E-GOVERNMENT SOPHISTICATION OF E-SERVICES IN REPUBLIC OF MACEDONIA

Koste Budinoski
Faculty of computer science and engineering
Skopje, Republic of Macedonia

Vladimir Trajkovik
Faculty of computer science and engineering
Skopje, Republic of Macedonia

ABSTRACT

This paper presents the state of e-Government sophistication in Republic of Macedonia for the period 2007 up to 2010. The survey is done using the 20 basic public e- services. Results showed that further progress will need to be made on two – way interaction. More progress is achieved in G2B (Government-to-business) services, and majority of applications were aimed at facilitating the communication between the government institutions and the business community. We additionally present comparison of online sophistication between Republic of Macedonia and European countries.

I. INTRODUCTION

E-Government integration process has become an important research topic in e-Government domain since many countries have developed various levels of e-Government services. The developed government services in Republic of Macedonia are aimed at facilitating the communication between the government institutions and the business community (G2B); however, there are several services that are focusing on the interaction between the state administration and the citizens (G2C) or the interaction within specific government institutions (G2G).

In study 'Growth of eGovernment Services in Macedonia' realized in 2007 [1], authors show the enormous growth of e-Government services in Macedonia for the period of 2004 up to 2007. Hence, this paper analyses the situation of e-Government in Macedonia for the period 2007 up to 2010.

We have measured all 20 public services defined by the European Commission and monitored by Capgemini for EU according to the method explained in [2], [3], [4], together with their online sophistication score for the period 2007 up to 2010 in Republic of Macedonia. This method is cornerstone to the success of the overall benchmarking process and it is used by various countries [5], [6], [7], [8]. The resulting data showed an average score of 45%, which places Republic of Macedonia at the bottom of the 3th level of sophistication.

There are two major aims addressed in this paper:

- Methodology that we used in this paper

- What is level of sophistication of the 20 basic services in Republic of Macedonia using 5th stage model defined by the European Commission and monitored by Capgemini for EU?

An objective of this paper is to provide an overview of e-Government sophistication in Republic of Macedonia for the period 2007 up to 2010.

This paper is divided into 5 sections including this introductory remark. First, in section 2 benchmark methodology is explained followed by a discussion of the resulting data in section 3. In section 4 we provide conclusion. Finally, the section 5 provides future work and how social networks may promote government information and services.

II. BENCHMARK METHODOLOGY

According to the Conceptual framework for benchmarking the digital Europe, created by European Union Commission, the 20 basic services can be benchmarked using following three indicators:

E1: online availability and interactivity of the 20 basic public services for citizens and enterprises

E2: percentage of individuals using the internet for interacting with public authorities by level of sophistication

E3: percentage of enterprises using the internet for interacting with public authorities broken down by level of sophistication

The model reflects how businesses and citizens can interact with public authorities. Governments service delivery processes are described according to the following stages: (i) information, (ii) one-way interaction, (iii) two-way interaction, (iv) transaction, and finally (v) targetisation. It is one of the tools that enable to demonstrate progress against set targets. Till 2007 each elementary service is graded on a scale from 0 to 4. In 2007 European Union Commission introduced new 5th stage which refers to the personalization of services. Fig. 1 shows five stage maturity model.

The third and the fourth level, two-way interaction and transaction, have become a standard for many countries: electronic forms are available for most services; transactional - also called full electronic case handling - where the user applies for and receives the service online, without any additional paper work, is increasingly becoming mainstream. The fifth level, targetisation, provides an indication of the extent by which front- and back-offices are integrated, data is reused and services are delivered proactively. The fourth and fifth levels are jointly referred to as 'full online availability'.
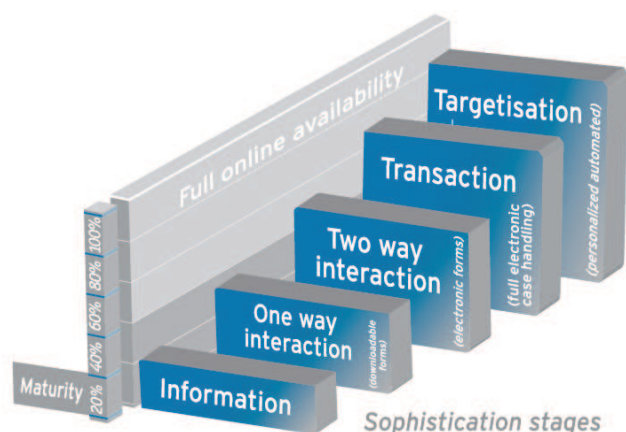
Figure 1: Sophistication stages of five stage maturity model (Source: [9]).

Using this model, we have monitored 20 basic public services in the period of four years. The monitored e-services are given in Table 1. These services have been defined and monitored according to the suggestions explained in [2], [3], [4]. Twelve of these 20 basic services are focusing on the interaction between the state administration and the citizens, and eight of them are aimed at facilitating the communication between the government institutions and the business community. The results were collected from numerous web sites that are official government parties who provide the basic service in Republic of Macedonia.

Table 1: The 20 basic services.

citizens	business
Income Taxes	Social Contribution for Employees
Job Search	Corporate Tax
Social Security Benefits	VAT
Personal Documents	Registration of a New Company
Car Registration	Submission of Data to the Statistical Office
Application for Building Permission	Custom Declaration
Declaration to the Police	Environment-related Permits
Public Libraries	Public Procurement
Birth and Marriage Certificates	
Enrollment in Higher Education	
Announcement of Moving	
Health-related Service	

III. ANALYSIS OF RESULTS

In terms of sophistication, Macedonia stands at 45%, compared to 34% in 2007. Achieving an average score of 45%, places Macedonia at the bottom of the 3th level of 5th stage maturity model. The final overall score for the country is expressed in percentages (%), whereby 100% means that all

services have reached their highest level of sophistication. Table 2 lists all 20 public services together with their online sophistication score for the period 2007 up to 2010. The first 12 services measure the online sophistication of the citizen's services, and the remaining 8 are for the business services.

Services like Job search, Corporate tax, VAT and Public procurement are the only e-Government service that has the highest score according to the benchmark method and achieve 4th level sophistication level. The services Declaration to the police and Health related services are the e-Government services that have the lowest score according to the benchmark method.

Table 2: Annual Sophistication Results.

	2007	2008	2009	2010
Income taxes	20%	40%	40%	40%
Job search	40%	60%	60%	80%
Social security benefits	25%	30%	30%	35%
Personal documents	60%	60%	60%	60%
Car registration	40%	40%	40%	40%
Building permission	20%	20%	30%	35%
Declaration to the police	0%	0%	0%	0%
Public libraries	60%	60%	60%	60%
Certificates	40%	40%	40%	40%
Enrollment in higher education	0%	5%	5%	5%
Announcement of moving	20%	20%	20%	20%
Health related services	0%	0%	0%	0%
Social contributions	60%	60%	60%	60%
Corporate tax	70%	70%	70%	80%
VAT	70%	70%	70%	80%
Registration of a new company	40%	40%	40%	50%
Submission of data to statistical offices	0%	0%	0%	20%
Customs declaration	20%	40%	60%	70%
Environment-related permits	30%	30%	40%	50%
Public procurement	60%	60%	70%	80%

From Fig. 3 we can see that in 2010 year's benchmark, Macedonia achieves a full online availability of 45%, increased by 11% compared with 34% in 2007.
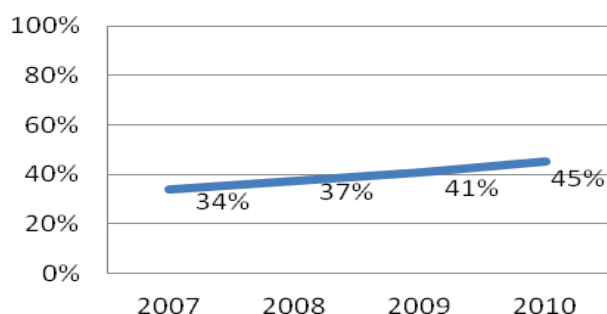

Figure 3: The growth of sophistication of e-services for the period 2007 to 2010.

Fig. 4 split an online sophistication score for citizen services and for business services. We can see that more progress is achieved in G2B services, and majority of applications were aimed at facilitating the communication between the government institutions and the business community. The sophistication score can be split into a sophistication of 35% for citizen services and 54% for business services.
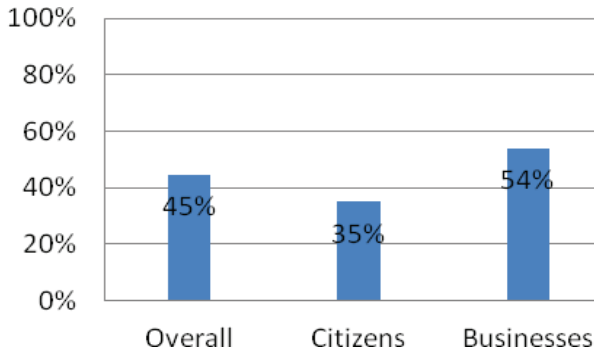

Figure 4: Online sophistication score for citizen services and for business services for 2010.

Fig. 5 shows the progress of online sophistication for the citizen's and business's services for Republic of Macedonia and Europe Countries. From Fig. 5, it is easy to observe that Macedonia has the same annual growth rate in terms of online sophistication as the countries from the European Union. However, the overall online sophistication is still considerably less than the online sophistication in the EU countries.

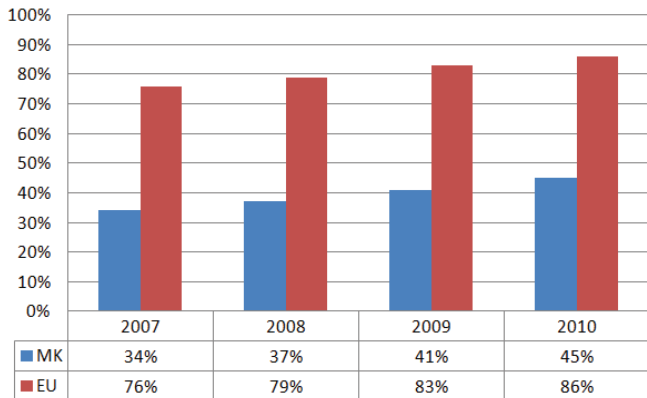|	2007	2008	2009	2010
MK	34%	37%	41%	45%
EU	76%	79%	83%	86%

Figure 5: Online sophistication progress compared to the EU countries for the period 2007 up to 2010.

Macedonia's e-Government performance has slowly growing. Many of services have the same sophistication level they had in the previous survey [1] for the period of 2004 up to 2007. Achieving an average score of 45%, places Macedonia at the bottom of the 3th level of 5th stage maturity model. That means that further progress will need to be made on interaction with citizens and public sectors. The

emergence of social networks is changing the social life of people. Social networks are seen as convenient mean for introducing two - way interaction. A shift is at this point required for governments to stay in line with their citizens.

IV. CONCLUSION

E-Government can deliver massive benefits. Implemented correctly it can enable cooperation between independent agencies and transform the way that citizens access and interact with government. In some cases, it has the potential to redefine the social contract between citizens and state. Macedonia's e-Government performance is growing steadily but the speed of growth could be enhanced.

Republic of Macedonia has made progress on most Information Society and e-Government indicators, but is still trailing in Europe, especially in citizen up take and also the supply and adoption of e-Government services. The research showed average score of 45%, which places Macedonia at the bottom of the 3th level of sophistication. Further progress will need to be made on the more heterogeneous and locally delivered citizen services.

V. FUTURE WORK

New aggressive approach can make Macedonia to reach the EU stages sooner by setting a clear vision and solution for these 20 basic e-services. Approach needs to provide more open and transparent policy implementation.

The emergence of Web 2.0 applications and social networks is changing the social life of people. A shift is at this point required for governments to stay in line with their citizens. Web 2.0 is the emergence of a new government paradigm known as "government 2.0". Social networking sites can be used to further promote government information and services, introducing two - way interaction, recruitment, announce events, achieve a government's mission, similar as in [10], [11], [12]. These technologies can be leveraged to transform the way governments provide online information and services, as well as interact with constituents and stakeholders.

Using the full potential of Web 2.0 and social networks Republic of Macedonia can drastically improve the online sophistication of services and interaction with citizens and public sectors.

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