Growth of eGovernment services in Macedonia
(Online sophistication of eGovernment services)

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Abstract

This study shows the enormous growth of eGovernment services in Republic of Macedonia for the period of 2004 up to 2007. It is shown that in comparison to the EU member states and new member states Macedonia has also growing trend and will reach the objectives set in EU states, but at least 5 years later. Plenty of activities have been realized to enable this enormous growth, such as, establishing of National Strategy for Information Society (as possibility for donors to see where Macedonia would like to be and how it will reach the goal), realization of government contract with Microsoft for establishing basic eServices portal, and finally the most beneficial are the donor programs to support Macedonia, especially those by USAID, UNDP and EAR.
This growing tendency shows that now (2007) the Republic of Macedonia has already successfully realized the stage of establishing the infrastructure, and now is realizing the stage of establishing services. We can only comment that now (2007) EU states are in the stage of increasing the usage by establishing more content and interoperable functions. The comparison shows that the stage that Macedonia reaches in 2007 is comparable to the stage that most EU countries have reached in 2001/2002.

Introduction

The study [1] performed by the authors in April 2006 analyzed the current situation of eGovernment in Western Balkan Countries (WBC). As input the authors used eGovernment benchmarks and analyses of National Information Society (IS) Strategies. The existing EU eGovernment benchmarks are measured by Capgemini with methodology to measure *online sophistication of basic public online services* and *percentage of fully available online services* [2]. We evaluated the growth of eGovernment in Macedonia, comparing the progress in the area of eGovernment services with the EU countries. We also analyzed the respective National IS Strategy and conditions that enabled this growth, especially those parts which cover realization of eGovernment concepts. This study analyzes the action plans level of implementation and also present several issues given by Stability Pact eSEE initiative [3].
In this study we present the results of the third measurement on online sophistication of the basic public services in Republic of Macedonia (MK). The study was conducted in March 2007 with the purpose to compare the online sophistication in Republic of Macedonia with the reports for online sophistication in the EU countries from 2001 to 2006. In the report we closely monitor the online sophistication of the basic public services provided by the national government and two municipal authorities for the cities of Skopje and Veles.
In section 1 we will explain the methodology that we used in the survey. We monitor the same parameters that were monitored by Capgemini for eCroatia 2005 [4]. In section 2 we present our benchmarking results. We present the progress from 2004 to 2007, and in section 3 we describe in detail the conclusion and credits. The appendix lists situation with each service and the best practices in Republic of Macedonia.

1. Methodology

The 20 basic public services whose online sophistication level has been monitored are given in table 1. These services have been defined by the European Commission and monitored by Capgemini for EU and Croatia.

Citizens		Business	
1	Income taxes	1	Social contributions
2	Job search	2	Corporate tax
3	Social Security Benefits	3	VAT
4	Personal documents	4	Registration of a new company
5	Car registration	5	Submission of data to statistical offices
6	Building permission	6	Customs declaration
7	Declaration to the police	7	Environment-related permits
8	Public libraries	8	Public procurement
9	Certificates		
10	Enrollment in higher education		
11	Announcement of moving		
12	Health related services		

Table 1: The 20 basic services

The service Social Security Benefits is made of the following sub-services: unemployment benefits, child allowances, medical costs, and student grants. The Personal documents service consists of: ID, Passport, and driver's license. Certificates are birth, marriage, and death certificates. There are few sub-services used by Capgemini for eCroatia that we also monitor for MK.

Each elementary service or sub-service is graded on a scale from 0 to 4. For example, social security benefits service encompasses unemployment benefits, child allowances, medical cost reimbursement, and student grants. Each of these four sub-services will be graded with 0, 1, 2, 3, or 4. Loosely speaking grade 0 is interpreted as no information available on line; 1 is interpreted as relevant information available; 2 is interpreted as one way interaction; 3 as two way interaction; and 4 as transaction, or the service is fully available online.

European commission has defined maximum possible grade for each of the 20 services. Most services have maximum grade 4, but some, like Certificates and Job search, can have maximum grade 3. In order to provide better results for comparison, in this report we have used the Capgemini's maximum grade system, where job search has maximum grade 4.

The online sophistication for an elementary service is calculated in percents (%) as the ratio between the grade and the maximum attainable grade. The online sophistication of a basic service, like social security benefits, is the average of the four elementary services unemployment benefits, child allowances, medical cost reimbursement, and student grants. The final online sophistication level is the average of the sophistication of the 20 basic services.

At the end we should mention that each service can fall in one of the two target groups: citizens or business. In addition, there are four clusters that further divide the 20 basic services, named as income cluster, registration cluster, returns cluster, and permits cluster.

2. Results

Figure 1 lists all 20 public services together with their online sophistication score. Figure 2 show the progress for the basic services from 2004 to 2007.

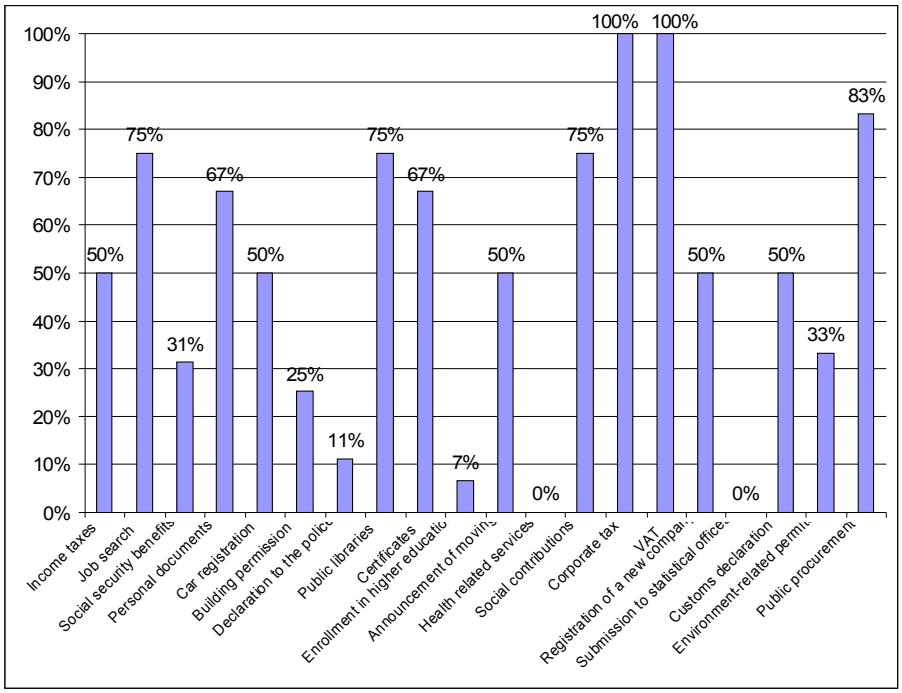

Figure 1: Online sophistication of the 20 basic services in Macedonia in March 2007

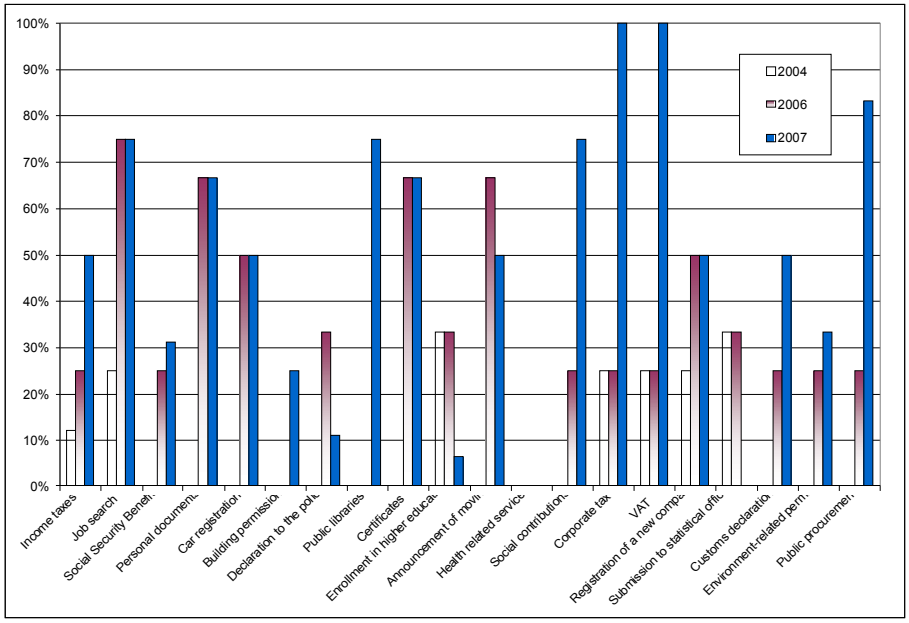

Figure 2: Progress of online sophistication of the 20 basic services in Macedonia for period of 2004-2007

The online sophistication (OS) of Republic of Macedonia is computed as the average of the 20 basic services. The first measurement in 2004 has reported OS of 9%, in March 2006 MK has average OS of 32.75%, and in March 2007 the OS is 50%. For the last measurement we have used stricter grading criteria and we have included additional sub-services in the monitoring. For example for the sub-service "Enrollment in Higher Education" in year 2007 we use the following sub-services: Enrollment of new students, enrollment in higher educational year/ repetition of a year, registering for an exam, registering for an exam, certificate issuing,
Figures 3 and 4 compare the OS and fully availability, accordingly, of MK with the OS of the EU. From Figure 3 and the report from Capgemini, we can conclude that Macedonia has OS level that is between Slovakia and Latvia. EU(28) refers to the all 28 states, EU(10) refers to the 10 new member states, and EU(18) represents the old member states plus Norway, Iceland, and Switzerland.

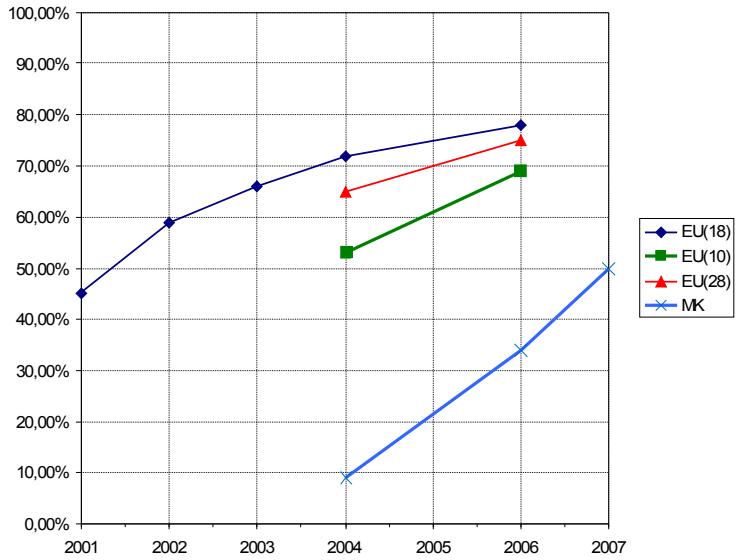

Figure 3: Online Sophistication comparison between Macedonia and EU

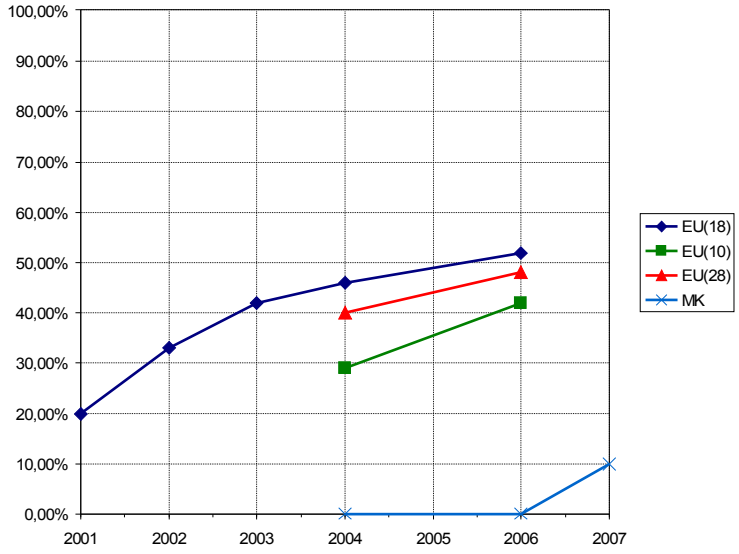

Figure 4: Percentage of fully available online services

The first 12 services measure the online sophistication of the citizen's services, and the remaining 8 are for the business' services. Figure 5 shows the online sophistication growth for the citizen's services for MK and EU countries. From both charts we can conclude that Macedonia has reached the EU's level in 2001, but not the level from 2002. With only 2 services fully available online, Macedonia has 25% fully availability sophistication. This means that Macedonia hasn't reached the level of EU in 2001.

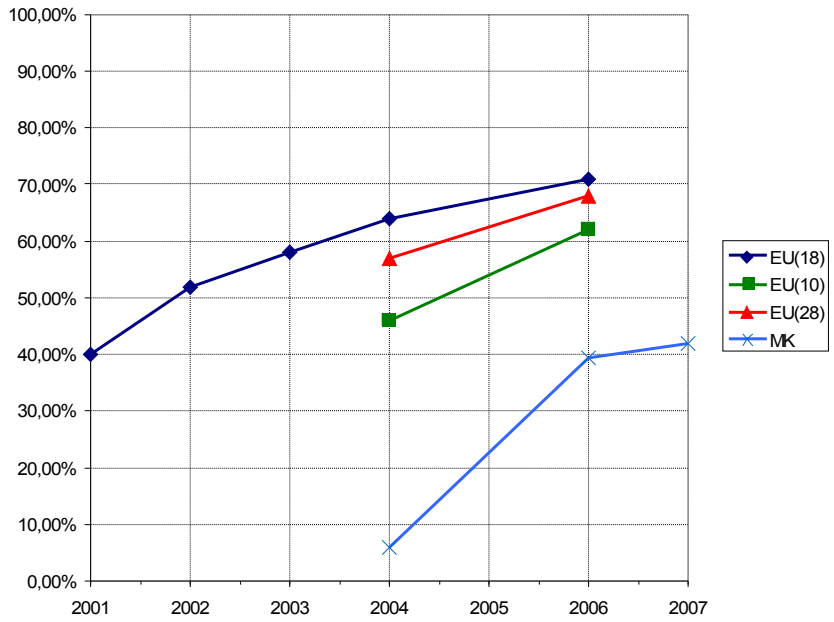

Figure 5: Online sophistication of the citizen's services

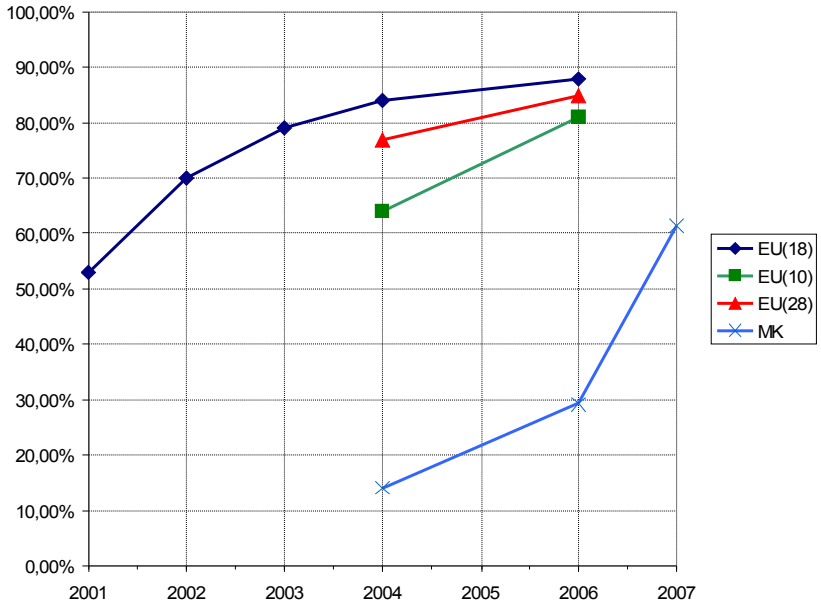

Figure 6: Online sophistication for the business' services

The next figures show the results from the clusters.

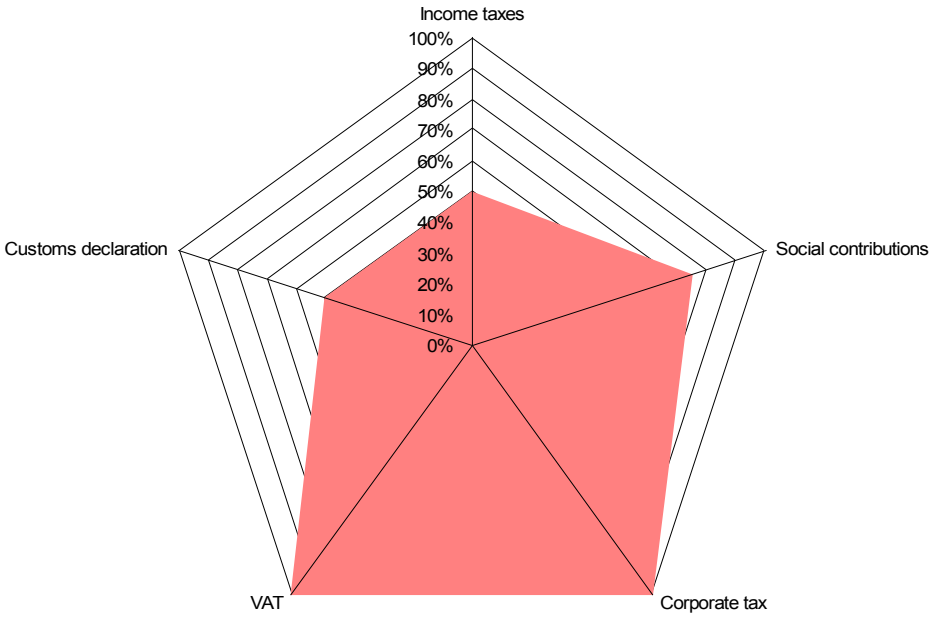

Figure 7: The income generating cluster

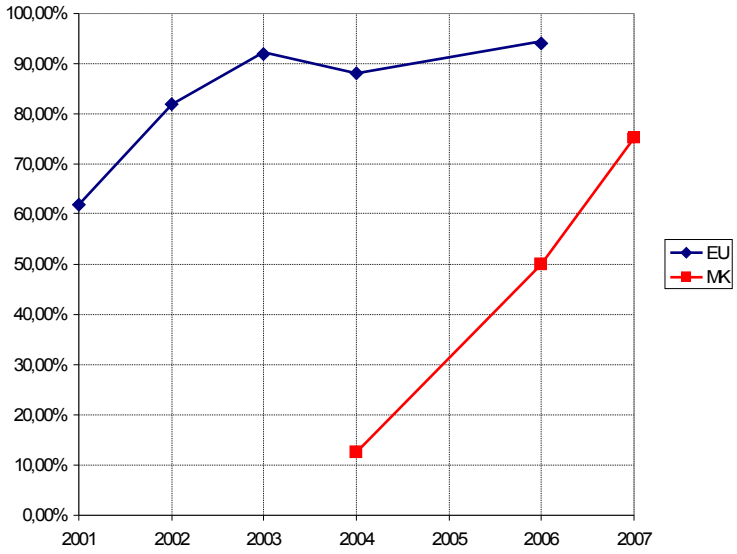

Figure 8: The progress in the income cluster

The income generating cluster is made of services where finance flow from citizens and business to the government institutions. Figures 7 and 8 show the progress. In 2006 EU(28) had a score for OS of 94%, while MK in ’07 has a score 75%. The new member states in 2005 had online sophistication of 74%.

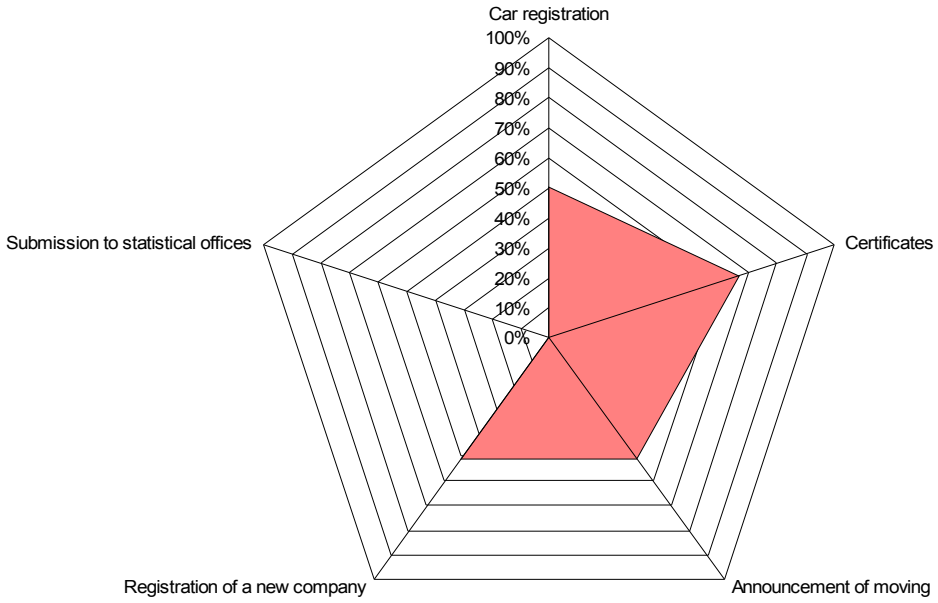

Figure 9: The registration cluster

Registration cluster encompasses services for mandatory information storage. Figures 9 and 10 show the progress of the registration cluster.

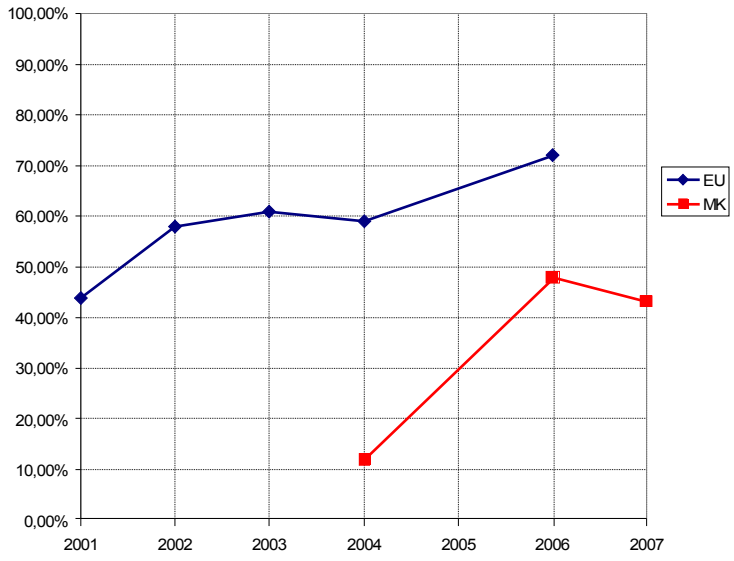

Figure 10: The progress of the registration cluster

Figure 11: The returns cluster

Returns cluster is for services given to citizens and business in return for taxes and contributions. Figures 11 and 12 show the results.

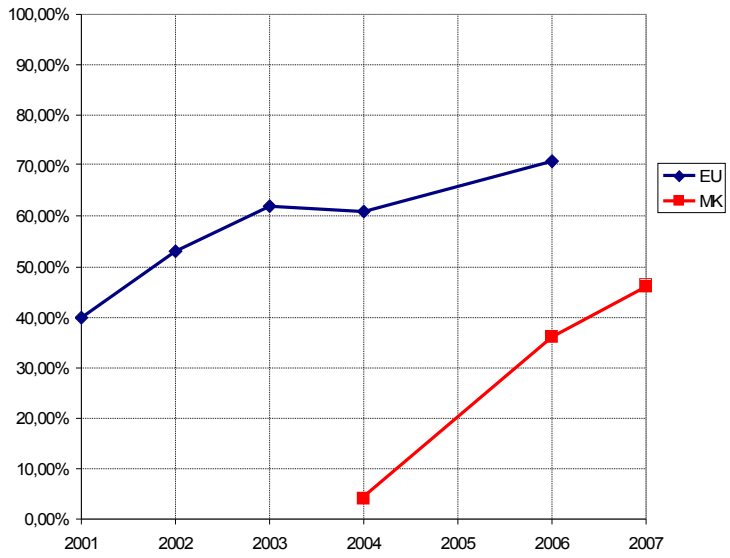

Figure 12: The progress of the returns cluster

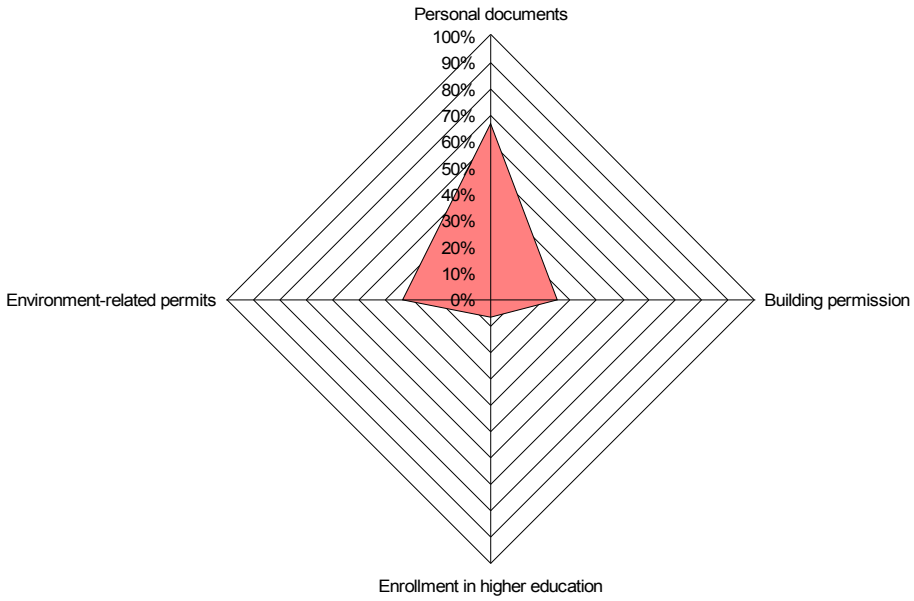

Figure 13: The permits cluster

Permits and Licenses cluster (Figures 13 and 14) represents documents provided by the government. This service is largely decentralized, so the improvements will be the hardest.

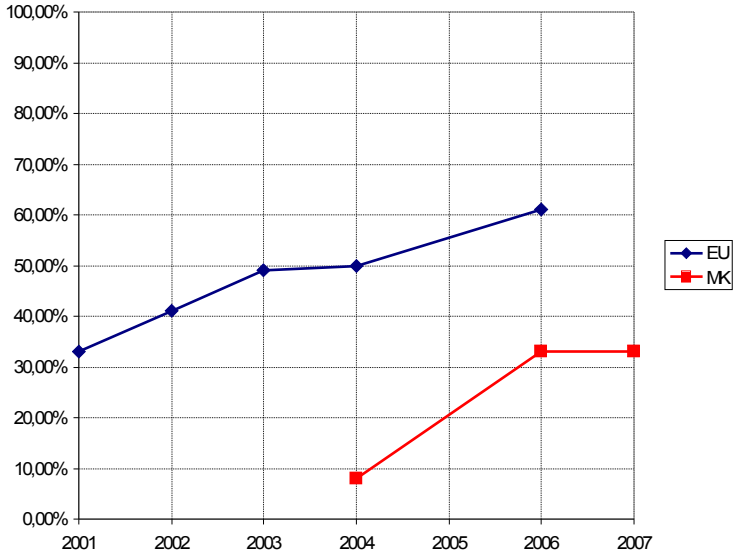

Figure 14: The progress of the permits cluster

The figures show that the income cluster has increased its sophistication level for 200%, and the returns cluster for almost 100%. The situation in the other two clusters is slowly improving, although this improvement is hard to see because of the stricter criteria that we use this year.
On the other hand, observation of the 20 basic services points out to very low sophistication for: declaration to police, enrolment in higher education, health-related services, and submission data to statistical office. If Macedonia achieves the proposed short term goal to make each of the 20 services with minimum grade 2, we will have online sophistication of around 65%, which is very close to the new EU countries average.

Conclusion

An enormous growing trend has been achieved in absolute values for on-line sophistication of eGovernment services in Macedonia for the period 2004-2007. The value of 7,89% was reached in April 2004, the value of 32,89% in April 2006 and the value of **50% in March 2007**. This linear growth rate of eGovernment services shows tendency as realized in other EU states. According to this growth it is likely to expect values of average EU states online sophistication of 75% in 3-4 years.

A percentage of fully available online services is only 10%, showing growth from zero value in 2006. Assuming the same growing tendency we can conclude that Macedonia will reach the average EU value of 50% in 4-5 years.

Although the grow rate is enormous we can conclude that Macedonia has the same online sophistication as average value of EE member states in 2001. This can only lead to a conclusion that Macedonia is 5-6 years behind.

The big difference between the situation (and high grades) in the business eGovernment services and the services in the citizen's sector is mainly due to donor programs that pushed development of businesses and not citizens sector.

Credits

Three main reasons can be extracted for enabling such enormous growth. The first reason is the realization of National Strategy for Information Society and clear vision where Macedonia would like to be in near future and how it will be achieved. The second reason is enormous help of donors, especially USAID and the eGov project, mainly due to the USAID's contribution to eTaxes and eProcurements. Other donors are UNDP mainly in the municipalities and taxation and EAR in the business sector. The third factor for this enormous growth is the willingness of the government to support activities for eGovernment and realize several projects, such as contract with Microsoft and other companies for realization of eServices, eGoverment, eParliament and other software packages. We can also extract the contribution of the Committee for Information Technology as leader for all these activities.

Comparison and future

EU has realized two development stages in the past (eEurope 2002 and eEurope2005) and is now realizing the i2010 initiative. The first stage was establishing infrastructure and the second is establishing services. The main motivation for the eGovernment benchmarking was development of a tool to measure the level of established services and now there is a tendency to establish new tool since most of the countries have reached satisfactory level of established infrastructure and eGovernment services. The new tool should express how much is the usage level, or how much the citizens and businesses use appropriate services. This can be easily seen from a comparison chart that expresses demand and usage.

The holistic measurement model shows existence of 5 stages for development: setting (equivalent to establishing infrastructure); delivery (equivalent to establishing services); change (equivalent to reorganization to enable one stop shop paradigm); use (equivalent to usage) and impact (the final stage). It is obvious that most of EU states are now in stage 3 and 4, while Macedonia is in transition from stage 1 to 2.

Therefore a new aggressive approach can make Macedonia to reach the EU stages sooner by setting a clear vision and strategy how to reach these objectives.

Works Cited

[1] Gusev, Armenski (April 2006): Gap Analysis of eGovernment in Western Balkans, www.metamorphosis.org.mk, 12.05.2006

[2] Capgemini. (June 2006). Online Availability of Public Services: How Is Europe Progressing? Web Based Survey on Electronic Public Services Report of the 6th Measurement June 2006. Capgemini, (http://ec.europa.eu/information_society/eeurope/i2010/docs/benchmarking/online_availability_2006.pdf)

[3] Stability Pact for South Eastern Europe, eSEE Working Group (www.stabilitypact.org/e-see).

[4] Capgemini, Study on online availability of public services in 2005 for eGovernment in Croatia; (http://www.e-croatia.hr/repozitorij/dokumenti/downloads/Online_Availability_2005.pdf)

Appendix: The 20 Basic Public Services

Explanation of each of the 20 basic public services and setting of the grades for Republic of Macedonia.

Income taxes: Online sophistication of 50%

The Central Taxation agency is the service provider for this service. On their web there is a possibility to download form to start the procedure. Their web page is www.ujp.gov.mk

Job search: Online sophistication of 75%

According to Capgemini's methodology, this service can have max grade 4 if the service provider offers the possibility of an electronic supply of pre-selected jobs related to the given profile of the job searcher.
Employment Service Agency of the Republic of Macedonia offers the possibility for online search of the database with job offerings. However we were unable to locate the URLs for the 30 regional employment centers.
The URL for the service provider is: http://www.zvrm.gov.mk

Social Security Benefits: Online sophistication of 31.25%

There are four services in this category defined by the EU Commission

a. *Unemployment benefits*; graded 1
b. *Child allowances*; graded 2
c. *Medical costs reimbursement*; graded 1
d. *Student grants*; graded 1

Different service providers are involved in providing social security benefits. Ministry of Labor and Social Policy is responsible for Unemployment benefits and Child allowances. Only child allowance have grade 2. Information for this service can be obtained through www.uslugi.gov.mk. The description of the other services in this group can be found:

- For Unemployment at: www.mtsp.gov.mk
- For Medical costs at: www.fzo.org.mk
- For Student grants at: http://www.mon.gov.mk/

Personal documents: Online sophistication of 66.6%

In Macedonia personal documents are considered to be Passport, ID, and driver's license. Ministry of interior is the service provider. Citizens can obtain information and download forms at www.uslugi.gov.mk. The EU Commission has defined max grade for this service to be 3.

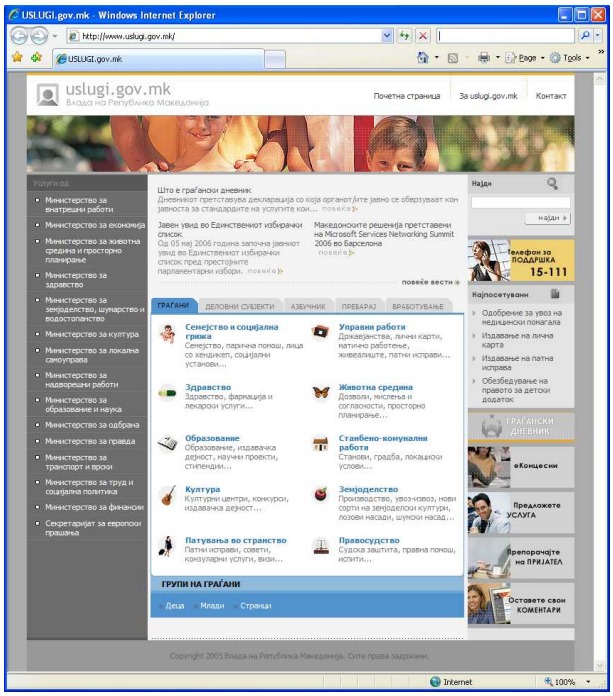

Figure 15: Best practices: www.uslugi.gov.mk

Car registration: Online sophistication of 50%

Same service provider as in 4. The maximum attainable grade is 4.

Building permission: Online sophistication of 25%

The information on how to start the procedure for obtaining building permission can be found at http://www.e-skopje.gov.mk/. The information for obtaining evidence of property can be found at www.katastar.gov.mk.

Declaration to police: Online sophistication of 11%

Ministry of Interior has information on their web site regarding crime reporting and crime prevention procedures. However this parameter measures the online sophistication of the local police stations too. We were unable to locate any URL for the local police authorities.

Public libraries: Online sophistication of 75%.

According to Capgemini's methodology, this service can have max grade 4 if the service provider offers the possibility to search for specific title and to make electronic reservation, or to obtain electronic copy.
Macedonia as a part of the co-operative online bibliographic system COBIS.Net has publicly accessible website with the possibility for online search. There are 21 libraries in Macedonia included in this project.
The URL for the service provider is: http://vbmk.nubsk.edu.mk/cobiss/

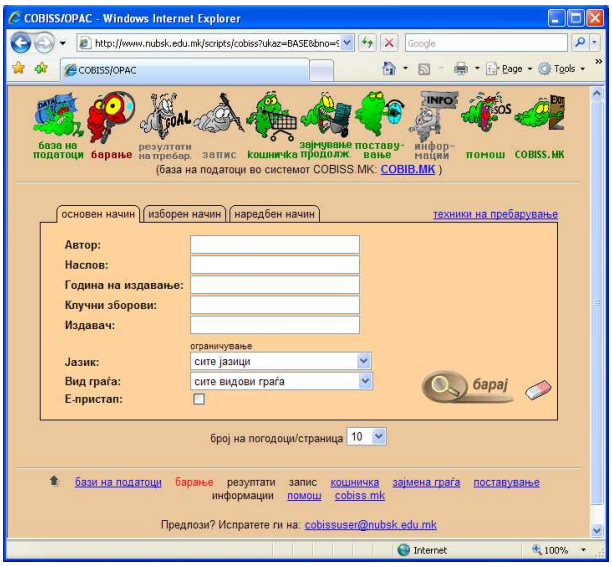

Figure 15: Best practices: Public Libraries

Certificates: Online sophistication 66.6%

Same service provider as in 4. Maximum grade for this service is 3.

Enrollment in higher education: 6.6% of online sophistication

This year we are measuring the following 5 subservices:

1) *Enrolment in higher educational institution*; graded 1
2) *Enrolment into higher year/ Repetition of the same year*; graded 0
3) *Registering for an exam* ; graded 0
4) *Certification issuing*; graded 0;
5) *Student grants/ scholarships*; graded 0

Except for the copy of the public announcement for enrolment in higher educational institution published on the web, we were unable to find any information regarding the other four parameters. We take into account only the universities that receive government's funding.

Announcement of moving: Online sophistication of 50%

The service provider is the same as in 4. The announcement of moving refers to change of the address within the country. In republic of Macedonia there are 2 elementary sub-services that can be classified under this category:

- Change of the address in a personal document; graded 1
- Change of the city of residence; graded 2

Health related services: Online sophistication of 0%

We were unable to locate any information on the web regarding interactive advices for hospitals. The majority of hospitals don't have even a web page.

Health related services include:

- Interactive consultation of available services;
- Interactive appointments

Social Contributions: Online sophistication of 75%

Pension and Disability Fund of Macedonia is responsible for this service. The provider has a web service with the possibility to completely treat the declaration of social contributions for employees via website. Although this service deserves grade 4, PIOM has been graded with grade 2 for treating the new employments. The final grade is the average between these two grades.
The URL is: http://www.piom.com.mk/

Corporate tax Online sophistication of 100%

Paperless taxes were part of the USAID's eGov initiative. The service provider is the Central Taxation Agency. The system is located at http://etax.ujp.gov.mk/

VAT Online sophistication of 100%

Same as 14

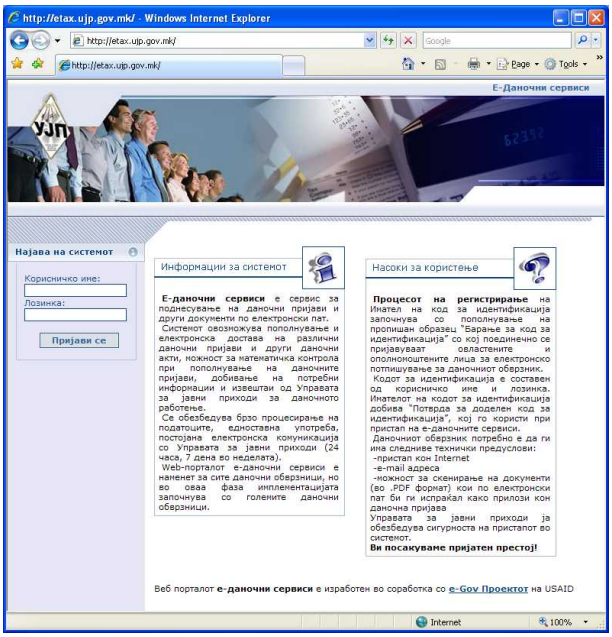

Figure 15: Best practices: Central Taxation Agency

Registration of a new company. Online sophistication of 50%

Central registry is responsible for this service. On their web you can download forms to register a new company.
The URL is: www.crm.org.mk/

Submission of data to statistical office. 0% of online sophistication

The republic's statistical office has a web page with plethora of information regarding the statistical data for Republic of Macedonia. Regarding the submission of data, we were able to find some telephone numbers. This year we have decided to treat this as no relevant information. The main URL is www.stat.gov.mk

Customs declaration. Online sophistication of 50%

Customs office has publicly accessible website with the possibility to download forms. The service provider is located at www.customs.gov.mk

Environment-related. permits online sophistication 33.33%

Ministry of Environment and Physical Planning offers the possibility to download some forms through www.uslugi.gov.mk. Local governments, like Municipality of Veles on their website (www.veles.gov.mk) has the information on how to start the procedure for obtaining the Integrated Pollution Prevention and Control permit.

Public procurement. Online sophistication of 83.33%

The USAID's eGov project in cooperation with the Public Procurement Bureau has developed e-Procurement system for on-line conducting public procurements. The system is located at https://e-nabavki.gov.mk and has been used by the local authorities. The national government has online sophistication of 50%.