THE POTENTIAL OF eGOVERNMENT DEVELOPMENT IN EMERGING MARKETS: PERSPECTIVE OF LOCAL GOVERNMENT

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Abstract

Introduction of eGovernment has created the opportunity to change the traditional understanding of the state. Intensive application of information and communication technologies (ICTs) in government includes new management approaches that should provide better service to citizens and economy based on cooperation between all entities. At a local level, governments are introducing ICTs, but in academic literature, the development of local eGovernment is examined in relatively few studies. This paper deals with the local government perspective of the eGovernment development. The empirical study was conducted in Serbia. As an emerging country, Serbia still has not reached the level of development of the EU member states. The first part of the research examined the attitudes of local government management towards introducing eGovernment, as well as the attitudes of the employees regarding the key benefits and challenges, in order to find potential ways for its faster application. The survey involved collection of primary data among the local governments. The study found that the management of local governments in Serbia is focused on the development of eGovernment, but their orientation is determined by the level of local government development. Study also identified the relevance of various eGovernment services from the local government perspective. The results show that employees consider all eServices as relevant. Furthermore, we found that the attitudes of employees regarding introduction of eGovernment are generally positive, as they see their benefits for everyday work. By identifying potential challenges and problems that employees face with in introducing the concept, the priorities for faster application could be determined. The second part of the research employed the web content analysis in order to have an overall view on how eGovernment is implemented in Serbian local government.

1. Introduction

As a new and modern concept, eGovernment is accepted in many, especially developed countries. It became a global phenomenon and represents a rapidly growing field in which governments of almost all countries invest (Grant & Chau, 2005). Introduction of eGovernment created the opportunity to change the traditional understanding of the state. eGovernment offeres a modern, efficient service and transparency as well as the change of paradigm in

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the process of communication between the government and the citizens (Vintar, 2002). It leads to increased trust in local government, and also in positive attitudes towards eGovernment processes (Tolbert and Mossberger, 2006).

Intensive application of ICTs in government includes new management approaches that should provide better service to citizens and economy based on cooperation between all entities. From government's point of view, ICTs offer opportunities to speed up work processes, as well as increase the effectiveness and efficiency of policy (Prins et al, 2012).

At a local level, governments are also introducing ICTs, but in academic literature, their application and development of local eGovernment, especially in emerging markets, is examined in relatively few studies (Sandoval-Almazan & Gil-Garcia, 2012, Gupta et al., 2008). This paper deals with the local government perspective of the eGovernment development in Serbia. It explores the attitudes of the local governments' employees toward eGovernment and the content of the local government's websites.

2. The development of eGovernment

Tapscott and Agnew (1999) reported that eGovernment reffers to the use of ICTs, not just for putting public service online, but to be interactive, with all of the stakeholders. Generally, eGovernement is focused on five stakeholders: citizens, enterprises, public administration employees, other public institutions or departments and non-governmental organizations. In accordance to that, there are eight types of relationships in eGovernment (Fang, 2002): (1) G2C – Government to Citizen - provision of services and information to the citizens, online services, digital democracy; (2) C2G – Citizen to Government - exchange of information and communication between the citizens and the government; (3) G2B – Government to Business - provision of services and information to companies, electronic procurement; (4) B2G – Business to Government - exchange of information and communication of companies with the government; (5) G2E – Government to Employees - intranet, internal communication with employees and provision of information, notice board, education; (6) G2G - Government to Government - intranet, communication subsystem, cooperation and internal exchange of information with other state institutions or between different departments of a single administration; (7) G2N - Government to Nonprofit - provision of services and information to non-governmental organizations; (8) N2G - Nonprofit to Government - exchange of information and communication of non-governmental organizations with the government.

As Pina et al. (2010) reported, implementation of ICTs will increase openness, transparency and accountability of public administrations. In this way, they will increase the degree of interest and involvement of all stakeholders, bringing them closer to governments. The authors recognized the construction and management of websites as a core of modern public administration reforms. The development of eGovernment can be measured by the stages of its implementation (Capgeminy, 2007), from posting information on websites, followed by one way interaction

(downloadable forms), two way interaction (electronic forms), transaction (full electronic case handling) and, finally, personalization (pro-active and automated).

Kuntelj et al. (2009) found out that governments have websites and portals which provide large amount of information, opportunities to communicate with public servants via e-mail, participate in e-forums or discussion groups, and download the application forms. Having this in mind, it can be supposed that the highest level of eGovernment development has still not been reached by most of the countries.

As Gupta et al. (2008) reported, recent researches have focused more on economically developed countries than on developing ones. This research explored the development of eGovernement in Serbia, as an emerging country. Even though the level of eGovernment development and implementation differs through different countries, they all have common starting point that it should be citizen focused (Shareef et al., 2011). Therefore, according to the authors, many studies examined the perspective of citizens in accepting and success of eGovernment. Relatively few studies have focused on local government perspective – management and employees, in this field. The first part of this study focused on revealing the electronic services that Serbian local governments offer, attitudes of local government management toward introducing eGovernment, as well as the attitudes of the employees regarding the key benefits and challenges for the introduction of eGovernment. The research was conducted among local governments in Serbia. In the second part of the research, the study employed the web content analysis in order to have an overall view on how eGovernment is implemented.

3. Research results and discussion

eGovernment is still developing in Serbia and it has still not reached the level of development and sophistication of the EU member states (Cicvarić Kostić, 2011; Marković et al, 2008a; Marković et al, 2008b). Based on the inspection of eGovernment portal of the Republic of Serbia, it could be concluded that two-sided communication with the state bodies is not fully developed, and that eGovernment in Serbia includes providing information on public administration services, possibility to download the forms from websites, in same cases to order the forms to be delivered by mail, scheduling appointments for application submission in some government institutions, but also delivery of certain services electronically. By joining the public discussion processes and through the forum (eParticipation), the citizens may take part in discussions on topics of importance for improvement of government's work (www.euprava.gov.rs). Application of social media is necessary for the development of eParticipation. eGovernment intended for business entities is somewhat more developed, which means that the companies may download most of the required documentation from the Internet.

More serious approach to development of eGovernment in Serbia is confirmed by acceptance of the EU's i2010 initiative and adoption of Strategy for the Development of eGovernment in the Republic of Serbia for 2009-2013 (document „Strategy for the eGovernment Development in Serbia"). The Government of Serbia accepted the i2010 initiative as a general framework for development of Information Society through signing of the eSEE Agenda +3

for the development of information society in South East Europe (document „Handbook for ICT in local government“). The Strategy defines basic goals, mission and vision of eGovernment oriented towards customers' needs. The Strategy indicates the necessity of promoting eGovernment in Serbia.

When it comes to the development of e-Government in Serbia in terms of the number and structure of potential users, we are going to rely on the results of a study by Statistical Office of the Republic of Serbia from 2012 (document "Usage of ICT in Republic of Serbia, 2012). The most important finding is that 47.5% of households in Serbia have an Internet connection, an increase of 6.3% compared to 2011, 8.5% compared to 2010 and 10.8% compared to 2009. When it comes to individuals, 3.100.000 (43% of population) has used a computer and more than 2.7 million (38% of population) used the Internet in the last three months of the year 2012 (population of the Republic of Serbia, excluding Kosovo, is 7.186.862 according the 2012 census). The results of this study also suggest that all companies in Serbia (100%) use computers and the Internet.

eGovernment portal of the Republic of Serbia (www.euprava.gov.rs) was posted in March 2007. The portal enables eParticipation through public discussions where all interested persons may sent comments, suggestions and attach documents pertaining to the topic of public discussion. Apart from that, at portal's forum page each registered user may take part in discussions on all topics of importance for improvement and advancement of contacts between state bodies and citizens, and they may also start a new topic on the forum. Introduction of the portal will facilitate citizens' communication with state bodies and overall public administration in terms of easier way to find information and appropriate forms, as well as simpler submission of requests and receipt of decisions and other documents.

In December 2012, conference „eGovernment Development in Republic of Serbia“ was held in Belgrade, and one of the main conclusions, stated by the responsible Minister, was that eGovernment is the instrument for public administration efficency improvement. The conference was a part of the project „Support to eGovernment Development in Serbia“, funded by EU, which aims to reform the public administration in the Republic of Serbia in accordance to the requirements of the EU, by strenghtening the legal framework, interoperability and the necessary human and technical basis for providing effective electronic services. All these initiatives illustrate the orientation of Serbian government towards further development of eGovernment.

Further introduction and development of service is planned in the Strategy for the eGovernment Development in Serbia, while special attention will be given to improvement of service accessibility to citizens at local levels of government. That is the reason why we conducted a survey among local governments. The goal is to identify the electronic services being delivered, as well as attitudes of the employees regarding the challenges for the introduction of eGovernment, in order to find potential ways for its faster application.

3.1.   Research on the employees' attitudes towards eGovernment

The first part of the survey was conducted in 2010 with assistance from: Ministry of Economy and Regional Development of the Republic of Serbia, Statistical Office of the Republic of Serbia and Standing Conference of Towns and Municipalities (SCTM). SCTM is a national association of local governments in Serbia, founded in Belgrade in 1953. Today the association has 167 members (towns and municipalities) that come together on a voluntary basis in order to achieve cooperation, joint action and accomplish common objectives at the local and international level. At the beginning of 2007, SCTM launched an initiative saying that every town and municipality in Serbia should appoint a person as a local commissioner. Namely, local commissioner is a person employed in the local self-government unit with the role to coordinate and be in charge of communication between the association and the local self-government unit. The network consists of 167 members i.e. all towns and all municipalities have appointed a person as a local commissioner.

The survey involved collection of primary data by method of examination i.e. poll and it was intended as a census. The survey instrument was a questionnaire sent electronically to respondents by the SCTM representative, via the commissioner network, along with the letter explaining the subject and goals of the survey. The questionnaire was sent to the addresses of 167 municipalities in Serbia. Through four iterations the total number of collected valid answers was 109, which is a 65% response.

The main condition for ICT application in government and development of electronic government services is for the institution to have its Internet presentation. It is encouraging to know that only three of the surveyed municipalities in Serbia do not have a website and do not fulfill this basic condition for electronic services development.

A great number of municipalities that have Internet presentations (70.9%) regularly post information and documents pertaining to municipal institutions' work on their website. In conclusion, the first level of eGovernment development is reached, but it still involves only one-way communication between government-citizens/organizations, i.e. it is a static application of ICT.

Posting of applications and forms for submission of requests in a municipality was considered as the next level of eGovernment development. In 46.5% of municipalities this is constantly applied (regularly or occasionally), in 25.7% only occasionally, while 27.7% of municipalities do not conduct this activity.

Possibility to order documents via website is provided (regularly or occasionally) by 52% of surveyed municipalities, while 47% of municipalities do not provide that service.

According to replies from the employees in surveyed municipalities, a great number of municipal departments is available (regularly or occasionally) to citizens and other customers through electronic mail (around 80%), while in

one fifth of the cases there is no such possibility. As for electronic communication with other institutions of public administration, 97.1% of the surveyed municipalities in Serbia do not exercise this communication (regularly or occasionally). Aggregate results are shown in Figure 1.
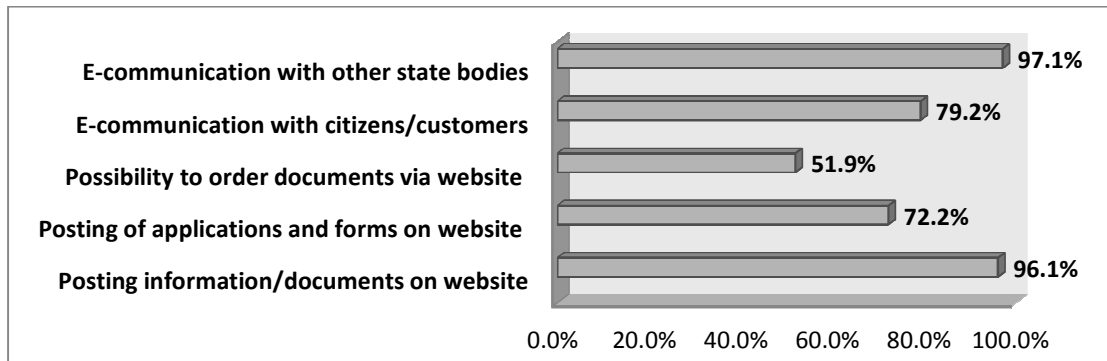

Figure 1. Electronic services development in Serbian municipalities

When analyzing the potential of developing the eGovernment according to the attitude of the municipal management regarding the acceptance of its introduction, it is encouraging to note that executives from two-thirds of the surveyed municipalities are fully focused on the development of eGovernment, while nearly one-third of them is partially inclined in this initiative (Figure 2).
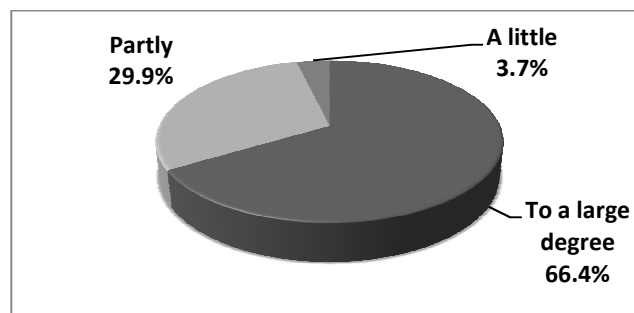

Figure 2. The focus of municipal managers towards the development of eGovernment

In order to get more accurate results, we analyzed the orientation of municipal leaders on the development and adoption of e-Government, according to the municipal development groups. Municipal development groups are defined by the Decree of the Government of Serbia on establishing a unique list of regional development and local government.

A statistically significant distribution of the responces garthered from the sample and a weak correaltion of responses was noticed ($\rho = 0.253$, $p = 0.01$). However, one can observe a significant difference in the percentages of managers' orientation depending on the group of municipality development. The intensity of the leaders' orientation on the development of eGovernment is growing with the development of the municipality (Figure 3).
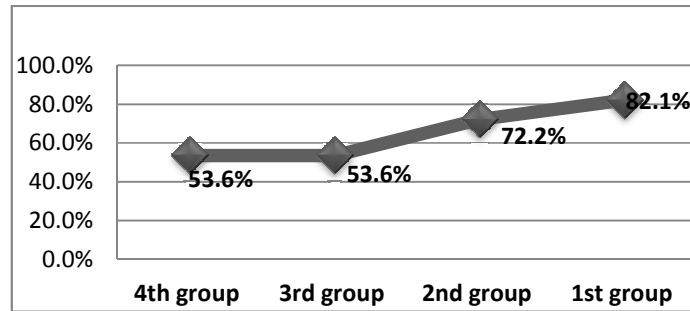
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Figure 3. The orientation of local government management on eGovernment development, in relation with local government development (1st group – the most developed local governments, 4th group – the least developed local governments)

In terms of questioning the importance of individual e-Government services according to the staff, all of the listed services are approximately equally significant (Table 1), which demonstrates a good understanding of the range of services included in the e-Government.

Table 1. Overall singificance of the e-Government services

eGovernment Service	Score (1-5)
Availability of information on the institutions' web site	3,78%
The existence of national eGovernment portal	3,35%
Download of documents from the site of an institution	3,66%
Ability to perform administrative procedures on the Internet	3,64%
The electronic exchange of documents between government institutions	3,57%

The following dilemmas are among the most frequent dilemmas and challenges faced by the employees in municipality concerning the introduction of electronic business (the order does not represent the importance of the problem):

- Insufficient training of the staff for computer work;
- Employees' fear from introduction of innovation (especially present within older population);
- Insufficient knowledge of the importance and advantages of eGovernment;
- Lack of financial means for introduction of eGovernment system;
- Lack of necessary equipment and software;
- Problem regarding protection of data and lack of adequate legal framework;
- Insufficiently developed procedures and standards;
- Fear of potential job loss etc.

By identifying potential challenges and problems i.e. barriers that might appear during the introduction of eGovernment, directions and priorities of action for the institutions in the process of eGovernment introduction may be clearly identified.

When ranking the benefits that the introduction of eGovernment has, the frequency of responses according to the first three ranks is shown in Table 2.

Table 2. Benefits of e-Government in the opinion of employees from local governments

	Rank 1		Rank 2		Rank 3	
	Benefit	**(%)**	**Benefit**	**(%)**	**Benefit**	**(%)**
I	Rationalization and optimization of administration	25,2	Reducing the time required to complete service	18,6	Reducing costs	19,6
II	Reducing the time required to complete the service	23,3	Rationalization and optimization of administration	17,6	Rationalization and optimization of administration	17,5
III	**Increasing customer satisfaction**	**15,5**	Improving government services	15,7	Reducing the time required to complete the service	15,5
IV	Directing government action towards the user needs	**12,6**	Serving a larger number of users	14,7	**Increasing customer satisfaction**	**13,4**

It is easily noticeable that municipal employees are seeing the benefits eGovernment primarily in the promotion and facilitation of the processes of the municipality, while the benefits for consumers are in the background. Based on these results, it could be concluded that the attitudes of employees in the local government regarding the introduction of e-Government are generally positive, as they observe the benefits of application that can be provided in the performance of daily tasks. By identifiing potential challenges and problems, i.e. barriers that the employees can come across in the introduction of eGovernment, the priorities and directions of further activities of institutions in the process of introducing eGovernment can easily be identified.

3.2. Research websites content analysis

From a research perspective, it is possible to measure/evaluate the development of eGovernment in local government in many ways (surveys with employees/managers in local government, surveys with citizens/service users, analysis of available online services, etc.). For the evaluation of research results from 2010, which are presented in this paper, we have chosen the method of web content analysis for the same municipalities included in

the previous study (109 municipalities, 65% of total number of municipalities in Serbia). An important note is that the results of the analysis of web content in 2013 are not directly comparable with the results of the survey from 2010 (due to different research methodologies and instruments used), although the interpretation of the results can provide a reliable "overall picture" of the phenomenon and assess the degree of progress.

Criteria for the analysis of local government sites were proposed by the Institute of Informatics and the Internet (now the Ministry of Foreign and Internal Trade and Telecommunications), and they are internationally comparable. During the implementation of the research, we could conclude that the criteria/attributes for assessing local government web content were placed explicitly and unambiguously, which completely excludes subjectivity and imprecision assessors and thus directly contributes to the quality of the results.

According to the survey from 2013, all local government units (109 of them, which is 100%) have an official website, which clearly points to the conclusion that the minimal conditions for the development of eGovernment at the local level have been met.

The development of eGovernment speeds, facilitates, reduces costs, and increases the quality of administration in general, which is of major importance for the society. A special value that the development of eGovernment brings is reflected in the form of general transparency of the system, which is the essential precondition for democratization - the ultimatum of our time. Internet provides the technological opportunity for citizens, business and legal entities, so that they can actually monitor and control the operation of state institutions and public enterprises, by having everyday online insights at the legal acts (decisions, rules, laws, regulations, etc.), financial transactions (procurement, tenders, grants, etc.)., budget allocation (funding priorities, employment, grants, etc.).

When it comes to criteria grouped as "financial responsibility" (Table 3), the survey results indicate that 84% of local governments gives details of the budget on the website, but only 75% of local authorities provides information on public procurement. Less than half (45%) of local governments present data on spending in the area of social responsibility on their website. If the public insight into the cash flow is required to control the functioning of local government, based on the obtained results, it can be considered that the requirements of a significant number of local authorities are still not met.

Table 3. Information on Financial Responsibility

Financial Responsibility	N	%
Information on budget	92	84.4
Information on public procurement	82	75.2
Statistical data	82	75.2
Information on social responsibility	49	45.0

When it comes to the usefulness of the content of websites, there are problems even with the basic information (Table 4), so the 10% of websites do not have mailing addresses and contact phone numbers. Even at 30% of local government units' sites there is no organizational scheme of municipal services and information regarding the distribution of responsibilities. Map of the Municipality with a list of the resort is present at 70% of sites, and a calendar of events was noted only on 20% of monitored sites. Newsletter was not found at any site, although most of our local governments print local newspapers.

Table 4. Basic information

Basic information	N	%
Mailing address	98	89.9
Phone number	98	89.9
Organizational chart	76	69.7
Map of the municipality	76	69.7
Calendar of events	22	20.2
Newsletter	0	0.0

The majority of sites offer multimedia content (85%), and in most of the cases these are the photos that highlight the natural beauty of the territory that the local government covers, including historical sites and monuments. The integrated versions of media appearances from the local government leaders, as well as videos of celebrations, promotions and events can often be found on these websites. In 90% of cases, there are links to relevant websites. 80% of sites contain electronic versions of various publications of importance to local government, but only 40% of the local governments have the mission/vision statement on their website, regardless of the fact that all municipalities in Serbia have adopted the document on strategic development. (Table 5).

Table 5. Other important information

Other important information	N	%
Link to relevant sites	98	89.9
Multimedia files (audio/video/photo)	93	85.3
Publications	87	79.8
Mssion / vision statement of the municipality	44	40.4

The analysis of web domains containing the local government websites have shown the .org domain to be the most dominant one. None of the local governments is registered on the gov.rs domain, which could mean that the local governments are independent from the ministry in the field of communications and online services. The usual practice is that local governments engage agencies or freelance web masters for the development of sites, mostly without a precise demands on the design and the content of the site.

Since the appearance and content of the local municipality sites are largely dependent on the commitment and creativity of web designers, we can consider that the diversity of content and often lack basic information (contacts, working hours, duty, etc.) indicates a lack of standards. Recommendations for a standardized set of services/information provided by local governments through official web sites are necessary for further development of eGovernment in Serbia.

The similar problem occurs with the criteria in the "User friendliness" set (Table 6), where clearly the rules are lacking and there are big differences in the equipment of the sites with some of the basic functions. So there is a browser present on 90% of sites, although the "A-Z Index" is not present on any of the websites. Site map is present on 55% of local authorities' websites, and only 5% of sites have a FAQ (frequently asked questions) section. Multilingualism is present on 40% of sites, while Latin and Cyrillic version of the site are present only on 30% of the local government websites.

Table 6. User friendliness

User friendliness	N	%
Search engine	98	89.9
Site map	60	55.0
Multilingualism	44	40.4
Latin and Cyrillic versions	33	30.3
FAQ (Frequently Asked Questions)	5	4.6
A-Z index	0	0.0

The main findings from the 2010 study pointed to the problem of direct communication between eGovernment and citizens/organizations. Given that the interactivity of the Internet compared to other media is the crowning advantage of it, based on a survey of web content we can conclude that our local government units often do not use this advantage (Table 7). Contact with the web master is only possible on 40% of the sites, it is possible to leave a comment on the 20% of sites, and an appeal on the 30% of sites. Online poll with the issues of concern to the citizens and local governments is available only on 19% of sites. It is possible to contact the Mayor by e-mail via the link to the official web site in 71% of municipalities, while only 55% of local government units provide an option of contacting some of the employees in the local administration.

Social networks are certainly one of the seals of our time, and their impact on communication in general is providing immense possibilities of information flow. The informal online groups are being formed within the social networks in order to create public oppinion and establish common positions on general issues: morality, culture, politics, value systems etc. Our results indicate that local governments generally do not recognize the

importance of social networks, with only 5% of sites have a blog and an "online forum", while a link to twitter or facebook profile is present only with 20% of local authorities.

Table 7. Interactivity

Interactivity	N	%
E-mail link to a webmaster	44	40.4
E-mail link to the Mayor	77	70.6
E-mail link to other employees	60	55.0
Link to „e-Appeal"	33	30.3
The possibility of leaving comments	22	20.2
Online survey	21	19.3
Forum, blog	5	4.6
Link to Twitter, Facebook profile of the local government unit	22	20.2
RSS feed	44	40.4

Research results from 2010 point to the openness of employees in local administration towards online services and general support to the eGovernment development by decision makers. The results of the analysis of web content in 2013 indicate modest progress, particularly in the area of online services (Table 8), including the issuance of documents, forms, permits, applications, etc.

Information relevant for citizens and businesses are located on almost all sites (95%). Download of the forms is possible on 80% of sites, and online ordering of personal documents on 71% of sites. Only 15% of the local government units give the possibility of scheduling an appointment for personal documents online. In 60% of local governments it is possible to submit a request (application/form) through the official website, and only 20% of local governments receive application for grants (call for funding, etc.) through the site. The possibility of online payment service does not currently exist in any of the local government units.

Table 8. Online services of the local administration

Online services of the local administration	N	%
Notices (bulletin boards)	103	94.5
Download of an application form (direct interaction)	87	79.8
Online ordering / issuing personal documents	77	70.6
Online application (applications and forms)	65	59.6
Online registration for competitions, calls for funding etc..	22	20.2
Online appointment scheduling for issuing personal documents	16	14.7
Online services payment	0	0.0

4. Conclusion and implications

Based on the research conducted by the Statistical Office of the Republic of Serbia in 2012, it can be considered that almost all companies (98.7%) in Serbia use computers and the Internet (97.7%). 89% of all companies use the services of the public administration through the Internet. Also, the results of referenced research point to a persistent rise in usage of computers and the Internet in general population. The number of online households has increased by approximately 2.5 times from 2006 to 2012. Almost half (47.5%) of all households in Serbia have Internet access. When it comes to using eGovernment services, 93% of the total number of Internet users in Serbia visited the public institutions' websites, 58% downloaded official forms, and 39% sent back completed forms.

A comprehensive description of the research results, presented in the context of core subjects, indicates that there is a large user potential and interest in the development of eGovernment in Serbia. According to the free interpretation of these results, the conclusion is that the citizens and businesses in Serbia today are more prepared to take advantage of eGovernment services, than the public administration system is ready to develop these systems.

Based on the main findings of the results, the basic directions and recommendations for further development of eGovernment can be identified: the development of new services, the convergence of existing services to the stakeholders, improvement of the two-way communication, the adoption of standards for the appearance and content of the official websites of public institutions, improvement of communication within the community through the use of social networks, and constant adaptation of web site content for access via mobile devices (Android platform / smart phone, tablet, etc.).

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