

In regard to other approaches, there are also dedicated financial supports offered by international entities, such as the European Union (EU), that covers national reforms or thematic projects concerning the development of skills, (digital) capacity increase, "green" public administration, financial public innovation, enhancing energy systems, and so on. Most of the previously indicated thematic are based on an annual Technical Support Projects owned by the European Commission (COM) (European Commission - Flagship Technical Support Projects. Implementing priorities across Member States).

Moreover, there are also other instruments that are financially covered for other tendencies of importance, for instance the EU's National Recovery and Resilience Plans (NRRP), or other similar strategies or transitions in various fields.Hence, all tendencies are covered monetarily by the EU based on multiple and distinct financial supports in order to assist government authorities in times of need and for future necessities. In this regard, the EU always endeavors to priorities and support the European Member States (EU MS) financially, in order to maintain a constant overall development (Hunady et al., 2022; European Commission - official website - *The Recovery and Resilience Facility*).

In addition, regarding the situation of the digital transformation at EU level, EU MS are becoming more aware of the digital and technological developments over the years, which also proves the importance of enhancing existing infrastructures. One example to better comprehend existing technological and digital development represents the EU Digital Economy and Society Index (DESI), which is *"in line with the Digital Decade Policy Programme 2030"*, it *"is now integrated into the State of the Digital Decade report"* and *"used to monitor progress towards the digital targets"*, based on the official EU statement about DESI.Moreover, with reference towards the 2022 DESI report, the main areas of interests (or key-priorities) are as follows: (1) Human Capital; (2) Broadband Connectivity; (3) Integration of Digital Technology; respectively (4) Digital Public Services (European Commission - *Digital Economy and Society Index (DESI)report* 2022).

In this consideration, DESI report offers a better view to understand systematically what areas should be firstly approached in order to advance with the digital transformation, as follows below.

Human Capital

Due to the fact that within society digital competences becomes further necessary and important for intrinsic and societal developments, measuring the level of digital skills and the tendency of their willingness to gain digital competences represents another priority for the digital transformation for national governments.

In this consideration, DESI report for 2022 highlights a concerning situation among the European Member States (EU MS) where 87% of the individuals aged between 16-74 that used the internet regularly in 2021, only 54% of them achieved at least a basic level of digital skills. Moreover, this aspect could become a concerning situation for Romania and Bulgaria because there is an evident insufficiency of digital skills compared to the rest of the EU MS. A brief comparison with South Korea, wellknown as a highly digitalized country,respectively based on a report issued by the Korean Statistic Research Institute in 2022 approximately 93% of individuals that used the internet, only the elderly segmentof the research analysis had a lower digital literacy in contrast with the rest of the Korean population (*Korean Statistic Research Institute - Press Release 2023*).

In addition, at EU level there is also the matter of a general shortage of ICT specialists on the EU labour market, as well as a paradox in Romania situationconcerning ICT graduates and employees. Based on the data and news reportissued by Romanian Employers' Association of the Software and Services Industry (ANIS - *AsociaţiaPatronală a Industriei de Software şiServicii*) it highlights that Romania holds the largest base of ITC specialists in Central and Eastern Europethat holds the 5th place among EU MS, even if there is a slightly decline in graduates. This situation could also be interpreted as a possible growing polarization between highly (digitalized) skilled individuals and unskilled ones, comparison that could be observed mainly between urban and rural areas (*ANIS – Press Release 2023*).

Furthermore, due to the polarization tendencies, there is also the question of a possiblelack of standardization prospects for digital literacy, or the lack of motivations among individuals to become more digital skilled, regardless there could be a concerning situation in Romania that needs be considered in the future.

Broadband Connectivity

In regard to the broadband connectivity infrastructure, the report issues that at EU level *fixed very high-capacity network* (VHCN) covers approximately 70% of households, where there is also the possibility for 5G

communication technologies to be implemented to existing 4G spectrum. Based on the report, the VHCN coverage tendency has increased significantly in recent years and has become even further a priority, especially due to the unfortunate crisis of Covid-19.

Nevertheless, despite the fact that it has a rapid growth and coverage since 2017, the polarization and comparison between urban and rural areas represents a real concern for future developments. As presented within the report, in year 2021 urban households achieved about 70% of coverage, where in the same year only (approximatively) 40% of rural households have access to VHCN infrastructures.

Moreover, this issue is similar to the Human Capital digital literacy situation, as well as in other fields of activities in relation to the polarization between rural and urban areas, implicitly possible repercussions within the private sector development due to differences within the society environment.Hence, there is a possibility that entrepreneurs are in general interested in areas with economic potential and profitability instead of charity actions or other non-profit activities within society (Thomä, 2023).

Integration of digital technology

In 2022 DESI report, the level of digital transformation within SME (or the private sector in general) also represents another indicator of the digitalization process for a given society. Therefore, approximately 55% of SME within EU MS adopted, or implemented, a basic level of digitalization, where 34% from them utilize *cloud computing*, 8% *AI* and 14% *big data*.

In this consideration, based on *Europe's Digital Decade* regarding *digital transformation of businesses*, at EU level there is a prospect for year 2030 regarding an increase with the status-quo of the digital transformation. In this consideration it is expected from EU MS to foster 90% of SME to implement a basic level of digitalization (compared to the 2022 DESI report of 55%), where 75% of SME utilizes at least a form of *cloud computing*, *AI* and *big data*(compared to 34% from DESI), respectively to support innovators within the field.Nevertheless, within the DESI report, there is also a significant gap between small and big companies in regard to digital means, thusly where the latter does have a better adaptability and higher competitiveness in comparison. This situation could also be a monopolization issue in the economic field within society, alike between urban and rural conjuncture (*European Commission - Europe's Digital Decade: digital targets for 2030*).

Another aspect to consider for future perspectives and challenges, represents the highly necessity of the digital transformation for the private sector in societal development in order to perform adequately. In other words, the digital transformation in the context of the globalization process represents an important aspect to develop within society for the well development of the private sector (or SMEs) in order to compete on international level (Kraus, 2021).The globalization tendency, alongside with the digitalization process, develops a highly competitive environment that states are dealing constantly with economic challenges, as well as opportunities in terms of monetary gains. In this consideration, governments become further aware of the digital transformation implications with long-economic perspectives, thusly becoming more concerned for their own digital development (Stankovic et al., 2021).

Digital Public Services

In regard to the general approach of digital public services within 2022 DESI report, EU authorities are monitoring constantly EU MS performances, implicitly that could improve public services with the implication of the digital means. Nevertheless, because of the high variety and diverse methodologies of public services, proves difficult to standardize at some extend. Moreover, there is also the situation that some public institutions are highly digitalized compared to other institutions at national level, as well as different stages of digital transformation in comparison to other EU MS.

In addition, at international level, OECD member states with the close collaboration of the *Observatory of Public Sector Innovation*(OPSI) within the OECD organization, concerns itself and fosters the development of the public sector worldwide, but especially within OECD members. Briefly, OPSI offers multiple guidelines and other advices related to the development of the public sector, regardless if it is within the field of digitalization or the entire modification of the methodology. In this regard, digital transformation could cover multiple areas, where public sector could become significantly more efficient (*Organisation for Economic Co-operation and Development (OECD) - Observatory of Public Sector Innovation (OPSI)– official website*).

However, Romania for instance performed poorly at EU level concerning the digital public services, where most of indicators are significantly lower compared to the EU standards. This situation could also become an increased socio-economical concern for long perspectives, at national as well as on international level, which rise the question of the international implications or factors that foster the digital transition.

In this consideration, the article aims mainly to better understand and uncover the main challenges and circumstances regarding the low performance of Romania within *The Digital Economy and Society Index* (DESI), relying on a more qualitative and exploratory approach. Due to the fact that the digital transformation covers multiple fields of activities, identifying the priorities in this endeavor represents the first steps in solving the possible issues.

METHODOLOGY

From a general perspective, the ongoing endeavor to implement and develop the digital transformation within a given state will always cross different challenges that delays the performance of government officials, that are responsible with the domain. Moreover, due to the idea that each society is relatively different and structured based on various factors, identifying common grounds or main obstacles, implicitly challenges, that withstand the digital transformation could become ambitious. Due to this aspect, focusing on specific targets, such as priorities that need be solved, could represent a more optimal and viable option.

In this context, in order tocomprehend better the situation related to the digitalization process at national level in Romania, the research was entirely focused on a qualitative and exploratory researchbased on the insights given by the Romanian governmentofficials, topresent a better view of the status-quo at national level, as well as to (possibly) highlight the priorities which need be solved in order to adequately implement and adapt the digital transformation in Romania.

Based on the idea that the digital transformation does imply multiple factors of analysis, the interview methodology is planned on a semi-structured interview framework in order to either grasp better a main subject,

or to offer the possibility to better explain the situation of thedigital field in Romania with reference towards 2022 DESI report, where Romania wasranked at most of the bottom of the benchmarks.Moreover, the semi-structured interviews are recommended when in-depth information are searched (Adeoye-Olatunde et al. 2021, Snyder, 2019).

Theresearch targeted to better comprehend the following aspects: the status-quo of the Romanian public administration in relation to the digital transformation process; respectively(possible) future perspectives of the Romanian government officials, considering the existing socio-economic challenges and other (unexpected) crisis.

Regarding the research sample, the expert panel was formed based on the expertise and the position of the government officials within Romanian public authorities (agencies, ministries, government, etc.) in a number of seven individuals (public servants, dignitaries and advisors/counsellors). Moreover, the individuals were selected based on their activities, experience and engagements related to the digital transformation at national level in Romania, as well as having indirect approachesto foster the digital transformation at national level.

RESULTS

Since the sanitary pandemic which occurred worldwide, the digital transformation has received more attention in regard to developing of the administrative infrastructure compared with the ante-pandemic period. Consequently, due to an extraordinary circumstance, public authorities commenced to finance and prioritize policies and projects that foster the digital development at national level in a short period of time. This situationn, however, piked also the common interests of decision-making actors to develop a more adequate framework for the citizens regarding education, labour market (or workplace), health, etc.

As presented within the table below,decision-making actors within public authorities were engaged in general with multiple projects in order to develop the digital means, but in spite of the endeavors, there were multiple challenges that needed be addressed, such as: the lack of civil servants' specialists, complex digital projects that could not be easily implemented, difficult administrative procedures, insufficient fundings, lack of political support, ambitious governmental agenda, and so on. All these challenges were catalogued based on four different and main issues that need be solved. In this consideration, each distinct challenge covers a specific situation, which as a whole has become further intertwined in regard to the digital transformation, as follows below.

Table 1

Digital Transformation (Romania): insights concerning identified challenges

Human Capital	**Project Complexity**	**Administrative Procedures**	**Political Approach**
1. Scarcity among highly skilled civil servants; 2. Difficulties	1. Difficult projects (such as reforms or other similar projects) which are less desired;	1. Old methodology and complex bureaucracy among public institutions;	1. Dignitaries are mainly focused on projects who they could deliver during their mandate;

related to the development of (new) skillsfor existing civil servants; 3. Lack of motivations; 4. High number of "senior" civil servants; 5. High reluctance to change in general.	2. Most of public policies which are managed, are either due to International Involvements, with certain deadlines(EU - directives, OECD – accession process, bilateral agreements, etc.), or simple projects (less involvement from other institutions); 3. For difficult projects it needs adequate coordination and involvement from all actors – less frequent.	2. For difficult projects the probability to stagnate is significantly higher; 3. Complex consultations with the involved actors; 4. Reluctancy of change, or increasing efficiency, among other publicinstitutions; 5. Without dedicated funds, most changes could not be commenced.	2. Political agenda is important in order to advance with the projects; 3. The lack of political support, mostly influences the projects development; 4. An increased level of political instability could jeopardize or stagnate the projects advancements.

The first approach consisted of the human capital within the Romanian public sector, which represented a paradox in regard to the number of employees and their level of expertise. In addition, due to the significantly difficult recruitment procedures, civil servants with a higher level of expertise within a given domain are becoming further a scarce resource within the public sector. Meaning that the lack of human resources directly, or indirectly, jeopardize the implementation of the digital transformation. In this situation, respectively due to the difficult recruitment procedure and lacks of dedicated funds, decision-making actors are approaching more towards international (financial) support and guidance, or other types of fundings, in order to recruit experts for the given projects. For instance, in order to further implement a project related to the digital transformation in Romania, there were also discussion and negotiations with the European Commission in order to identify a better solution. An example in this regard, represented the possibility to finance from the NRRP a specific "*team of specialists in the field of digital*" outside the public sector, known also as "*taskforce team*", in order to foster the implementation process at national level. This strategy was approved by COM in order to advance with the digital transformation, nevertheless, due to the fact that NRRP will end in year 2026, this type of strategies will also end. Nevertheless, this approach is mostly for a short-period of time, meaning that the recruitment problem still remains for future initiatives.

The second highlighted challenge represented the significantly complex project that needed be implemented at national level. This situation covers also multiple layers, because andfor instance:multiple public institutions are involved to collaborate, the essential/necessary fundings are lacking,there is an insufficient expertise within the public institution in order to manage the activity or project, hence the process (in general) becomes even further difficult to implement.Moreover, another challenge in relation to the complex projects consists of the difficult and close collaboration between public institutions. In other words, each institution could have a different approach, which from start represented another bureaucratic obstacle which delayed important projects at national level.

The third aspect represented the difficult administrative or procedural approval circuit. This aspect was highlighted especially due to complex reforms or projects, where multiple ministries needed be involved in order to be advised and to receive approvals. For instance, if a project was related to the digital instruction of the civil servants, multiple agencies needed be involved and toapprove the same documents for the given project, such as: Ministry of Labour, Ministry of Education, Ministry of Digitalization and Communication, The National Institute of Administration, National Agency of Civil Servants, Authority of Digitalization of Romania, Ministry of Finance, Ministry of Justice, as well as the Romanian Government for the final approval. The core idea consisted that all involved institution needed to agree with the draft project, hence to have a consensus among all of them. This conjuncture represents another problematic in terms of advancements, due to the fact that the more institutions are involved, the more difficult the project would be implemented, along the fact that the bureaucracy is relatively similar as in previous years.

Lastly, there is also the political perspective and their given (limited) mandates, where differentdecision-making actors (dignitaries) could change entirely theagendas, in the context of new elections. Nevertheless, there are also other factors to consider, such as: long and complex reforms or projects are mainly less desired compared to simple ones in order to gain their electoral credits; reforms supported by COM or other European Institutions (for instance the NRRP situation) are prioritized by all political parties; because of the lack of fundings, other projects are prioritized in order to achieve and implement.

Undoubtably, all these main factors offer us a general insight, or *a first glimpse*, regarding of the status-quo in which Romanian authorities deal and manages the digital transformation at national level. Nevertheless, these aspects are but a possible fraction of other challenges that decision-making actors and civil servants need to address, which are farther and more sensible to be highlighted publicly, hence representing also one of the limitations of the research paper. For instance, there could be also the situation of the high inflation situation, where the fundings could be deepened even further, implicitly the reluctance of employing new civil servants due to the delicate financial situation. In this context, the digital transformation in Romania could stagnate also due other elements which may not be easily highlighted. Moreover, there is also the situation of the accelerated technological advancements which are developing even faster compared to previous periods, or the flexibility difference between the private and public sector in general. Consequently, the due to the high complexity and involvement of the requirements of the digital transformation, there will always be equally high and complex obstacles to solve in this regard.

CONCLUSION

The process of implementing the digital transformation at national level represents a highly complex endeavor to commit and fulfil in general. Thusly, multiple (sensible) factors that decision-making actors alongside with civil servants and other involved actors need to solve beforehand in order to progress accordingly with complex projects and reforms.However, and unfortunately,most of the identified issues are not necessarily aspects that are mainly new, but rather "*old*" issues which could not be easily highlighted in public, due to various circumstances, or simply because they are already acknowledged, but difficult to change. In this regard, at national level in Romania could be more dominant obstacles that are relatively indirectly related to the digital transformation, hence complex issues which need be changed, however with significative commitments and calculated risks.

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