

Sead Mašović<sup>1)</sup>  
Muzafer Saračević<sup>1)</sup>  
Hamza Kamberović<sup>1)</sup>  
Esad Mededović<sup>2)</sup>

1) Prirodno-matematički  
fakultet u Nišu, {sekinp,  
muzafers, hamzanp}  
@gmail.com

2) Tehnički fakultet u Čačku,  
e-mail: esad@dr.com

## ICT IN PUBLIC ADMINISTRATION AS A CONDITION OF ESTABLISHING E- GOVERNMENT

**Abstract:** *The development and application of computers and the increasing Internet accessibility have led to the state where users of public services will no longer have to go from desk to desk and ask for certificates, but they can get those through the portal of the competent authority on the Internet. This is provided through the e-services in the area of e-government development. This paper presents the results of current electronic services situation in public administration. The aim was to assess the current situation and make further recommendations for the further development of e-government.*

**Keywords:** *E-services, E-government, Public administration, Sophistication of services*

### 1. INTRODUCTION

New tools, new rules, new economy, and more sophisticated users - all this requires a completely new approach in public administration. For better service, for its redesign and services on-line, public administration must be redesigned from the ground.

Overcoming the challenges of transformation of administrative bodies as a service to the citizens is only possible with proper application of information and communication technologies (ICT) which allow citizens to access various electronic services according to the principle of full transparency. Hence, citizens are able to publicly express their opinion about the functioning of public administration and proper conducting of public affairs, thus increasing the role of public sector as a service oriented towards citizens. Electronic Government (e-Government) is an online exchange of information and service offering to citizens, businesses and

government authorities, based on the systematic use of information and communication technologies.

Changes brought by e-Government mean that citizens no longer need to be physically present and go from one to another administrative body (from one to another desk), as it usually works today, and so spend time and money gathering the necessary documents. Instead, thanks to ICT that allow full automation of administrative procedures and the integration of spatially distant organs, citizens can meet their needs, filing requirements from one place, regardless of the number of different bodies involved in the processing of those requests. In addition, people can obtain information on the current processing stage of their demands at any time. In this way, e-Government provides more efficient, transparent and accountable public services that are tailored to the needs of citizens and economy. The administration increases its revenue (e.g. through

facilitating tax collection), reduces costs and improves business environment.

## **2. E-GOVERNMENT**

E-Government is a Web-based technology used by public administration as a communication channel that is offered to visitors, citizens, business partners, local self-government, governmental and nongovernmental institutions and employees. If there is adequate infrastructure, if citizens have confidence in information and communication technology (if they believe in privacy and the protection of their data), if there are defined relations between the interested partners (local governments, government, economy, people), only then we can build a stable e-government structure.

Since the e-Government is often mentioned in the context of local or municipal government, we can further define it as "the ability of local governments to make available information and services via the Web, through touch screen kiosks, or through interactive voice recognition. These services are made available to citizens and business partners, and they are available 24 hours a day 365 days a year."

## **3. ELECTRONIC SERVICES**

Electronic services allow users to get informed about the responsibilities and procedures, apply and obtain certain certificates and other documentation through their computers and the Internet, using the Internet portal of public administration. Requests can be sent from any computer - from home, work or through "InfoKiosk" in a public place.

Development and implementation of electronic services are the leading trend in the modern world. In order to develop and use electronic services, there are certain

preconditions that need to be met such as political will to introduce electronic services, electronic identification of users and service providers (qualified electronic certificate), a computer, a certificate card reader, Internet access, e-Government portal, a database from which data are taken for electronic services and programmed electronic procedures for implementation of electronic services. It is not easy to provide all the necessary conditions and therefore the development of electronic services in some environments, such as ours, is way behind the trends of the modern world.

The European Commission planned to introduce 20 basic electronic services in the eEurope Action Plan and in terms of e-Government development, 12 for citizens and 8 for the business sector.

Electronic services for citizens are provided in the following activities:

- Registry books
- Personal documents
- Taxation,
- Job Search,
- Social Security,
- Car registration,
- Construction permits,
- Reports to police,
- Access to library,
- Change of address,
- Applying for education and
- Making appointments for medical examination.

Following electronic services are thought to be introduced to the economic sector:

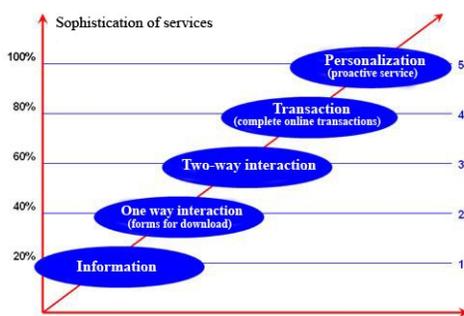
- Corporate income taxes,
- Value-added tax,
- Contributions for employees,
- Registration of companies,
- Statistical reporting,
- Customs declaration,
- Public procurement and
- Environmental permits.

## Sophistication of services

Sophistication of public services defines the quality level of services available to citizens or legal authorities through the Internet. The general scale of sophistication as a basic measure of quality is defined, which illustrates the different levels of sophistication of public services, ranging from basic which only offer information to the maximum level which indicate a complete electronic data processing and proactive service delivery to users. Based on a general scale, a characteristic scale for each service is defined (with a different number of levels and explicit criteria for each level).

Level of sophistication is determined in relation to the maximum possible level for each service as follows:

- **Level 1** - Information: online information
- **Level 2** - One way interaction: information and download of forms
- **Level 3** - Two-way interaction: online form submission, authentication
- **Level 4** - Transaction: full processing of a case, with services of online payment
- **Level 5** - Personalization: My portal



**Figure 1. Levels of service sophistication**

There is also a 0 level which is awarded when there are no websites of institutions that provide service or an existing site cannot be classified under any of the other levels.

Level of service sophistication is obtained through the ratio between the currently given and maximum level on the scale of sophistication. It is expressed as a percentage value for each service, while the average value of twenty services is taken into account at the national level.

## Citizen services

Easier access to databases of public importance for which the relevant local government is responsible was evaluated through the amount of available information and the type of interaction of citizens with the database. For this purpose, the scale with four levels was defined; each level represents a level of service quality.

**Level 1** - there is information on how citizens can get a service at the city / municipality office, by directly going to the city government or municipality, or through the Web site of the city / municipality.

**Level 2** - the Web site of the city / municipality has, among other information, forms that are a precondition for citizens to obtain a service from the city / municipality (standardized forms must be completed). A user is able to download these forms from the Internet and fill them at home, reducing the time of stay in the service community center or in the city administration, or there is a call center phone number on the Web site of the city / municipality through which citizens can order forms that need to be filled out, and which will arrive immediately via fax or by mail within a few days.

**Level 3** - the Web site of the city / municipality has implemented an interactive application used to obtain a service; citizens enter the required information for submitting claims via predefined web form; if any, payment for the service is performed later in the delivery of documents by the postal

officials.

**Level 4** - the Web site of the city / municipality has implemented an interactive application used to obtain a service, citizens enter the required information for submitting claims via predefined web form; if any, payment for the service is carried out immediately via an online system of the city / municipality or in any other way (e.g. over SMS.) User of this interactive service is informed via the Internet (electronic mail), telephone or SMS with the result.

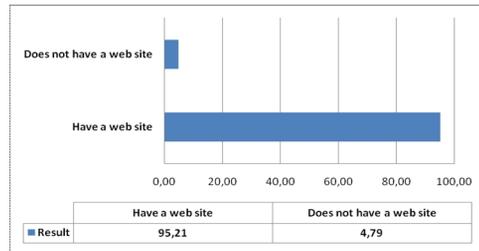
Services under the jurisdiction of local governments:

- Information on the issuance of birth and death certificates of citizens,
- Information on public procurement, led by municipality,
- Information on the application, issuance and monitoring of construction permits,
- Information on urban planning,
- Information on the procedures for issuing local utility approval,
- Information on the permits in relation to the environment,
- Information on taxation,
- Information on municipal taxes,
- Information on social protection benefits.

#### 4. PRACTICAL APPLICATION OF ELECTRONIC SERVICES

According to the Law on Territorial Organization of the Republic of Serbia (Official Gazette 129-07, 29.12.2007.) 167 Serbian city and municipality sites were included in this paper, excluding Kosovo and Metohija.

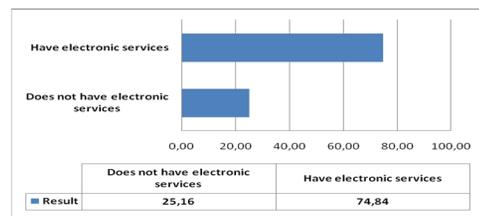
Based on these results, about 4.79% of the 167 surveyed municipalities and cities do not exist on the Internet in any form. In other words, other 95.21% have shown results of any kind in terms of the existence of domains as illustrated in the graph.



**Graph 1. Availability percentage of Web presentations.**

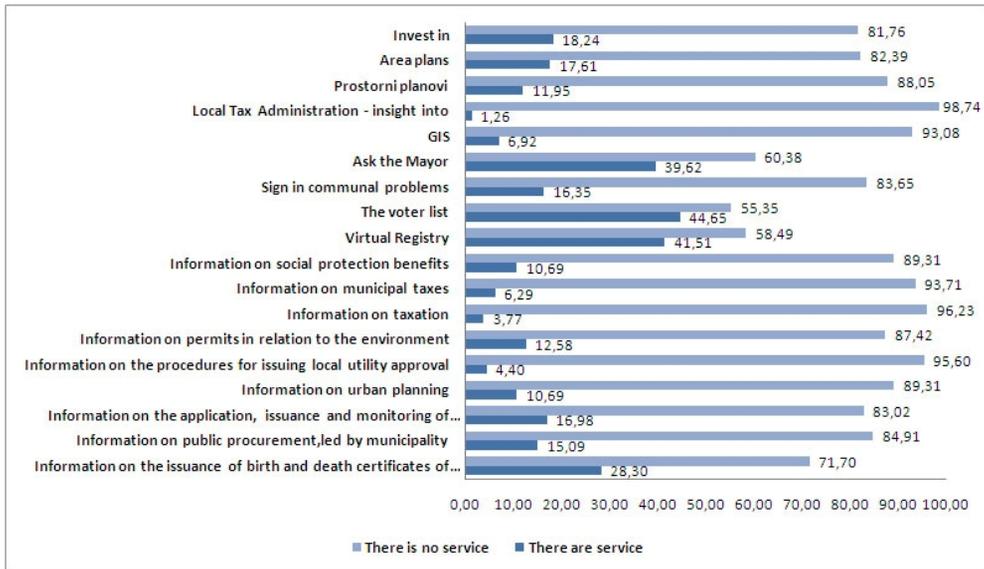
After the number of cases where the basic presence in the form of an existing Internet domain is established, the second step of this study is to examine the content itself.

Out of 159 cases, which have shown that Internet domain exists, 40 of them do not contain services that are the subject of this research.



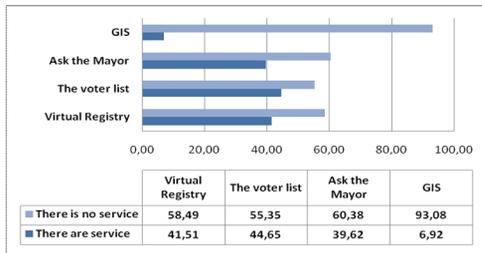
**Graph 2. The percentage of sites with contents (Out of 159)**

The following graph presents the representation of electronic services that are the subject of this research.



**Graph 3. Representation of electronic services (Out of 159)**

The following graph closely illustrates data of the most popular electronic services of public administration.



**Graph 4. Popular electronic services (out of 159)**

**GIS** - This is the implementation of GIS (Geographic Information System) of cities and municipalities. The map is made of color orthophoto image of the city, vector route in several layers (streets, water areas, settlements, working and business districts, local, and no region centers and the like). The search for street name and house number, which allows easy viewing of certain sites, is also available.

An example of good practice - "Ask

the Mayor" is for posing questions to the city or municipal administration, so that the responses of city government are publicly available on the website of the city.

**The voter list** - provided insight into the electoral list.

**Virtual Registry** - This service is on level 3 out of possible 5 of electronic services sophistication (ordering certificates from the registers is enabled through the Internet, by filling out online forms).

## 5. CONCLUSION

Everywhere in the world, as well as in our case, use of electronic services brings many beneficial effects, especially increasing public satisfaction and satisfaction of other users with the work of public administration; improving the country's image to the potential investors because of simpler procedures they use to communicate with the public administration. It also increases work efficiency and reduce certain costs and the

number of employees in public administration. There is reengineering of work procedures in order to accommodate them to different applications of computers and with the aim of making them more rational. The beneficial effects are completely realized in the communities where politicians and managers accept them as their goal.

The current number and level of electronic services in Serbia is not satisfactory and it is necessary to make more dynamic and coordinated development of electronic services within the Strategy for developing e-government and the Action Plan. Ministry of Telecommunications and Information Society is the main coordinator of activities in the implementation of the Strategy and we expect that it will ensure that: more rapid introduction of new

services, some activities do not get duplicated and that common problems are recognized and resolved. Development and implementation of electronic services is based on rationalization of procedures and it is therefore very important to adopt a new Regulation on office management as soon as possible.

The construction of e-government provides a more efficient work, rationality in the use of resources leading to reduced costs and time savings. We need to understand that e-Government is not just an alternative way of achieving public administration services; it must be more efficient and less expensive and with time push the classic way of providing services at desk. Removing administrative barriers makes easier everyday actions of citizens before the local authorities.

#### REFERENCES:

- [1] Development Strategy of e-government in the Republic of Serbia for the period 2009-2013
- [2] Recommendations for Web Site of the Civil Administration, September 2008, National Information Technology and Internet
- [3] State of development of eGovernment in the Republic of Serbia in 2009. year, the National Information Technology and the Internet, January-February 2010.
- [4] ICT best practices of cities and municipalities in Serbia (2009)
- [5] Analysis of the status of ICT infrastructure in municipalities and cities in Serbia, March 2009, the Ministry of Telecommunications and Information Society, National Information Technology and Internet