

# E-GOVERNMENT DEVELOPMENT IN ROMANIAN LOCAL MUNICIPALITIES: A COMPLICATED STORY OF SUCCESS AND HARDSHIPS\*

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## Abstract

Most public services in Romania are provided by local public institutions, especially town halls and city halls. Although Romania has produced a number of national e-government development strategies, in the end, their implementation will mainly be in the hands of local municipalities. This study aims to find out the challenges that IT professionals in local administrations face in digitalizing their institutions, their success stories and their opinions about online service delivery in the face of continuous technological change. The general sentiment is that e-government development is never a priority, especially at central level, and that essential national technological infrastructure is underdeveloped or non-existent. Because of these shortcomings, even online services that work well in a local context will be hard to replicate or integrate at a country level.

**Keywords:** e-government, local government, public servants' view, Romania.

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## 1. Introduction

Online services are increasingly seen not so much as a novelty, full of excitement and potential, but as just another utensil in the public institutions' toolboxes, helping them reach more citizens and companies (clients, in NPM parlance) and serving them better. Better quality services can be offered through e-government, and so, the administrative burden can be reduced and public institutions' back-offices can reap efficiency benefits (Katsonis, 2015).

Romania does not deviate from this trend, at least if we look at the official declarations. The efforts to implement e-government measures and services throughout Romanian public institutions date back to at least 2001, when the first relevant legislation was adopted: Law no. 544/2001, on Free Access to Information of Public Interest, which also stipulates the kind of information that is provided by default, including on the institution's webpage, and that the requested information can be delivered through electronic means whenever possible. Afterwards, a number of IT and eGov strategies were published (in 2003, 2008, 2014) (European Commission, 2015). Romania, as a member of the European Union, is also within the scope of the Europe 2020 strategy and, especially relevant to our discussion, for the Digital Agenda flagship initiative, which aims to 'unleash the digital potential and diffuse the digital culture widely across the EU' (European Union, 2016). The Romanian government agreed to a set of goals (for example, at least 35% of people use e-government systems; at least 60% of citizens use the Internet regularly; at least 30% of citizens make purchases online; etc.) which, presumably, would help public institutions focus on these objectives and advance the development of a digital society.

In order for e-government initiatives to stand a chance of success, a number of pre-conditions must be met. Chief among them are internet access for a majority of citizens and a minimum level of computer literacy (Meyerhoff Nielsen, 2017). In order to gauge the digital skills of Romanian citizens, a number of indicators were analyzed (the uptake of online banking, looking for a job or participating in an online course, the percentage of Romanians interacting with local or central government online, the percentage of citizens with digital skills above basic). While the connectivity numbers are promising (76.4% of Romanian households have internet connection; the average for EU countries is 86.9%; Romanians have access to the second most affordable broadband connections in the EU; over 65% of fixed connections are rated to 100Mbps or more, the highest rating among European Union's countries), the numbers for digital skills are not very encouraging. Below, a few relevant figures (the EU average is in brackets):

**Table 1:** Uptake of online services and digital skills (% of internet users, 2017)

Online banking	Looking for a job online	Online course	Interacting with government online	Digital skills above basic
10.7 (61.4)	13.1 (20.1)	4.96 (8.79)	12.6 (57.4)	37.6 (75.9)

**Source:** Author's own calculations based on Eurostat data (2017)

Especially worrisome is the low uptake of online banking (offered by almost all Romanian banks) because the same principles and types of online interactions can usually be found in governmental online services.

## **2. Context: national and local digitalization**

The push to digitize public institutions can come both from central and local level, depending on a number of factors (size, centralization, management style, etc.). Some research studies advance the idea that local governments are ill-prepared to implement e-government services for a number of reasons. Streib and Willoughby (2005) argue that for innovation in digitalization to happen, especially at the local level, there are a number of requirements: a stable environment (introducing, maintaining, and developing online services is a long-term process, requires stability and predictability); financial resources to spare (on top of investing in all the necessary hardware, software, and training, attracting IT professionals in public institutions is not an easy task); knowledgeable leadership (it is not essential for the managers to be IT specialists, but they must understand the basic costs and benefits of various alternatives); good IT people, preferably from inside the institution (they will be tasked with implementing all the procedural changes, along with all the technological tools necessary for a digitalization strategy to work); good internal communication (without an important majority of the employees understanding the strategy and on board, the implementation will most likely fail). We need to add here a clear vision of the whole process and a credible strategy to achieve it; without this 'map' of the road ahead, the journey could be much harder. Countries all over the world are grappling with this tension between national strategies and local implementation. Norris and Reddick found, in a study from 2012, that local governments in United States had not benefited as much as predicted from digitalization, and that changes were incremental and slow.

If we take a look at Romanian city halls (we chose city halls because, in Romania, the majority of governmental services are provided by these institutions), we can tell from our previous research (Urs, 2018) that their internal IT departments, which are tasked by default with digitizing public institutions, are overwhelmed. The lack of necessary resources extends not only to people and money, but to authority inside the organization, without which it is extremely hard to determine the changes in procedures and mindset necessary for sophisticated online services to work (Edmiston, 2003).

If we look at countries that top the UN E-government Index (United Kingdom, South Korea, Australia, Denmark, Finland, Singapore) or to newcomers moving fast in this field (Estonia is the obvious example here), there are a number of prerequisites that help in achieving sophisticated online services that citizens and companies increasingly expect from public institutions. These include a national systems of unique identifiers for both individuals and companies (such as eIDs), digital signatures (with all the accompanying infrastructure), standards for interoperability, national regis-

tries, an authority within the central government with the resources (money, people, power) to determine change in public institutions, and inter-ministerial working groups of some kind to help with the implementation of digitalization programs. Close collaboration with private companies (especially banks and mobile operators) and high level of citizen trust in government help too (Meyerhoff Nielsen, 2016, 2017; Kitsing, 2010). These pre-requisites are usually developed or implemented by the central government, with various degrees of centralization, depending on the idiosyncrasies of each country.

In Romania, this central coordination is lacking. Despite having adopted digitalization strategies (both national and as part of the EU), the Romanian government failed to create and implement the necessary basic tools without which these plans cannot be put into practice. For example, Romania does not have a coherent strategy to introduce eIDs, our national registries are incomplete and without common standards (which means that some public institutions do not use them, relying instead on their own databases) and adopted a framework for interoperability only at the end of 2017, with implementation moving at a glacial pace.

Even in the case of the few national platforms implemented by the central government, the uptake from public institutions is underwhelming. For example, only about 340 out of more than 3,100 municipalities enrolled their services on ghiseul.ro (the platform on which public institutions, both central and local, can offer citizens and companies the opportunity to pay various taxes and fines online).

This lack of central action coupled with slowly increasing demand of more and better online services from citizens and companies have determined cities in Romania to act independently on the e-government front. This means that local institutions, and especially city halls, are trying harder to find their own solutions for digitalizing public services. This is both good and bad in term of results: they are closer to the citizens and businesses, and can better understand their needs, but in many cases their resources are limited and the resulting solutions will be harder to integrate at the national level once all the necessary prerequisites are in place. Moreover, the lack of integration and interoperability means that city halls digitize whatever services are easier to do in their institution and have a hard time deploying online services that require the collaboration of multiple governmental institutions.

As such, the low number of citizens interacting with the government online is not a surprise. Only the city halls of big cities can afford to invest the resources in creating e-services and even here there is an evident paucity of cross-institutional online services (for example, a young mother must fill in three forms by hand – for child support, parental leave and a state stipend – and despite all three containing mainly the same data, they must be taken in person to three different institutions, because their databases are not interconnected and national registries are not in place).

When researchers talk about the e-government development of a country, they necessarily paint the picture with a broad brush. A lot of the specifics and differenc-

es between cities or municipalities inside that particular country cannot be detailed. This approach is also reinforced by the various rankings that evaluate different aspects of digitalization, and that use countries as their subjects. For example, the UN E-Government Development Index, published once every 2 years, looks at how countries fare in this global race to improve their digital services (in 2018, Romania is 67<sup>th</sup> out of 192 included countries).

Another area of e-government in which there is little literature is the experience of the staff specifically tasked with introducing, implementing, and continuously developing digital services – the IT specialists in public institutions. Researchers usually focus either on outcomes (citizen satisfaction with online services, for example) or on the technologies used and the effects of e-government solutions (for example, the rankings we referred to).

We think that more attention should be paid to those who design, implement, run, troubleshoot and expand the government online services, both at central and at local level. From the small number of relevant studies on this topic (Jakob and Krcmark, 2018; Greger, Wolf and Krcmar, 2013), we can say that the main problems of IT specialists in local public institutions are quite similar in different countries and at different administrative levels. This paper's aim is to look at electronic government from the perspective of IT professionals in Romanian local public administration.

### 3. Methodology

Romania is a Central-Eastern European country, with a little under 20 million inhabitants. It has a two tier sub-national government (SNG) system: county level and municipality level. Romania is divided into 41 counties plus the capital, Bucharest, which has a special status, being both a municipality and a county at the same time. At municipal level, there are 320 towns (of which 103 are *municipii*, usually the largest towns) and 2861 communes (*comune*).

The responsibilities of SNGs have increased continuously from 2006 onwards, with new powers devolved to local level through multiple reforms (for example, legislation in 2009 increased their responsibilities in healthcare, education, and public order). They also have large leeway in the way they implement digital services, and this freedom is heightened by the lack of guidance (and constraints) from central government.

We began this study trying to prove or disprove a series of hypotheses:

1. Romanian public institutions (in our case, city halls and town halls) experience difficulties in filling IT positions;
2. Management support and internal reorganization of the institution are seen by the IT professionals as very important in e-government development;
3. The main obstacles in e-government development are lack of interinstitutional interoperability and the differences between pay in private versus public organizations;
4. City Halls face slow citizen adoption of existing online services.

For Romanians, most public services are offered by their city hall or town hall. As such, we chose to focus on these institutions, and more precisely the city or town halls of the 320 towns and cities in Romania, plus the 6 Bucharest sectors (the capital is divided into sectors, each of them in essence a city within a city, with much the same institutions as any other city). They range in size from over 2 million inhabitants (Bucharest) to 1,684 inhabitants (Băile Tuşnad). At first, we created a database with contact data from all city and town halls and, when available, contact data for their IT department heads. After that, we tried to talk on the phone with the manager of their IT department (or whatever the name of their department was) or, in the absence of such a department, to their communications officer, about their opinion on electronic government in Romania, on the one hand, and in their municipality, on the other. We asked them to fill out an online questionnaire; in some cases, we followed up with phone calls to clarify some answers. Data was collected in the second part of 2017. In the end, we collected 162 usable answers (a response rate of 49.69%). The reasons given by those who did not want to participate varied from time constraints to perceived lack of expertise, doubts about the usefulness of such a study, necessary bureaucratic procedures or overwhelming workload. In a few cases, we got no response at all (their website was down, or we could not contact the city hall, the public servants were on sick leave, or they did not answer the phone).

With the online questionnaire we tried to find out a number of things, such as: (1) if they have an IT department in their institution and, if yes, how well-staffed their department was; (2) how happy they were with the electronic government development stage, both at a national level, and in their city; (3) what the online services offered to citizens or companies were and what their uptake level was; and (4) what the main obstacles or drivers of e-government development in their city were.

#### **4. Results**

62.5% of respondents were male, and both their average and median age was 43. A quarter of them had had previous experience in private companies before moving into public institutions, and the average time they had been in this position is almost 9 years. 38% of them used internet banking or shopped online once a week or more often, and 9 percent had never used the internet for online banking or commerce. 63.5% thought that the need to develop e-government services in their institution was urgent or very urgent, but at the same time they had, on average, a better opinion about the digitalization of services at national level – 27.7% thought that their city was lagging in online services in comparison to the country as a whole, with only 17.9% thinking the other way around. Interestingly, we could find big cities, presumably more advanced on the path to digitalization because of more available resources of all kinds, in the pessimistic group, also. Another interesting thing is the fact that almost no institution had any hard data about the number of internet users in their municipality (the sole exception was Bucharest's Sector 2, which communicated that 86% of their citizens used the internet).

This data, along with questionnaire responses where lack of public pressure scored low on the list of e-government development obstacles, paint a picture of a strictly top-down approach to e-government development, in which public servants or political figures decide the path of digital development, with minimal citizen consultation. Our opinion is reinforced by the fact that, aside from 2 cities (Cluj-Napoca and Deva), none of the rest had any e-government strategies or a plan for coping with technological change. If we look at the online services offered, the most widely available are filing a complaint (61%), asking for public interest information (49%) and paying taxes online (48%).

**Table 2:** The most widely available online services on the webpages of the municipalities

Complaints and requests	61.11%
Asking for public interest information	49.38%
Paying taxes online	48.15%
Paying fines online	42.59%
Requesting documents	30.25%
Checking the state of a request	20.37%
Mobile apps	8.64%
Marriage scheduling	3.70%

**Source:** Author's own calculations

Two of the hypotheses we started with were confirmed by our analysis, while the other two had a more nuanced result than a simple yes or no. Before we begin to discuss them, the following two tables show the ranking of the main beneficial factors and the most important obstacles in e-government development, as our respondents see them.

**Table 3:** The most important beneficial factors helping online services implementation (scores between 1 and 5, where 5 is the highest)

Management support	4.29
Sufficient ITC equipment	4.28
Sufficient financial resources	4.26
Well-trained people in the IT department	4.19
Legal constraints	4.17
Good relationships with ICT and digital solutions providers	4.11
Ties with other public institutions	3.97
Citizen's increasing usage of private online services	3.68
Obtaining visible results fast	3.61
Rethinking internal processes	3.55
Pressure from the public	3.27
Internal reorganization of the city hall	3.18

**Source:** Author's own calculations

**Table 4:** The most important obstacles in implementing online services in Romanian public institutions (scores between 1 and 5, where 5 is the highest)

Lack of financial resources	4.11
Difficulty in competing on pay with private companies	4.05
Lack of trained personnel	4.03
Lack of interinstitutional interoperability	3.74
Outdated internal procedures	3.53
Lack of management support	3.50
Lagging internal IT infrastructure	3.49
Obsolete internal structure of the city hall	3.46
Lack of openness and transparency	3.26
Lack of immediate results	3.11
Lack of public pressure	3.06
Slow internet connections	2.81

**Source:** Author's own calculations

*First hypothesis: Romanian public institutions (in our case, City Halls) experience difficulties in filling IT positions.*

Our first hypothesis was confirmed. Over 72% of respondents said that having well-trained people in the IT department is important or very important in developing online services. At the same time, they felt that it was increasingly difficult for them to compete for IT professionals with private companies that could offer better pay, a more attractive culture and working environment, and more benefits (private healthcare, gym subscription, and personal development opportunities) than public institutions. The lack of specialists ranks among the top three if we look at the obstacles that our respondents perceived as most important in the way of digitalization of their institution.

The problem is not exactly the same in cities as in towns, but the final result is the same. The Romanian IT industry is developing at a fast pace (admittedly from a low base), and already contributes with more than 6% to Romania's GDP. A common complaint among IT entrepreneurs is that they cannot find enough specialists to fill their vacancies. As such, the labor market for IT professionals is extremely tight, especially in big cities, where a candidate for an entry-level position in an IT company in a large city can expect 500-600 euros (with added benefits such as private health insurance and trainings on a variety of topics). Despite recent pay rises for public servants, public institutions cannot compete with that. In small cities and towns, where salaries are generally lower and public organizations would have a better chance at offering competitive salaries, they cannot fill their vacancies because of a lack of suitable candidates, which tend to migrate towards large cities. Supporting this, our research also showed that more than 42% of municipalities (mainly small ones) did not have any IT specialists. 35% of them did not have an IT department to begin with, and as for the other 7%, they were unable to fill the available positions.

*The second hypothesis we had was: management support and internal reorganization of the institution are seen by the IT professionals as very important in e-government development.*

This hypothesis was only partially confirmed. We were spot on when we theorized that management support was very important in the development of electronic government – it tops the ranking of the main beneficial factors influencing electronic government development. Especially in a highly hierarchical organization, such as most of Romanian public institutions, the priorities of the manager are essential. If one subject is seen as significant to, let's say, the mayor, and if the mayor gets directly involved in putting digitalization projects into practice and is interested in following them through, they stand a much greater chance of success.

The second part of our hypothesis, on the other hand, was disproven (the two items related to this in our beneficial factor ranking scored last and third-to-last). In our opinion, this does not mean that the internal reorganization of the institution would not help in implementing online services, but that it has more to do with the peculiarities of Romanian public institutions. Informed both by our own experience with city halls around Romania, and by studying the organizational charts of hundreds of municipalities, we can say that, in the vast majority of cases, the IT department is on the bottom rungs of the organizational tree, lacking the necessary resources and authority to push for such a radical change inside the institution. No city or town has created a CIO (Chief Information Officer) position or any kind of equivalent, and the IT department (when it exists at all) is usually a small bureau, part of a bigger department, tasked, in the eyes of other public servants, more with tech support than with devising digital strategies and implementing e-government applications.

*Our third hypothesis – the main obstacles in e-government development are lack of interinstitutional interoperability and the differences between pay in private versus public organizations – was also confirmed.*

The two obstacles mentioned are in the top 4 as ranked by our respondents. The difficulties faced by public institutions in attracting talented IT specialists come mainly from the differences in pay and benefits, but are not limited to that. Organizational culture also plays an increasingly important part, and Romanian public administration has to play catch-up to private companies that offer better career paths, faster promotions, superior working conditions, and are more open to innovation.

Public servants are increasingly aware of the limitations of online services offered by only one institution, especially at the time of important life events, when citizens would very much prefer to have a 'one-stop-shop' which could facilitate all their interactions with different public organizations. As opposed to our research of just 2 years ago (Urs, 2017), we see a proliferation of data-sharing agreements between city halls and other institutions, both local and central. More than 40% of municipalities have this kind of arrangements, many of them with multiple organizations – the champion here is the National Agency for Fiscal Administration (NAFA), with which 30% of towns and cities exchange data online. Increased cooperation between pub-

lic organizations in designing seamless services that span both internal departments and public institutions is a complicated undertaking, plagued by multiple problems, both at national and local levels. Introducing an e-ID of some sorts to underpin unified eServices is very problematic, for a number of reasons (socio-cultural – a lot of Romanians protested on religious reasons when such a project was put on the public agenda; historical – in communist times, state surveillance was pervasive and heavy-handed, and a lot of Romanians still remember that time; technical – it is very hard to connect IT systems that did not have this requirement from the beginning; financial – e-government never received enough funds, regardless of hyperbolic statements; security – citizens are increasingly weary of data breaches, especially those who are aware of the precarious state of governmental data security).

What is also obvious from the responses we collected is that public pressure is not an important factor in the decision to implement online services. We cannot say for now if this is due to the fact that such pressure does not exist, or that such clamoring for more and better online services is not registered by the public servants owing to lack of communication between local governments and citizens.

*Our fourth hypothesis was that City Halls face slow citizen adoption of existing online services.*

This was largely confirmed, with the caveat that we do not have the data to support wide generalizations. First of all, most respondents did not say what the uptake of the online services they offered was (when asked about it, a number of them told us that they did not have such data, either for technical or procedural reasons). As for the municipalities that did provide such data, most of them sent us the number of online tax payments. However, in the case of tax payments, we should take the information with a grain of salt, because it is not clear if the payments made through the national platform were counted or not (in a number of municipalities citizens can pay their taxes online both through ghiseul.ro (the national platform), and through the local systems of the city halls).

Generally, the adoption figures were low, both for tax payments and for the other digital services provided. The highest scoring city is Baia Mare, where 3.37% of citizens have paid their taxes online. When asked about this low uptake, our respondents advanced a number of reasons. The most often mentioned were a lack of popularization of the available digital services among citizens and subpar ergonomics.

**Table 5:** Percentage of citizens who pay their taxes online

Baia Mare	3.37%	Cluj-Napoca	1.65%
Sector 1 (Bucharest)	2.91%	Câmpia Turzii	1.59%
Giurgiu	2.90%	Tîrgu Neamţ	1.38%
Sector 2 (Bucharest)	2.41%	Boldeşti-Scăeni	1.22%
Întorsura Buzăului	1.98%	Sovata	1.12%
Roznov	1.94%	Pantelimon	1.12%

**Source:** Author's own calculations

It is hard to get a sense of what these numbers mean, for lack of suitable studies in other countries. We believe that the figures signal a low uptake of digital services, influenced by both low online interaction between citizens and government (Romania is dead last on this matter among EU countries, with only 12.6% of citizens accessing any governmental service over the internet) and by the relatively low level of trust Romanians have in public institutions). A sociological study (INSCOP, 2016) shows that 37.3% of citizens trust their city hall (for comparison, the Parliament enjoys the trust of 12.6% of respondents, while the presidency tops the ranking, with 45.2%).

## **5. Limits and further research**

The data collected from online questionnaires is unavoidably limited in scope, and nuances could be lost in the noise. More structured face-to-face interviews could add detail for specific communities and provide more insights in the idiosyncrasies of each city or town. Cross-referencing data gathered during this research with data from other institutions (ghiseul.ro or NAFA spring to mind) could help paint a clearer picture of e-government development in Romanian cities.

An interesting research avenue would be a comparative study with other countries (both on the same level of electronic government as Romania and more advanced ones), which could provide a better understanding of the differences and similarities between countries and could provide ideas about best practices suitable for Romanian municipalities.

## **6. Conclusions**

Although the central government unveils new strategies for digitalization periodically, most of the work in that direction is done at local level. More than 87% of municipalities offered some online services to citizens or companies, and most of them offered more than one.

The obstacles that IT specialists in public institutions face in implementing eServices are daunting. The IT departments, where they exist, are undermanned, underfinanced, and usually lack the authority to shake things up inside the institution. If the mayor is keen on digitalizing services, things will move (at various speeds) in that direction. If this is not seen as a priority, the prospects for developing online services are not that bright. Owing to these particular circumstances (little central coordination, deficient central infrastructure – standards, national registries, eIDs, widespread use of electronic signatures) it is no surprise that most cities approached e-government development on the ‘low-hanging-fruit’ paradigm, building what systems they could locally and not worrying too much about future integration problems. All-in-all, IT specialists in public institutions are generally aware of the problems facing the digitalization of Romania’s public administration and, although hampered by lacking national infrastructure and insufficient resources, are slowly expanding the number and breadth of online services in their institutions.

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