

Communication Methods in the City Government G2C Service

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The subject of work is the analysis of the communication between the government and the citizens in the e-service of the local government. Special attention is paid to the specific definition of the city e-government as a set of interactive services adjusted to the citizens' needs. The basic features of this concept are shown and the levels of service from the quality aspect of the service are identified. Special attention, too, is devoted to the interaction of varied communication methods into a unique, efficient e-government system of the City of Belgrade.

I. Introduction

The reform and the modernization of the state administration based on a widespread implementation of information-communication technology (ICT) is one of key elements of the overall transition of Serbia into a modern information society. The ICT prove to be broadly resourceful as regards the modernization of the state administration and the improvement of the services it offers to the public. The introduction of modern information systems improves the quality of the services as well as the efficiency, transparency, responsibility and effectiveness of the administration's service. The modern communication infrastructure allows for the free flow of information among the government agencies as well as ensure the citizens and the economy a higher quality access to services at lower costs.

The modernization of state administration means a radical change of the traditional manner in which administrative processes within the state are conducted. This change in turn means that the citizens need not be physically present, but may receive information or do transactions via the Internet. The e-government concept assumes interactive electronic services adjusted to the citizens' and economy's needs, integrated on all the public sector levels.

The e-government (electronic government) means the use of the Internet or other electronic systems in order that the communication with the government services should be simplified and facilitated [1]. It is a global reform approach with the purpose of promoting the use of the Internet by both the government agencies and the entities these agencies cooperate with.

All the available e-government solutions make use of the opportunities and possibilities at disposal in the software solutions to the customer relations management. The services that the government agencies deliv-

er are integrated in contact centres that ensure a successful processing of any transactions among the government, the citizens, and the institutions participating in the transaction. In the model of state administration activities based on the "integrated desk" (a physical desk/counter in the building, a telephone call centre, a free standing electronic stand, the Internet) is not part of a certain agency or organization, not even of a certain vertical jurisdiction; it is a place where the entire business that the clients may have to do with any services or organization within the state administration are accomplished.

II. E-government in Serbia

In the context of local or municipal government the e-government may be defined as a "local government's capability to make information and services available via the web, via the "touch" kiosks or on the basis of interactive voice recognition. Such services are at the disposal of citizens and business partners, and they are available on 24/7 basis, 365 days a year [3].

The research conducted by the Statistical Office of the Republic of Serbia [11] shows that the Internet is used by a relatively small number of Serbian citizens (33.1%). Approximately 260,000 citizens of Serbia make use of the public government services (Figure 1). The citizens most often use these services for the purpose of obtaining certificates (birth certificates, for example), personal identification documents and for automobile registration. The most rarely used services are those related to health care, social insurance benefit and tax payment. The largest number of e-government electronic services users (92.4%) use the Internet to get information from the web-sites of public institutions; a slightly smaller number of users (71.1%) download various forms, while 57.4% of users send filled-in forms via the Internet.

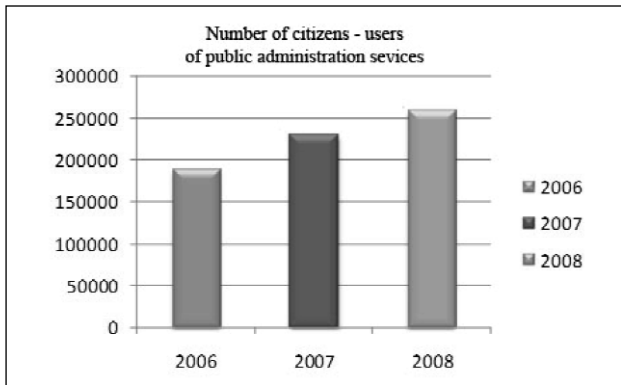


Figure 1. Number of citizens using the e-government services.

The citizens' interest in using the e-government services is shown in Figure 2.

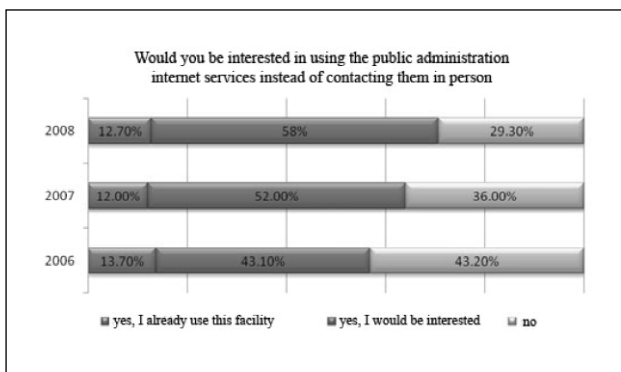


Figure 2. Citizen's interest in using e-government services

The preconditions for the use of e-government services in Belgrade are more favourable in comparison to the rest of Serbia. The percentage of Belgrade households with a personal computer amounts to 53.1%, with 45.5% of Internet connections, and 27.1% broadband connections. On the basis of these indicators a conclusion can be drawn that there is a large number of prospective users of e-government services, therefore the efficiency of the public administration system can be improved by expanding the offer of e-services.

III. Communication in G2C service

The government – citizen (G2C) scenarios focus upon rendering services to citizens. They are based upon the forms that should be replaced by more sophisticated transactions in the future.

The traditional G2C applications mean simple forms that the citizens can fill in within their own browser. The system may indicate that certain data are already present in the system, or it may offer a certain kind of help in the completion of the forms. Such a level of e-service of the public administration belongs to the third level of electronic administration.

The more advanced levels of electronic administration mean conducting the entire transaction in an electronic manner and integrating the system into an integrated desk model. The citizens can conduct an administrative procedure with a certain agency or organization autonomously, without the intervention from the part of a state officer. This phase of e-government development is characterised by reduced costs, as well as by increased efficiency, to the user's ultimate satisfaction. The unique starting point of all the services is the end objective of all the e-administration initiatives. Such solutions mean a new quality in the communication with citizens as well as transparency that can be gained if these solutions are implemented. The e-government integrated desk model is shown in Figure 3.

The ports that are part of these software solutions offer a large number of benefits to government agencies in their communication with citizens. The ports are personalized according to their role, as well as according to the circumstances in which citizens actually use the services offered by the state (such as tax payments, enrollment into schools, etc.). The port offers the citizen a structured approach to different services that he may deem important in various circumstances, given by different service providers [3].

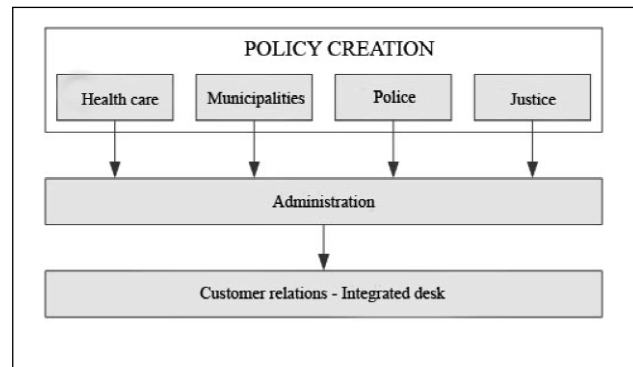


Figure 3. The integrated desk model

A review of the citizen – government communication in e-business

In order that a favourable image of the e-government and citizen cooperation should be created it is necessary that special attention be paid that the services via all distribution channels are good and efficient regardless of the channel the client used to access the service. The Internet is only one possibility for the users to communicate with their government. In addition to this one, there are the telephone (GPRS), fax, e-mail and personal services.

To gain the citizens' confidence in all the offered technologies of citizen-to-government communication, the accessibility and the reliability of the given technologies must be of high technical and safety quality.

The citizen – government communication can be made via the intranet, the extranet, the Internet, by mobile phones (GPRS), fax or by call centre. Hereinafter we present the review of these communication methods and of their essential characteristics [2].

Intranet. The intranet is a joint network of republic agencies and a unified data base of citizens, business entities and space units which are supposed to jointly ensure the exchange of data among all the state agencies. The implementation of the intranet allows for the reduction of the quantity of paper documents, the relief of the budget as well as for the savings in the business operations. The introduction of this system enables the citizens to satisfy all their needs at one desk.

Extranet. The extranet makes it possible for the citizens to submit certain claims and receive certain information via the Internet or via the free-standing kiosk which would be located at busy sites (banks, post offices, supermarkets, department stores, bus stations, etc.). The citizens can get various information without having to wait in front of counters and regardless of the working hours of the respective public administration agencies. The use of such systems of public administration results in the reduction of crowds in front of counters, the reduction in the number of desks, the reduction in the number of the desks required, and finally in savings in the business operations.

Internet. The Internet enables the state administration employees to access an enormous treasury of knowledge. Similarly, it allows for the public administration to present itself and its work to the citizens, as well as to allow the citizens the access to a host of information that can be used in a prompt and simple way.

Mobile technologies. The mobile technologies allow for the communication between the citizens and the e-government via mobile phones. Such a way of communication has not yet gained grounds in a majority of countries, however, an increasing use of mobile telephones in everyday life will require that the e-government be accessible via mobile technologies in the nearest future. The most frequently stressed basic advantage of the mobile technologies implementation in the electronic communication between the government and citizens is the high extent of accessibility of the e-government services (anywhere and any place), since the mobile devices are always at their owners' hand.

Call centre. The development of technology and the integration of the Internet into the call-centre activities has given a special emphasis to the meaning of the word "call", hence these centres are increasingly called the Internet call centres. Sometimes the terms contact or communication centres may be found in literature. The call centre development itself is directly meant to meet the needs of

the market, as the call centre services are created by the very users, with their requests and needs [5].

The integration of web technology and the call centre created technical conditions for the IP telephony implementation. It is in this way that the web service users, in case that in searching through the web pages they need additional information, are in a position to contact the agents in the Internet call centre via the IP telephony. They can also benefit from the opportunity to receive a higher quality service at a lower call cost. The Internet call centre services cannot be specifically classified and accurately classed into definite categories. Which services will be offered to the clients will be determined by the very needs of these clients, the development level of the market, that is, the economic growth, the telecommunication development (the development of technical infrastructure), the informatization level of the environment in which the Internet call centre operates, etc. [5].

IV. The city government web port

The port is an application or a device that ensures a personalized and adaptive interface which helps users identify, track and communicate with other important entities of the system. The port is the application that collects (subject) matter important for the end user. Ports lead towards different Internet contents, organized from a set of integrated services designed for the purpose of enabling the user to find his way around the Internet more easily. Nowadays the ports are becoming a standard work environment for the integration of applications and the business logics.

The port is a technology that allows for a company or an organization to open up internally or towards the external world and offer its clients a unique access to personalized information necessary for making important decisions. The port is an aggregate of different software applications that edit, analyse and distribute information both within and without the organization. It primarily means one possibility of modernizing the information.

The user's view of the contents that can be available via the e-government port is shown in Figure 4.

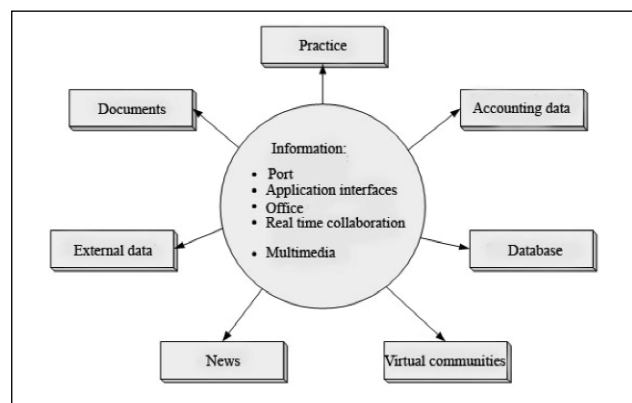


Figure 4. Data sources in the port

The web port of the city government of the city of Belgrade is created for the purpose of providing the citizens with a prompt and simple access to any information regarding the city government or the public utilities' operations [9]. The address of the city government web port is www.beograd.org.rs. The conceptual layout of the home page is shown in figure 5.

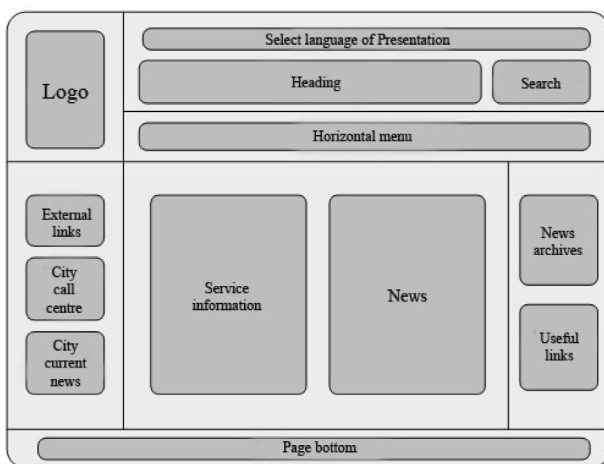


Figure 5. The conceptual layout of the city government home page

The municipal government home page is divided into several modules arranged in such a manner that functionality, simplicity of use and clear view of contents are achieved. The basic elements of the port page are as follows:

1. The heading, divided into the following units:
 - a) The city's logo, simultaneously a link to the home page;
 - b) Selection of the language of presentation; in addition to Serbian, the port is designed in the English and the German languages too;
 - c) A module for searching through the site contents;
 - d) The horizontal menu, containing links to the basic contents of the presentation;
2. The left side vertical menu, including:
 - a) Appropriate links to pages containing elementary information and projects realised in the municipal government, as well as the major acts related to the government operations;
 - b) The city call centre; this module will be explained in detail hereinafter;
 - c) Municipal current news, the module containing current information related to the municipal government activities;
3. The right side vertical menu contains:
 - a) News files;
 - b) Useful links to the contents of the site and outside the site;

4. The central space of the page, contains two major modules:
 - a) Service information;
 - b) News;
5. The page bottom.

Figure 6 shows the lay out of the city of Belgrade web port. The first impression on accessing the port is that the links are easily accessible and that the principle that the information is achieved at a maximum three clicks is observed to the utmost. The menu points are logical and functional. Systematized and clear service information and news are easily searched for by the user.



Figure 6. The City of Belgrade port (www.beograd.org.yu)

V. Citu government call centre

The functionality principle of the city government call centre provides that the main entity of all the business processes should be the end user ("caller") [6]. The possible layout of the general model of functioning of the city government call centre is easy to recognize if we have in mind a large number of services the caller has to interact with. The caller is free to use any available communication channel in order that he/she should be in a position to resolve his/her problem.

It is important that the general model of the call centre (figure 7) succeeds in integrating the information system that provides the functionality of classification, deciding on priorities, conversion, communication in any direction required, as well as in automation of standard processes (that can be entirely or partially automated). All the functionalities mentioned are necessary to be supported by the transparent generating of documents (logs), which can later be reused in any future processes of resolving users' claims as well as in the analysis of current state affairs by the supervisory bodies. All the quoted functionalities should be implemented in accordance with the laws and safety requirements.

In order that the operations of the Belgrade call centre be explained, two major types of functions are shown:

1. Answering the citizens' enquiries by providing information on certain functions and services of city Services (agencies), in such a manner that they are fully resolved within the call centre head office;
2. Responding to the citizens' claims by directing orders to the Services (agencies) to service the citizens' claims following their procedures and the accepted service standards, and inform the call centre head office of the results upon the completion of the job.

These two functions are core functions (CORE). The other modules act towards accomplishing these functions and these are the modules of claim receipt and acknowledgement, the module of communication with citizens (shown by the response module), the module of call centre management.

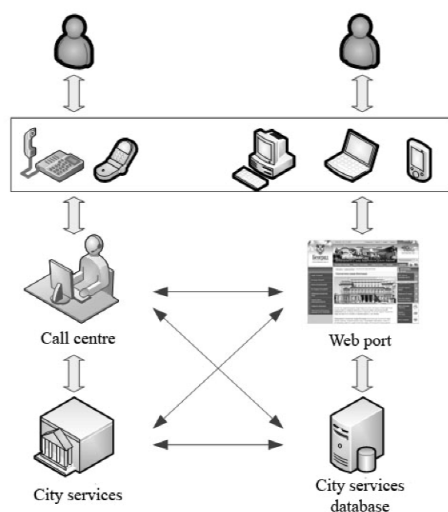


Figure 7. General model of e-government call centre functionality

Any claims the caller sends may be classed into four categories: "Application" (C1), "Claim" (C2), "Proposition" (C3) and "Information", on the basis of which the caller is forwarded the appropriate information as to the further course of dealing with his/her enquiry, however, not necessarily via the same channel the caller has used to make the enquiry [7].

One way of forwarding information is the internal one. "Notifications" (N) are automatically generated by all the services supposed to participate in an integrated call centre, upon the completion of a certain internal activity and they are forwarded to the central knowledge base. The central knowledge base can be consulted by any call centre information system user directly or indirectly, regardless of whether it is an internal or external user (caller, call centre operator, distributed operative centre operator, controller, analyst, manager, etc.). The knowledge

base module is responsible for three functions:

- Organization of the base of information required to provide a reply to the claim;
- Organization of the knowledge base containing information on city services and the city in general;
- Organization of issue base that contains and updates information on all the issues resolved in the past and on the basis of which a solution is offered (e.g. by the script method) to the operator in order that he can resolve the repeated claims.

It is essential that the complete records and information are forwarded from one site – the call centre, therefore it is the task and interest of all the services to file the information of services accomplished in the offline regime in the knowledge base so that they should be available and possible to use in further operations. It is in this manner that the city receives a uniform information and an insight into all the aspects of public utilities' operations, which can be used for the purpose of accomplishing their control, management and planning function(s) [6].

Communication methods integration within the call centre

In order that the communication between the citizens and the public administration in Belgrade be improved the Belgrade Call Centre – the BCC has been designed. The mission of the Belgrade Call Centre is the improvement of the communication between the citizens and the city services, including the public utilities. Using the call centre the citizens can obtain all the essential information at one place.

The Belgrade Call Centre (BCC) is designed as a modern contact centre through which the citizens (consumers of services) have an opportunity to satisfy all their municipal needs as well as the needs from the field of legal procedures with the city and municipal bodies. The citizen applies to the centre by composing a respective claim – the claim, in terms of the BCC, is a telephone or any other mode of communication (multimedia: web, e-mail, fax, mail, telephone, teletext, desk, ...) enquiries, requests, propositions, information and notifications from the citizen to a city service and vice versa. (The services here means the city public utilities, secretariats, institutes, municipalities or any other companies in charge of any public concerns).

The Belgrade call centre is designed to operate 24 hours, seven days a week; it is centralized and organized with all its major technical and personnel resources on a central location and with a distributive operational function (claim servicing concentrated on respective services). The citizen contacts the centre on the basis of one call system, and, in case of a telephone contact, uses an easily memorable and free of charge number. All claims are automatically registered and

filed and make up the basis for the analyses, statistics and devising the investment and development plan(s). With such a quality the BCC assumes the function of controlling and monitoring the operations of all the competent city services (CityStat function).

Technologically, the BCC should have been organized on the basis of modern conceptual and technical solutions. Thus the concept of voice transmission is replaced by the concept of data transmission (an entirely digital system). The specific solution here can be a system with a communication server as the principal control of the system with the implementation of software telephones (softphone applications on the data station or the hardware VoIP telephones). The entire information network infrastructure is to be constructed in accordance with the general design of the Belgrade Information Centre, making the widest possible use of the available public resources (access to the Internet, VPN channels, ...). The BCC is to be located in the new (adapted) building close to major external resources (post and IS of the city). The premises are planned to be equipped according to the highest standards of the interior design of modern call centres, with special attention paid to the ergonomics of work places. The project is designed for the end phase, but will be equipped according to the dynamics of introducing respective services (public utilities in the first phase, city government in the second, and municipalities in the third phase).

Figure 8 presents the basic architecture of the Belgrade Call Centre [1]. Using different communication channels, including the direct access, the citizens and the companies can contact the Belgrade Call Centre. The virtual private network connects the Belgrade Call Centre with the operation services of the public utilities, thus allowing for a prompt processing of the citizens' and the companies' claims.

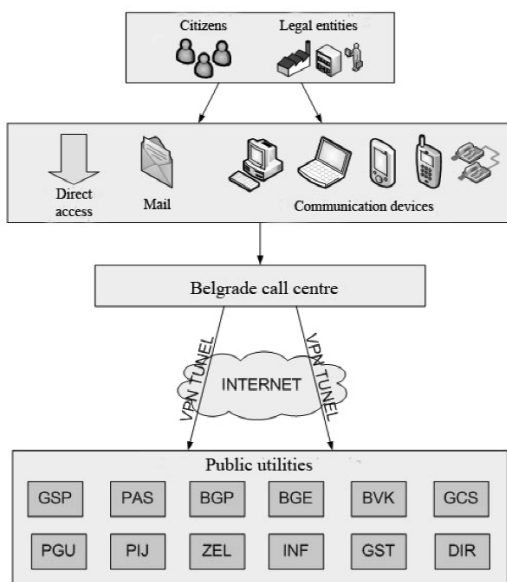


Figure 8. The Belgrade Call Centre architecture

Figure 9 shows the internal structure and infrastructure of the Belgrade Call Centre [1]. The BCC architecture is designed in such a way that it should allow for a prompt and efficient communication with clients, as well as an efficient processing of their claims. Similarly, the role of the call centre is to integrate various ways of communication between the citizens and the city government, such as direct access, mail, electronic mail, the Internet.

Figure 10 presents the integrated flow of the communication process between the citizens and the city government via the call centre [1]. The citizen applies with his claim, the claim is analysed to decide whether it can be resolved within the call centre or it has to be forwarded to the operational service of a public utility. In any case, the reply is sent to the citizen via the call centre. The call center can be understood as the framework for an integrated communication between the citizens and the city government, allowing for a high level of interactivity.

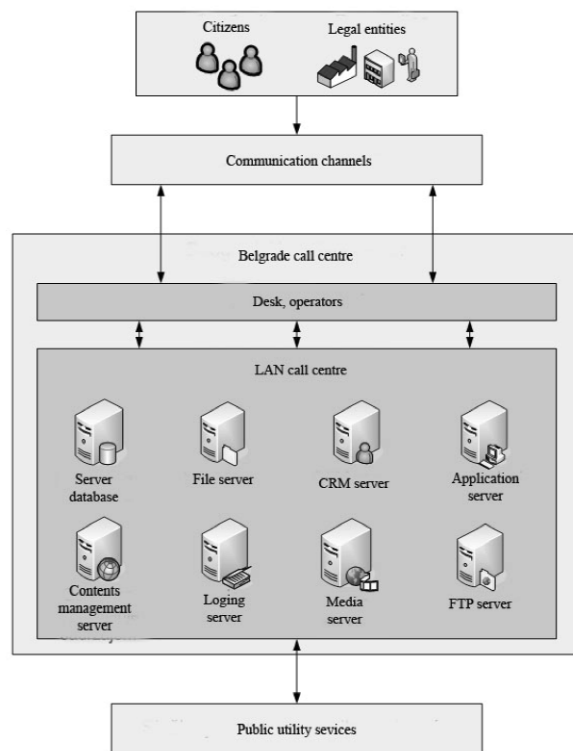


Figure 9. Belgrade call centre architecture

VI. Conclusion

A modern technology of business doing, the electronic business is becoming increasingly important in the world of business, services, and information. The public administration, as the pillar of the state and the indicator of the governmental bodies' work, has to implement new technologies in its work if its goals are the prosper-

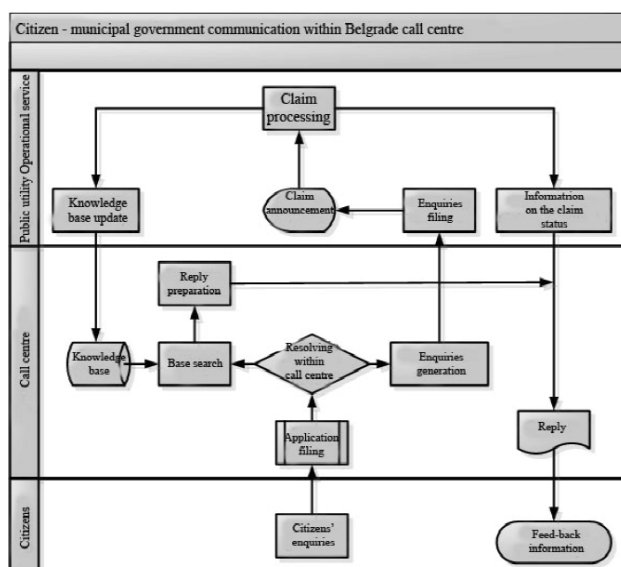


Figure 10. Communication process flow within call centre

ity of the government, the progress of the country, and the satisfaction of its citizens. The communication between the state and its citizens should be carried out in as simple a way as possible, and the time required for it should also be as short as possible. The government agencies are said to work satisfactorily if their work is subject to the public assessment as well as if the citizens are in a position to suggest the ways in which this work can be improved. The motives underlying the e-government project have to be closely related to the broad, clearly defined goals of the public policy – increasing the government efficiency, or improving the quality of the services rendered. The introduction of e-government is assumed to result in the change of the government's work methods, which means an adequate political will and leadership, as well as unavoidable vast expenses.

The paper is an attempt to systematize the methods of communication between the citizens and the government in the conditions of electronic business of the public administration. It offers a review of the implementation of these methods of communication in the City of Belgrade government, as well as a proposition regarding the improvement of the G2C communication in the City of Belgrade public administration. We hope that in the future the majority of citizens will be in a position to benefit from the e-government facilities. This, however, shall certainly have to be accompanied by the overall technological and economic development. It is only then that we will become aware of all the potentials and opportunities the e-government brings.

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