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Article

E-government Stages and the Romanian Public Sector – The Pension System Case

Abstract: *E-government has been, for the past 20 years, one of the main fields of study for researchers following transformation in the public administration systems, the most important and visible one after the New Public Management. Since 2001, many papers have tried to establish o list of stages one should follow in order to observe the process a public organization goes through in its journey to digitalizing public services.*

This paper will review four of the most important and universally accepted models, from the Layne and Lee (2001) complex model, to the Gartner (Baum & DiMaio, 2000) specific one, in order to decide which one best applies in practice and can actually be used to analyse a public organization and its process towards digitalization, and which ones apply better to the general public system, like the one proposed by Moon (2002).

In order to have a specific example and apply the theoretical models in practice, this paper will be presenting the case of the public pension system in Romania, through its local Houses of Public Pensions and their level of digitalization, when it comes to public services and public interaction with people who benefit from their services.

I will begin by presenting the context in which e-government appeared and why is it so important in the development of any public administration of the 21st century, the main differences between the stage models mentioned above, and the arguments presented for applying one of them in our current study, followed by the methodology used to observe the characteristics of the digitalization process in the Public House of Pension of Brașov city, Romania.

The results of the study will be applied on the stages mentioned above in order to determine which stage are we currently talking about and how well the model can be applied in practice.

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Keywords: *digital administration; digital divide; digitalization stages; e-government; pension system*

1. Introduction

The public sector reforms have been undergoing serious changes along the last few centuries, starting with Weber's bureaucracy model and the first rules of conduct for public servants, hierarchies and profes-

sionals being hired instead of offering jobs in the public administration system as a reward for serving in one's political campaign, moving to the New Public Management (NPM) model with clear objectives, quantifiable targets and serious competition between the public and the private services, all the way to the New Digital Era (NDE) we are currently experiencing (Fang, 2002). It is fair to say that some countries have been following very similar steps in the process of adding digital tools to public services, digital literacy to public servants and transforming public organizations in online entities with less to no human interaction with their beneficiaries, while others are jumping straight to the more advanced stages and not always in a successful manner (Margetts & Dunleavy, 2013).

Romania, as a post-communist country, is one of the European public systems which has been paralyzed until the early 90s, in terms of reforms and development, almost excluding significant changes of processes, structures or public servants' skillset New Public Management brought to other European countries. When it comes to the New Digital Era, the change started being inevitable, but at the same time had to overcome significant cultural reluctance, lack of resources and massive corruption among the political decision makers and public servants who, at first, seemed to have no interest in making public organizations trackable, transparent and efficient for the citizens.

This is one of the reasons I believe the current paper has the potential of opening new discussions on the topic of digitals stages models, considering the fact that Romania's and other post-communist developing countries' experience in digitalizing the public sector might be following different stages and overcoming different challenges in transforming not only the services provided by the state, but the actual providers themselves.

One of the main goals of this paper is to observe the most important and constantly used stages models of digitalizing public organizations, more specifically the Layne and Lee (2001) model, the Gartner Group (Baum & DiMaio, 2000) model, the one proposed by the United Nation and the American Society for Public Administration (2001) and the later Moon (2002) five stages model, and decide which one can be applied best in analysing a public organization and its processes itself, not a whole public system, at a national level.

The second and perhaps most important goal of this paper is to apply the chosen model by studying the current options one has when having to interact with the Public House of Pensions of Braşov, for example, one of the biggest cities in Romania, with a number of over 147.272 retirees registered in 2022, according to the National Statistics Institute (Direcția Județeană de Statistică Brașov, 2021), all dependent on the same public organization for their retirement process and monthly payment, among other public services they can access. The study will mainly focus on the present website of the organization and what types of information can be obtained exclusively online, what kind of processes can be followed without a face to face interaction with an employee and how digitalized the public services are in the present, given the fact that the pandemic period of 2020-2022, came with a lot of constraints when it comes to public interactions between people and public services and could have been a tremendously good moment for implementing new digital services and improving the way the organization works regarding its beneficiaries.

Another element that will be discussed in this paper is how accurate the chosen stages model was in describing and evaluating the digitalization of the public organization brought into discussion, if in practice it does work as good as in theory or if, for example, it lacks several indicators that might seriously affect how the public services are being transformed by

digital tools and the stages they follow in their progress. If the following situation is the one in case, the paper will be opening a new discussion and subject to future research regarding the differences stage models face in theory versus practice and what are the new elements they should be including in order to respond to the real situation in the field of research.

The main research questions can be considered the following:

- What current example of stage models can be best used when analysing a public organization and its digitalization process?
- When observing the Public House of Pension in Romania, which is the stage it currently faces in the process of digitalizing its public services?
- How accurate is the chosen model in observing a real process of digitalization?

The expected relevance of this article is connected to applying theoretical stage models of digitalization on real cases and discovering in which way they can help assess the current level a public organization is facing, while also showing how does e-government and its stages actually apply on the public organizations of the public pension system in Romania, a post-communist developing country with a history of reforms very different from the one USA and UK have, in the field of improving public services and their access to the general public.

2. Defining E-government in the context of the New Digital Era

Starting with the 1980's, the New Public Management reform defined the most significant wave of changes in public administration ever encountered since Weber's bureaucracy model. According to H. Margetts and P. Dunleavy, NPM was based on three macro-themes that hardly influence the evolution of many public administrations, more particularly disaggregation, competition and incentivization. The first one of them brought to attention the need to "split up the large bureaucracies developed on Weberian lines" (Margetts & Dunleavy, 2013) and focus more on local organizations that can particularly address the needs of the people, followed by creating a real competition between the public and the private sector when it comes to services and their quality for the people and between the agencies themselves in terms of efficiency and objectives met, just like in the open market. Last but not least, NPM brought to discussion the need of pecuniary incentives for the public services to improve, among which the process of privatization for big national companies, like railways and telecommunications.

Due to the extensive financial efforts some of the reforms implied, along with the risks options like privatizing public companies came along with, not all the countries applied the reforms brought by the NPM, or tried to apply them but failed in some areas, but all of them needed a new reform model to help public services respond to the real and current needs of their citizens (Margetts & Dunleavy, 2013).

Starting with the 21st century, The New Digital Era started becoming the main focus of researchers when talking about public administration reforms, along with all the technological changes and opportunities the Internet of Things (IoT) had to offer. As opposed to the NPM reform system, the Digital Era Government (DEG) focused more on reintegration, needs-based holism and digitalization, making the most of the new digital tools available on the market. In order to make processes more efficient and cost-effective, DEG focused more on bringing public services back together, and trying to make sure one particular process is not being followed at the same time by more than one public organization, and is therefore simplified by

connecting them to one another. At the same time, the needs-based holism changed the focus of the public sector way of organizing itself to one that is directly connected to the people, by their needs and services that can be connected to one another, creating what will later be called the "one-stop shop" services. Last but not least, the digitalization process covers the entire involvement of electronic devices, online service delivery, digitization of public documents and transforming the current processes of a public organizations into ones lead less by people, and more by technology.

E-government represents one of the main pillars of the New Digital Era, along with E-democracy, and can be defined as the usage of digital technology, internet, world wide web and innovative information technology by the government in order to deliver public services to the big public, the businesses and the public servants in a more efficient, fast, transparent and cost-effective way. In Gartner's (Baum & DiMaio, 2000) view, "E-government is the continuous optimization of service delivery, constituency participation and external relationships to technology, the Internet and new media", which, according to Z. Fang, includes government to citizen, government to employee, government to business and government to government and can also be described as the "ability to obtain government services through non-traditional electronic means, enabling access to government information and to completion of government transaction on an anywhere, anytime basis and in conformance to equal access requirement" (Fang, 2002).

According to Theresa A. Pardo (2000) the following can be mentioned among its functions:

- Citizen access to government information – offering access to any citizen, at any time, any place to the information he or she might need from the government;
- Facilitating general compliance – helping government use electronic access to services than can make it easier to comply to certain rules and regulations;
- Citizen access to personal benefits – offering people the ability to apply online for public assistance and worker's compensation.

As part of the e-government transformation process, it is more than important to also take into consideration elements like the e-readiness *(electronic readiness)* as one of the most needed element in the implementation of digitalization and digital transformation. As previously defined by the United Nations (UN E-Government Knowledge Base, 2023) and World Bank, (The Foundation for Digital Development, 2020) the e-readiness indicator refers to the level of a country's ability to use information and communication technologies (ICT) to develop one's economy and to foster one's welfare and also to the quality of a country's infrastructure and the ability of its consumers' businesses and governments to use ICT to their benefit.

In some cases, e-readiness can be evaluated by the Internet services available in a country and the ease of access one has to it, in terms of signal and speed, for example, but at the same time it can be described as the level of digital alphabetization the population has, in order to be able to access digital services and consider them an improvement of the public sector and not an impediment in accessing it.

Digital literacy refers to an individual's ability to find, evaluate and communicate information through typing and other media on various digital platforms. This concept transcends simple access to a digital device to knowing how to use it, obtain it and become familiar with its capabilities, in order to use it to its real potential (Eshet-Alkalai, 2004).

Along with e-readiness, the digital divide is also an important factor in digitalizing public services. In order to access digital tools, people need to have access to Internet and be able to

use it, the concept of digital divide being the one to describe the amount of people in a country, for example, who cannot access digital services because of the lack of digital literacy, the financial power to buy an electronic device, the knowledge to use it or the necessary internet signal to be able to navigate a website or file an online form.

In the context of transition from public face-to-face services to online ones, the digital divide creates a stringent problem for the people who suffer from it, rising the idea that in the near future, if services would be entirely online, they will become inaccessible for numerous people, which is exactly opposite to one of the DEG pillars, more exactly creating easy access for everyone to public services.

As an example, I can consider the case of paying for a bus fare, in any city in this world, from the perspective of the transition from paper tickets to a smartphone application. In a situation where all the paper tickets will be extinct and one will not be able to purchase one without using a smartphone application, we can certainly say that public transportation as a service will become not just hard to reach, but prohibited for people suffering of digital illiteracy or lacking a digital device, which poses as one of the greatest risks and problems of the New Digital Era.

3. E-government stages models

In order to be able to assess the level of digitalization one organization has reached and observe which are the steps it can follow in order to offer more and more digitalized services, many researchers, along with public entities tried to create a model of stages one can follow in analysing the public system reforms. Most of them were created between 2000 and 2002, but are still debated later on (Siau & Long, 2005), when it comes to being applied in actual studies or compared to one another, from different points of view. Even though the most common ones have around five stages of development, there are also models with only four of them or over six, as I am about to discuss later in the current article, and are referring mostly to the information availability, the ways one can communicate online with a public organization and also to the extent of communication there is between organization, leading to an ideal with one-stop shop organizations or Whole of Government approaches.

The models themselves present as a way to observe the process of digitalization and approach it from different angles, which in fact makes it easier for one to choose the one best suited one for the research he or she is pursuing, but can also be compared and mixed, only to find out some of them have a very similar bases, only presented differently.

3.1. The Layne and Lee four-stage model (2001)

The Layne and Lee four-stage model can be considered a managerial approach to the stages themselves, with a specific accent on the information availability and being based on the United States model of multi-layer governments among federal, state and local agencies. This makes it applicable more to general systems, as the authors describe it, than to specific public organizations.

The first stage of the model is *Cataloguing*, which can also be considered the most basic step for an organization to start its digital journey – the online presence. In this stage, the state/public organization is required to present a minimum amount of information online, through a website or any other searching application, like the address, its phone number, work-

ing hours and also specific forms that can be downloaded online, but not yet sent back in a digital format, which, as we are about to see, differs from other models as a first step.

The second stage is considered *Transactional*, covering the situation in which the citizen can start to actually communicate with a public organization and complete transactions online, no matter if we are talking about money or pure information and forms. As a general example, this stage covers the cases of people who can pay fines online in their country, register new cars or pay for certain public services, without actually needing to travel to a paying point. This stage is already forcing public organizations to create systems that connect the public interface with the internal one, meaning that if a citizen will decide to pay for a fine online, the paying system he is accessing needs to be directly connected to the one inside the organization, and so the payment will automatically be seen in the intranet system, with little to no help or involvement of an actual public servant.

If the first two stages were involving the citizen and its experience directly, the last two are more connected to the way the internal system of a public organization works and more exactly how connected the systems and databases are among organizations around the country and even between different types of them. As Layne and Lee see it, the last two stages can be described as *Vertical* and *Horizontal Integration***.** In order for a citizen to be able to access one stop services or solve more than one problem at the same public organization, there is a real need in connecting them at several levels. In the vertical integration phase, the model is talking about organizations in the same field, that are connected from local to national level.

For example, a vertically integrated digital system would be the one in which the police have a system nationally connected between departments from different cities, so that every time they stop a car in traffic they can see the personal history of the driver not only regarding possible fines or illegalities in that very city, but all around the country and why not all around the European States.

The last and most complex stage would be the one of horizontal integration, meaning that systems are connected not only between local and national level, but also between different types of organizations, so that information can be available from one place to the other and a person should not need to take a piece of paper from a physical address to a different one in the same city or even country. This type of development is one step closer to countries where all the systems are interconnected and the databases regarding people and their records are universal, so that every doctor can see if a person is a certified worker, every retirement system can know if one has fines to pay to the state and every school could easily find where one child's parents are living. In theory, this type of integration can eventually lead to the ideal one stop shop type of services, where one can solve every problem and request about public services using a single online platform or interacting with only one public organization, but in practice it raises serious questions about the amount of security one's online account must have and the level of clearance different organizations should or should not have regarding citizens' personal information.

3.2. United Nations' five-stage model (2001)

Presented by the United Nations and the American Society for Public Administration in 2001, this five-stage model is generally focused on the online presence of public administration and its utility to the citizen, without actually including any stages related to e-democracy or describing a lot the type of interaction public organizations should have with one another. Even though this model is describing more stages than the previous one, at a closer look it can be

said that at least four of them are more of an extensive explanation of the Layne and Lee's model first two stages.

The first stage is the one of *emerging presence*, presenting the part where a public organization enters the online environment with a limited amount of information, without putting in much effort in checking it regularly, adding new information when they are needed or allowing any type of online transaction.

The second stage is the *enhanced presence*, making the transition from simple static information to more dynamic one, taking more responsibility in bringing it up to date and helping citizens with more than just basic information like the phone number, address or working schedule. We can say, as an example, that if we would look at an educational school system, this stage would describe the case in which every school website presents more than very basic information, by actually updating it with news about their educational offers, teaching personnel, possible opportunities for children and other information that can be of use to the parents, but still with no available way to transact information.

The *interactive presence* is the one to actually bring an important change to an organization's online activity, by opening up to possible simple transactions between citizens or businesses and the public sector. This stage defines the moment in which one cannot just download a PDF form but actually complete it online and send it directly to the agency of interest or pay for certain public taxes.

Not being completely different from the previous stage, *the transactional presence* tends to involve more complex transaction that imply certain verifications from the online systems, such as renewing Visas or requesting actual birth and death certificates. This stage describes a situation in which very important processes in one's interaction with the state can be completed without any face to face interaction and citizens are only required to use online tools from completing the forms, to verifying them all the way to actually receiving a new identity document, for example.

The final stage of this model is called the *seamless or fully integrated presence* and resembles a lot with the horizontal stage integration from the previously described model. Simply put, the state is offering citizens a single very complete and detailed website or portal where they can access any possible state services, and most likely a universal digital identity account which can be identified by any public organization and used to access public services.

Considering the fact that this is a more detailed model, even if the first three stages are very explanatory and help the researcher identify several steps in the digitalization process, the transition from the forth one to the fifth is a bit abrupt, considering the fact that between offering online transactions and actually considering one functional portal for the entire public sector integration, there should be more stages regarding the way public organizations work and organize as a whole.

3.3. Gartner's four-stage model (Baum & DiMaio, 2000)

Even if it contains the smallest number of stages and can be considered the oldest one between the models compared in this paper, Gartner's model tends to be the most balanced one, carefully covering significant stages of a public organizations' digitalizing process, but more adapted to an individual level, with still no mentions of the e-democracy concept.

As it could have been seen in the previous two models, the first stage proposed also by the Gartner model is the apparition of *web presence*, in other words, the basic element a public or-

ganization can use to establish an online presence, such as a simple website or a Facebook page with very simple general information.

The second stage presents the case of *interaction*, which is exactly the moment citizens can begin to exchange information with a public organization, either by being able to send an e-mail that is actually being registered and answered to or messages through an online platform, or by simply being able to download the necessary forms in order to access any type of public service. This stage can be considered extremely important and in one's view the most important one for the general public, being given the fact that it requires, for the first time, citizen's ability to communicate through digital devices and inform themselves regarding forms and procedures from the comfort of their own home, before actually queuing in front of the actual physical location.

The *transaction* stage comes as a natural continuity to the previous one, considering the fact that once people are able to study online forms, download documents and communicate with public servants through digital channels, there is only a step to the point in which they can actually complete the forms online and send them through any digital platform. Moreover, using online services becomes more complex and useful for the people once they are able to pay for services online, register for different kind of public services or actually conduct an entire operation online, and this is exactly the case of the transactional stage.

The last and most ideal one is the general *transformation* of public administration, describing the point in which the main processes in the public administration are completely modified and adapted to the use of digital tools and even organizations themselves can be reorganized, transformed into online platforms or complete services that citizens can find one click away, without actually needing to interact with any specific physical location.

3.4. Moon's five-stage model (2002)

Moon's approach consists of similar stages to the models presented before, but the biggest and most important difference between them is the fact that it involves a stage of e-democracy and brings into discussion not only the regular public administration reforms but also the problem of participation and the impact digital tools could have in that area.

Similar to all the other models, the first stage of digitalizing public administration is the *one-way communication*, simply defined by the point in which an organization creates itself a public website with the bare minimum information one needs to have in order to know it exists and has a certain role in the public sector.

The *two-way* communication resembles the integration stage a lot, adding the element of simple communication between people and public services by being able to send messages through online platforms and communicate directly with public servants, but only for information purposes and without any possibilities to complete a form online, for example.

The *services and transactions* phase is also very similar to the transactional ones previously discussed, but clearly states the difference between financial transaction and online requests, also bringing into consideration that this exchange of information through regular online forms can not only help and describe the situation of the public citizen, but also the one of businesses that need to regularly go to public administration offices in order to declare certain modifications and to obtain different types of approval.

Vertical and horizontal integration are now considered one and the same stage, which can be explained from the point of view of the general public but, at the same time, it seems to be

an extremely vague stage, covering different levels of communication between any organization in the country, no matter if we talk about connecting the local level to the national one or actually creating real time databases that can be available to multiple systems in order to properly check one citizen's legal situation or simply access information from one organization to another, so that they do not need to specifically check and communicate physically between each other for only one person, or even worse, send the citizen to bring a pile of papers.

The most important stage of this model, in comparison to what all the other ones truly lack, is represented by the *political participation* one, which brings a whole new topic to the table. If we talk about political participation, it is more than clear that we cannot anymore refer to one organization or the other, and should be considering systematic change all over the voting system, for example.

3.5. Choosing the most appropriate model

If I am to study all the four models described in the previous section, we can clearly identify a certain number of similarities, especially for the first two to three stages. The main difference between them would be that some models consider the first stage as simple as having an online website with very basic information, which in fact qualifies really well when you are trying to analyse the digitalization level of a public organization in a developing country, considering the fact that unfortunately, there are still cases that can be included in this first stage.

Another almost identical stage between all four of the models is the transactional one, which is a defining point in the digitalization process, no matter if it is considered the second, third or fourth development stage.

The better differentiated part between models is clearly among the last stages, considering the fact that the Moon model clearly describes it as being the political participation stage, which is completely new to all the other ones, while other models simply adhere to the opinion that the last stage of development is the one where the whole system is being transformed through the use of digital tools, the public services are being reorganized and platforms start taking the place of physical offices, with lots of integrated databases at all the institutional levels.

In this paper, the main objective is to analyse and be able to evaluate what stage of digitalizing public administration has the public pensions system in Romania already reached and therefore which one of the previously described models would best apply to the current research.

Considering the fact that Moon's (2002) model is tailored to evaluating an entire public system of a country or region, being given the fact that the last stage is clearly unrelated to public administration itself, this cannot be considered an option. The Layne and Lee (2001) model, on the other hand, has stages that can all be applied to public administration but are at the same time very general, at the very first part, which makes it more appropriate for evaluating more developed countries and systems, which have already passed the first two to three stages and do not present any more differences between simply having a website or actually using it as a communication platform with the citizens or maybe never experienced that difference in their evolution.

The UN Model (2001) seems to be the most appropriate to use, regarding the first three stages which are very well classified and described for an emerging digital system in a developing country. Even though, the main problem that this paper would like to raise is the fact that between the transactional phase and the fully integrated system the transition is direct, the classification jumping from an attainable level of digitalization even for developing countries

to one which implies that everything is completely connected in the public system and works as a general one stop shop platform, which leaves a lot of space to debate what happens in between and how do we classify systems that are maybe applying the principles of the transaction phase but are just starting to move to the vertical integration, for example.

All in all, we consider that for this particular situation the best model we can use to evaluate the Romanian pubic pensions system's level of digitalization is the Gartner model (Baum & DiMaio, 2000), simply because it states and differentiates even the small steps that have to be taken in the very beginning part of the stages, does not imply any indicators for political participation, which is clearly not needed in our current situation and also describes the last stage as a "transformational" one, which can imply a lot more different subsequent phases, not just a jump from transactions to fully integrated services. Moreover, the way Gartner describes the last stage makes it cover a wide range of possible reforms and actually opens the door to constant improvement and future redesign of public services, no matter where these changes are going to take us.

4. Methodology

When trying to develop a research project regarding public administration in countries like Romania and the evolution or quality of its services, there are many challenges you need to overcome, if possible, from the very lack of transparency and public information to the reluctance of the department chiefs, most of them named through political arrangements and not really eager to say the truth or participate in a study that could uncover real problems or lacunar elements of the system they are part of.

It is important to mention that the present study is just a small part of a comprehensive research project dedicated to the digitalization of public services in Romania, and will be presenting only the first phase of the study, therefore talking about the results obtained through documents analysis.

In order to assess the stage of digitalization the public pension system has reached so far in Romania, the current paper is going to use, methodologically speaking, the qualitative method of document analysis. The main reason why this option has been chosen is the fact that, as I established before, the type of online presence a public organization has and amount of activity it shows, can help determine which digitalization stage it is in, therefore, studying the website of a House of Public Pensions will help us answer at least one of the questions raised by this paper.

Our main hypothesis is the fact that the pension system in Romania is currently facing the second stage of digitalization, according to Gartner's model, considering the fact that the digitalization process has clearly started a few years ago, but at the same time, it is not progressing fast enough to have passed more than half of the stages. As a first step of the research, I previously explained multiple stage models that could have been used in this study and determined which one is the most appropriate one. After that, I chose the public pension system that is of general interest for the entire country and relevant for a lot of different social categories, considering the fact that almost the entire population has to go through a retirement process and interact with the public pensions system, which is also responsible for social benefits dedicated to younger people, and therefore has to respond to multiple types of needs and address very different categories of citizens.

The third step of the research was actually navigating the website of the local organization which serves one of the biggest cities in Romania, and trying to find simple information, download different types of forms, communicate with public servants through the website and even access public services that might be available online.

In the last phase of the research, the notes have been analysed and compared to the stages the Gartner's model suggested, in order to see what is the current level of digitalization, considering the online presence and the available written information only, without actually contacting any employees of the organization or talking to any of the beneficiaries, that being the object of future research in the same field of study.

In order to obtain the most relevant and complete information possible, the observation has covered the period of 2022-2023, through regular accessing of the public web page (Casa de Pensii Braşov, 2023) and comparison between the information available on it.

5. Main findings

For a better understanding of the results of this study, it is important to briefly present what is the role of Houses of Public Pensions in Romania and what are the cases in which citizens have to interact with it. First of all, it is the organization responsible with helping citizens with their retirement process, from registering their papers, to determining when they can qualify for a pension and in which conditions, setting the amount of pension they will receive and monthly delivering it through debit cards or postal delivery (Casa Națională de Pensii Publice, 2023).

Second of all, it is the system responsible of constantly registering and maintaining information about people's current and previous workplaces, so that it can determine at any given point how long a person has been working and what are the average wages one has received, information needed for the retirement process but also for people who want to check if their work contract is legal and the dues to the state are being paid regularly and correctly.

Last but not least, the House of Pensions is responsible of offering orphans (of one or two parents) a monthly pension, established from the moment they lost at least one of their parents and up until the age of 26 years old, as long as the beneficiary continues to have a public school education.

As to how the system is organized, in Romania every single county has its own House of Pension that serves the entire population of the area and also a National House of Pensions responsible with managing the whole system and implementing changes, responding to very specific problems and creating the internal rule of procedure (Casa Națională de Pensii Publice, 2023).

In order to decide in which phase of digitalization this particular system currently is, I started by applying Gartner's stage model, step by step, to the current website available online and observing it for a longer period of time in order to determine how dynamic and accurate the available information is.

As described in Gartner's first stage, our first step was looking for the organization name on Google, in order to check if any official website was available, and easily confirmed that there is a public website for every single House of Pensions in Romania, including the one I was looking for. While accessing the website main page, one can easily find the most basic information about the organization, as to the physical location, the available phone numbers, e-mail addresses for more than one department and the opening hours, detailed for more than

one public service. At this point, it can be said that the organization has clearly passed Gartner's first step, the *web presence*.

Furthermore, while exploring more pages of the website, the e-mail addresses available were very visible and easy to access directly from the website, which can be considered a first indicator of the *interaction* phase. Even though there was no available chat box or other way to directly interact with a public servant, there is indeed a special section dedicated to forms and types of documents that can be completed in order to access public services, highlighted on the main page. The forms available were accompanied in some cases by given examples of completed ones, in order to help people understand what they need to write, but there was no way for them to be completed online or on the computer at least, just the possibility of downloading them and printing them on paper in order to be delivered to the main office of the organization.

From that point, I hit a roadblock when trying to apply the third stage of development in the Gartner model, particularly the *transactional* phase. All the official forms being available online, a lot of useful information and regular updates according additional legal elements particular to the field made the second phase seem way behind and encouraged us to look for ways to transact any type of information or payment, but no action of this kind was available.

We can take into consideration the fact that some of the forms could be transmitted online, through the e-mail addresses available, but just a very small amount and only the ones that did not imply adding any originally signed or stamped documents. At the same time, there was no way to check online if the submitted forms have been received or registered by the organization, as there was no transparency in that field or way to follow a file's status online, and checking actually required calling the organization directly or going to its offices personally.

According to this model and its described stages, in my view it would be clear that *the public pension system in Romania has only reached the second stage of digitalization* so far, and that happened at least two years ago so it might be facing some important setbacks, if nothing else has continued to change ever since, also confirming our initial hypothesis.

Coming back to the other main objective of the paper, I need to explain if actually the chosen model of stages was the best one to assess the current subject and here, the hypothesis has been only partly confirmed. It is very true that the first three stages of the model could be applied directly to our case, but at the same time the model seemed to lack a few more additional steps, that I considered important during the study. For example, by reading the online information available and trying to understand how the system is working, the study showed that the current database of the Romanian Houses of Public Pensions is actually connected nationwide and, for example, a public worker in one city of the country could actually access information from all the other city systems and observe if a citizen has been working in other places than in the city he was applying for a pension. Moreover, the intranet was developed well enough so that an employee from one public organization could access the system of other similar ones, in the same field, and discover in the matter of seconds if one person has ever applied for pension or similar public services in other cities than the one he is currently living in.

That being the case, it is clear that if I had used the UN model, I might have also included in the study the vertical integration stage, which could very well cover the situation previously described, but at the same time rise a new problem, more precisely the fact that this stage would have succeeded the transactional stage in the UN model and therefore put us in a situation to find out that an organization has completed a step before another previous one.

All in all, the study has clearly shown that even if there are a certain amount of tools available when it comes to analysing the digitalization of public organizations, there is still a lot more

work to be conducted in adapting the theoretical models to the actual research situations one can encounter and the stage models available can be improved and developed with more appropriate stages for different types of studies, from systems in general to local public organizations.

Future research in the field should be considering a more comprehensive stage model and also classifying the existing ones also by the perspectives they are following, for example if they are the stages that need to be followed technically, financially, regarding human resources or the general public, or else there is a big risk of missing important elements of the process that can actually cause the most common setbacks in the process itself.

Conflicts of interest

The author declares no conflict of interest.

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