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IMPROVING URBAN MANAGEMENT THROUGH E-GOVERNMENT SERVICES: THE ROMANIAN EXPERIENCE

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Abstract
The paper outlines the role of e-Government services within the process of improving urban management and the conceptual framework for measuring the e-Government services development. Furthermore, the progress on e-Government services in Romania is analyzed with a view to compare it with the sophistication stage achieved within the European Union. The findings of this study reveal that e-Government services are key tools for improving urban management and a higher level of e-Government services development is needed in order to transform the interactions between public administration and citizens/businesses. The study was carried out by combining a wide variety of sources, such as reports, regulations, and the national experience in developing e-Government services. Our conclusion justifies the effort invested in developing e-Government services and also has relevance for policy making in a very sensitive sector like the urban management. The methodology and the results reported in this research may be helpful for the specialists within the system in order to better address the inherent problems encountered in developing the e-Government services.
Keywords: urban management, e-Government services, sophistication stage, Romania.

1. INTRODUCTION

Information technology and internet are transforming public and urban management in the digital era. The municipality has a direct contact with citizens and businesses and is responsible for providing a range of basic services. Therefore, the aim of this study is to investigate how e-Government services have developed in Romania and what level of sophistication they achieved. The manner in which urban services are provided is a highly debated topic these days because of their role within the process of improving urban management.

The research was conducted using evidence provided by a set of policy documents (such as reports and regulations) as well as research articles and Romanian experience in developing the e-Government services. In order to answer the research question we have delineated the background of e-Government services as a significant constituent of urban management. Moreover, the conceptual framework for measuring e-Government services development was described in this study, revealing the four-stage and five-stage online services sophistication models. Based on these models the progress on e-government services in Romania was further analysed. The research question was answered by analyzing published sources, evaluating and interpreting evidence. Answering the research question was difficult because some e-Government services are still in their incipient stages of development while other are very sophisticated.

2. BACKGROUND

Urban management at central and local public administration level is based on administration's informational structure. Urban management assures that basic urban services are provided for the population and the various private, public and community stakeholders to perform and maximise their intrinsic role in a harmonic manner (Acioly, 2003). Nowadays citizens ask for better services, higher security and democracy, while the business environment asks for the reduction of bureaucracy and an increased efficiency (European Commission, 2006). Electronic government (e-Government) services can bring an important contribution to overcoming these challenges. For that reason the development of electronic government services is very important.

The term e-Government itself is of comparatively recent origin and even the oldest dedicated e-Government policies and events only date from the late 1990s and early 2000s. However, the practice behind it is much older and goes back to the first, mainframe-centred wave of data processing in the public sector in the 1960s and 1970s that frequently continues to shape existing information technology infrastructures (CEN, 2008). Today e-Government means the use of tools and systems made available by information and communication technologies in order to provide better public services to citizens and businesses and to make public administrations more efficient and effective. Implemented well, e-Government enables all citizens, enterprises and organisations to carry out their business with government more easily, more quickly and at lower cost (European Commission, 2005a, 2005b). This is something that anyone who has ever spent hours waiting in line in a government building can appreciate, seeing the difference which information and communication technologies could make to their lives (Empirica, 2006).

There is a wide variety of specializations that e-Government comprises. Their exact natures, however, are less definitive and include, depending on the viewpoint, areas such as access to public sector information, administrative computer science, eDemocracy, eParticipation and eJustice. The concrete specificities of these areas and indeed their delineations differ widely from country to country and often even from region to region, reflecting their respective legal, administrative and cultural traditions and choices. Many of the current e-Government projects and discussions are based on operations that transcend organizational boundaries, either by reaching out to citizens, by connecting with businesses or by interacting with other government bodies (CEN, 2008).

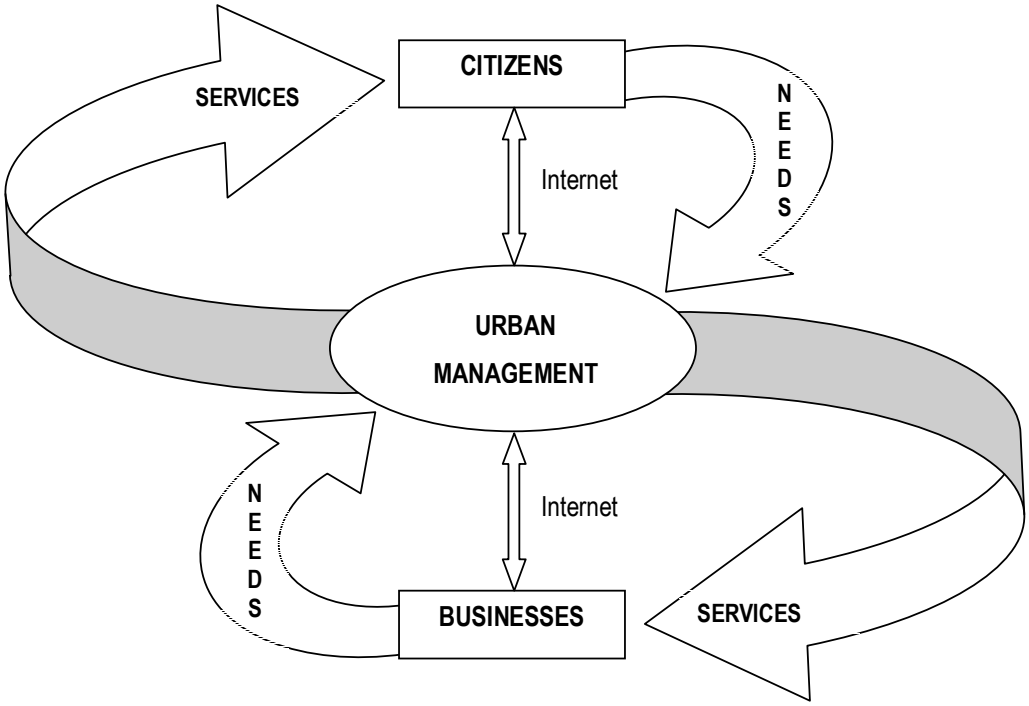

FIGURE 1. THE E-GOVERNMENT SERVICES PLANNING PROCESS

All over the world, the governments are very interested in the new technologies and in the electronic services. Even if the new technologies are the ones that allow the implementation of electronic government, it shouldn't be forgotten that this involves major changes, both within public institutions and in the way citizens are served. The development of electronic government applications directly depends on the internet access. Still, using these applications is also dependent on education and on changing mentalities, and successful implementation of these applications determines the acceptance and their impact within the modern society. Until a while ago, public services were negatively perceived by population. The degree of satisfaction among citizens is directly correlated with their expectation regarding the public service. In this respect, over 95% of population considers that public services

should be at least as performing as the ones from the private sector. When one needs to get in contact with a public institution, he/she rather thinks at huge rows, unclear procedures and a high level of bureaucracy. In order to change this perception and in the same time, negative reality, the governments pay a higher attention to the citizens' needs when they modernize or change the offered services (figure 1). These changes are required more and more by the desire to offer high quality public services (OECD, 2001; Internews Network, RITI dot-GOV, 2004).

When people interact with government, they want high quality services which are accessible, convenient and secure. They do not necessarily want to have to understand how government is organized, or to know which department or agency does what, or whether a function is exercised by central and local government. There are therefore both real opportunities and important drivers for public administrations to use information and communication technologies in order to deliver their core mission: fundamental improvement in the efficiency, convenience and quality of services delivered and transformation in the ways that government organise mainstream delivery. These approaches require technical policies and specifications that encourage interoperability between agencies and heterogeneous information systems across the public sector (CEN, 2008).

The e-Government services bring a series of benefits (Ionescu, 2005), both for public administration and for users. Among these benefits, there are:

- Reduction of public expenditure, of bureaucracy and corruption at public institution level;
- Increased transparency regarding the use and administration of public funds;
- Improved information and public service access, as per the laws regarding data protection and free access to public information;
- Removing the direct contact between civil servants and citizens/businesses;
- Providing information and high quality public services through electronic means;
- Increasing the administrative capacity of public institutions in order for them to fulfil their role and their objectives and to provide information and public services in a transparent way;
- Promoting the collaboration between public institutions to provide public services through electronic means;
- Redefining the relationship between citizens and public administration, respectively between the business environment and public administration;
- Promoting the use of internet and of new technologies within public institutions

3. CONCEPTUAL FRAMEWORK FOR MEASURING E-GOVERNMENT SERVICES DEVELOPMENT

The progress of e-Government services delivery can be measured using two core indicators: "online sophistication stage" and "fully online availability" of online services. Online sophistication stage refers to the availability of public services online. In order to measure the indicator "availability of public services online" there has been defined by Wauters and Van Durme (2004) a framework with different stages (from 0 to 4) of online services development. The four-stage online services sophistication model developed by Wauters and Colclough (2006) is shown in figure 2.

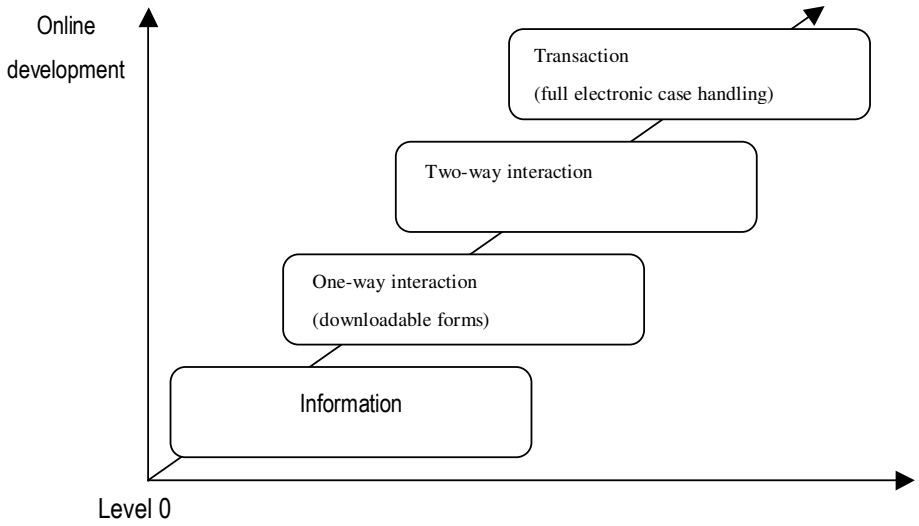

FIGURE 2. THE FOUR-STAGE ONLINE SERVICES SOPHISTICATION MODEL
(*SOURCE:* WAUTERS AND COLCLOUGH, 2006:5)

In addition, Wauters et al. (2007) extended the existing framework, by adding a fifth level to the previous e-Government service sophistication model (figure 3), as follows:

- **Stage 0 -** The service provider or the administrative responsible level does not have a publicly accessible website or the publicly accessible website managed by the service provider or by the administrative responsible level does not qualify for any of the criteria for the stages 1 to 4.
- **Stage 1** (*Information*: online information about the public service) **-** The information necessary to start the procedure to obtain an environment-related permit is available on a publicly accessible website managed by the service provider or by the administrative responsible level.
- **Stage 2** (*One-way interaction*: downloading of forms) **-** The publicly accessible website managed by the service provider or by the administrative responsible level offers the possibility

to obtain the paper form to start the procedure to obtain an environment-related permit in a non-electronic way.

- **Stage 3** (*Two-way interaction*: processing of forms, including authentication) **-** The publicly accessible website managed by the service provider or by the administrative responsible level offers the possibility of an electronic intake with an official electronic form to start the procedure to obtain an environment-related permit.
- **Stage 4** (*Transaction*: full case handling, decision and delivery/payment) **-** The publicly accessible website managed by the service provider or by the administrative responsible level offers the possibility to completely treat the delivery of environment-related permit via the website. Case handling, decision and delivery of a standard procedure to obtain an environment-related permit can be treated via the web. No other formal procedure is necessary for the applicant via "paperwork".

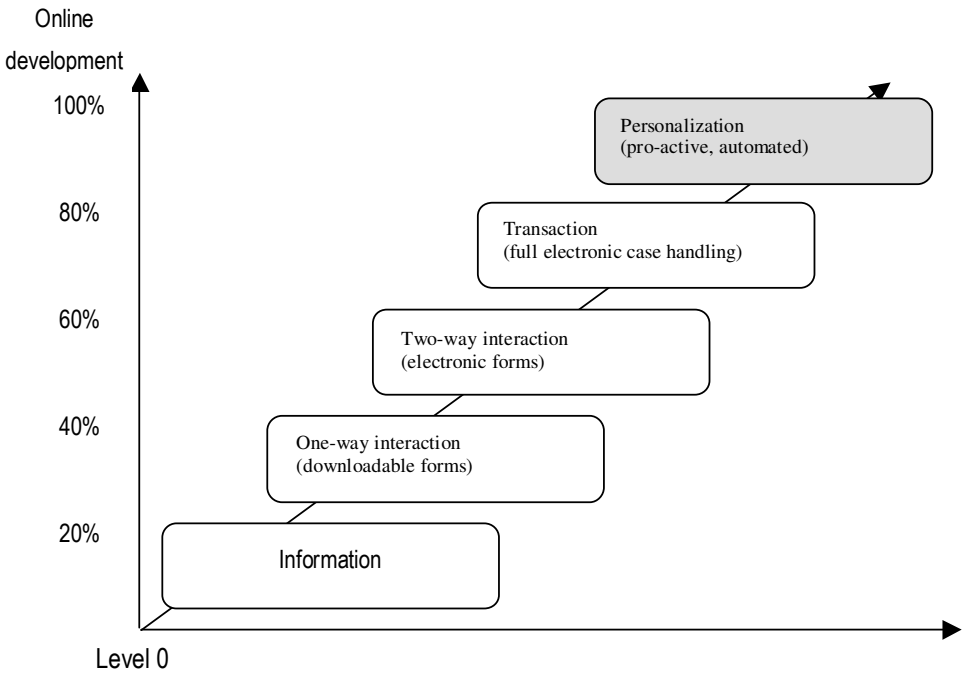

FIGURE 3. THE FIVE-STAGE ONLINE SERVICES SOPHISTICATION MODEL
(*Source:* Wauters et al., 2007)

- **Stage 5** (*Personalization*: pro-active service delivery, automatic service delivery) – The pro-active service delivery means that the government pro-actively performs actions to enhance the service delivery quality and the user friendliness. Examples of pro-activity are: the government warns the user that action could be required, the government pre-fills data in the application forms that it already contains in governmental databases to the extent permitted by

law. The automatic service delivery means that the government automatically provides specific services being social and economic rights for citizens (and business), linked to a certain condition of the user. There is no need for the user to request the service. (Wauters et al., 2007)

From a citizen's perspective, online interaction with public authorities typically takes the form of obtaining information from public authorities' websites, downloading official forms or sending filled-in forms. On the other hand, online public services for businesses for interacting with public authorities are either used for obtaining information, obtaining forms, returning filled in forms full electronic case handling, or submitting a proposal in an electronic tender system (e-procurement). Commonly, online public services are therefore differentiated into information services (e.g. obtaining information from authorities websites), communication services (e.g. making an appointment online with a practitioner) and transaction services (e.g. sending filled in forms) (Empirica, 2006).

TABLE 1: MAXIMUM STAGE OF ONLINE SERVICES SOPHISTICATION

No.	Public services	Maximum stage of sophistication
A.	PUBLIC SERVICES FOR CITIZENS	-
1.	Income taxes: declaration, notification.	5
2.	Services for finding a job through workforce institutions.	4
3.	Social protection (security) services (at least three from the following): - Social benefits; - Allocations for children; - Medical care costs - Scholarships or allocations for students and pupils.	5
4.	Personal documents (passport, ID card, driving license)	5
5.	Car Registration	4
6.	Application for building permission	4
7.	Police declarations	3
8.	Public libraries (online catalogues, searching instruments)	5
9.	Certificates (birth certificates, marriage certificates): deposition, remission	4
10.	Higher education or other forms of education registration	4
11.	Announcing the authorities with regard to address changes	4
12.	Health-related services	4
B.	PUBLIC SERVICES FOR COMPANIES	-
1.	Social contributions for employees	4
2.	Corporate tax: declarations, notifications	4
3.	VAT: declarations, notifications	4
4.	New companies registration	4
5.	Data submission to statistical offices	5
6.	Customs declaration	4
7.	Environment-related permits	5
8.	Public procurement	4

(*Source:* Adapted from Wauters et al., 2007:12-13)

During the course of the decades a large number of e-Government services came into being on the European, national, regional and local levels. Those services may directly address citizens or companies and other types of organizations. In the most frequent case, however, they are directed at government bodies, be it as an internal service within an agency, cross-agency or, cross-administration. A large number of other types of e-Government resources, ranging from specifications over mandates to organizational information, complement them. Almost all of these services came into being as a direct or indirect response to legal requirements, the latter here understood in a loose sense to encompass many types of normative documents (CEN, 2008).

Nowadays, European Union uses more than 20 electronic services to monitor the level of implementation of electronic government, shared into two categories: public services for citizens and public services for companies (Table 1).

For each of these services Wauters et al. (2007) have defined a maximum stage of online sophistication which serves as a standard when the sophistication stage of e-Government services is analyzed.

4. PROGRESS ON E-GOVERNMENT SERVICES IN ROMANIA

Some figures (information society indicators) could describe the Romanian general developments, relevant as e-Government developments prerequisites (Eurostat, 2008):

- Percentage of households with Internet access: 22% (2007)
- Percentage of enterprises with Internet access: 67% (2007)
- Percentage of individuals using the Internet at least once a week: 22% (2007)
- Percentage of households with a broadband connection: 8% (2007)
- Percentage of enterprises with a broadband connection: 37% (2007)
- Percentage of individuals having purchased/ordered online in the last three months: 2% (2007)
- Percentage of enterprises having received orders online within the previous year: 3% (2007)
- Percentage of individuals using the Internet for interacting with public authorities: obtaining information 4.0%, downloading forms 2.6%, returning filled forms 1.8% (2007)
- Percentage of enterprises using the Internet for interacting with public authorities: obtaining information 39%, downloading forms 36%, returning filled forms 20% (2007)

The above mentioned figures reveal that there are some good premises for the development of e-Government services in Romania. Table 2 discloses the sophistication stage of e-Government services in Romania compared to the maximum stage of sophistication.

TABLE 2: SOPHISTICATION STAGE OF ELECTRONIC PUBLIC SERVICES IN ROMANIA

No.	Public services	Maximum stage of sophisticatio	Stage of sophistication in Romania	Website
A.	PUBLIC SERVICES FOR CITIZENS			
1.	Income taxes: declaration, notification.	5	2	http://formulare.e-guvernare.ro/Forms/default.aspx
2.	Services for finding a job through workforce institutions.	4	4	http://www.anofm.ro, http://www.semm.ro
3.	Social protection (security) services: ▪ Unemployment benefits; ▪ Child allowances; ▪ Medical care costs ▪ Student grants.	5	2-3 2-3 2-3 2 2-3	 http://www.mmssf.ro, http://www.anofm.ro http://www.mmssf.ro, http://sas.mmssf.ro http://formulare.e-guvernare.ro/Forms/default.aspx http://www.edu.ro
4.	Personal documents (passport, ID card, driving license)	5	1-2	http://www.pasapoarte.mai.gov.ro/, http://www.mai.gov.ro/, www.mira.gov.ro/Home/index.htm
5.	Car Registration	4	2	www.mira.gov.ro/Home/index.htm (section Utile)
6.	Application for building permission	4	1-2	-
7.	Police declarations	3	1	http://www.politiaromana.ro
8.	Public libraries (online catalogues, searching instruments)	5	1	http://www.cultura.ro
9.	Certificates (birth certificates, marriage certificates): deposition, remission	4	0	http://www.mai.gov.ro/
10.	Higher education or other forms of education registration	4	1-2	http://www.edu.ro
11.	Announcing the authorities with regard to address changes	4	1	http://www.mai.gov.ro
12.	Health-related services	4	2	www.ms.ro
B.	PUBLIC SERVICES FOR BUSINESSES			
1.	Social contributions for employees	4	4	https://formularunic.e-guvernare.ro/ for large contributors, www.anaf.ro for other contributors
2.	Corporate tax: declarations, notifications	4	4	https://formularunic.e-guvernare.ro, for large contributors, www.anaf.ro, for other contributors
3.	VAT: declarations, notifications	4	4	https://formularunic.e-guvernare.ro, for large contributors, www.anaf.ro, for other contributors
4.	New companies registration	4	3	http://www.onrc.ro/, http://recom.onrc.ro/index.htm
5.	Data submission to statistical offices	5	5	www.insse.ro
6.	Customs declaration	4	4	-
7.	Environment-related permits	5	2	http://www.mmediu.ro
8.	Public procurement	4	4	www.e-licitatie.ro

Sources: Adapted from Wauters et al., 2007:12-13; European Commission, 2008a, 2008b

Figure 4 reveals that whereas online services for business score very well, particular attention is required in order to develop online services for citizens. E-Government services are key tools for improving urban management and a higher level of e-Government development is needed in order to transform the relations with citizens and businesses.

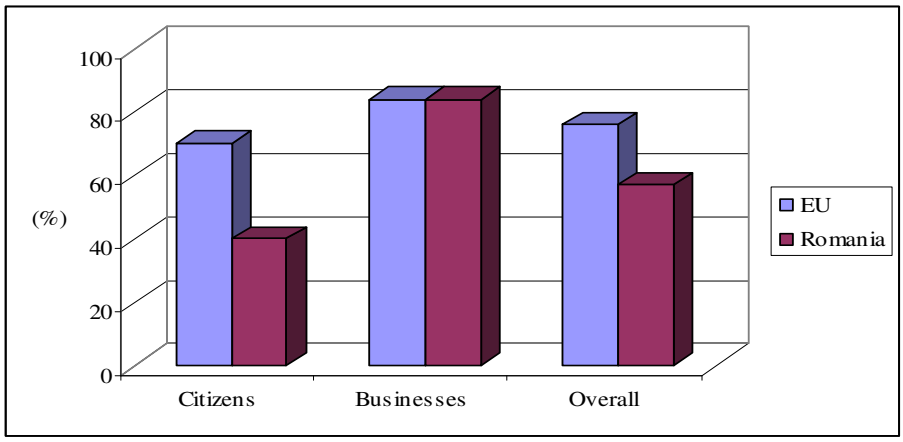

FIGURE 4. ONLINE SOPHISTICATION OF E-GOVERNMENT SERVICES IN ROMANIA
Source: Adapted from Wauters et al., 2007

So as to reach a sophistication stage of e-Government services compared to the medium level within the European Union, the following actions should be taken in Romania:

- To inform and to educate the employees of public administration institutions on one hand, and the users of electronic services on the other hand. This means to increase awareness regarding to the e-Government solutions dedicated to public institutions and to offer information about security assurance and personal data protection, in order to increase the degree of trust in informatics systems;
- To develop promotion campaigns both for the employees of public institutions and for the users of electronic services; this way people may understand the need of positive interaction with information technologies;
- To apply training programs for the users of information and communication technologies, including both the employees of public institutions and the citizens, in their quality of final users of e-government solutions;
- To develop the infrastructure at public administration level and to create the needed circumstances for citizens to be able to access public information;
- To adopt a series of standards and recommendations regarding interconnections and interoperability of e-government, e-administration systems and their specific data bases;

- To create flexible information systems, correlated with institutional structures from within the administration and especially with the relationship between them, so that there won't be major areas of redundancy;
- To constantly update the information systems, no matter if the changes that required the update are of legal, institutional, technical of economic nature.

5. CONCLUSIONS

The study reveals that developments over the last years have brought a significant step closer to the achievement of a good sophistication stage of online public services. The e-Government services are key tools for improving urban management and a higher level of e-Government services development is needed in order to transform the interactions between public administration and their clients (citizens/businesses). This conclusion is based on the analysis of the online sophistication of e-Government services development in Romania compared to the average score obtained at the European Union's level in this area. Whereas online services for business score very well in Romania, online services for citizens are still in their incipient stages of development. For that reason the government should take a series of measures in order to develop the e-Government services, from which the population, the companies and the public institutions will benefit.

Our conclusion justifies the effort invested in developing e-Government services and also has relevance for policy making in a very sensitive sector like the urban management. The methodology and the results reported in this research may be helpful for the specialists within the system in order to better address the inherent problems encountered in developing the e-Government services.

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