THE STATUS AND PERSPECTIVES OF EGOVERNMENT IN BOSNIA AND HERZEGOVINA

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Summary

E-Government or electronic administration is a form in which public service authorities and local self-government carry out business processes. It is based on the usage of contemporary information-communication technology and is directed towards end-users.

Its purpose is to make the service quality more available and clearer for its users and also to achieve the better efficiency of the inner work.

E-Government provides the participation of various public spheres and institutions in the processing of publicly or locally relevant issues, and working of state and public administration. In doing so, there have been versatile methods of work automatization, not only in the outer communication (such as service requests, work distribution, solution distribution, e-democracy), but also in the inner communication (connections of record files, self-initiative data processing). If we introduce the information-communication technologies into the all segments of administration, we will achieve the long-term synergetic effects in terms of clarity, rationalization and flexibility of work.

The transformation of a government into an e-government is a crucial segment of the general process of information society development. This work summarizes some good solutions of e-government services in the developed European countries. After this, there are the directions for the e-government field and its spatial aspect from the Strategy of Information Society Development in Bosnia and Herzegovina. Furthermore, there is a brief description and analysis of the application level of the information-communication technology in Bosnia and Herzegovina administration.

Key words: Public Government, eGovernment, Information Communication Technology, Information Society

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Introduction

It is possible to discuss public administration from material and formal point of view. Public administration, in the material sense, describes the process of making decisions on public affairs, whereas public administration, in the formal sense, is a system of authorities which decide upon public affairs, and therefore upon social benefits as well.

Public administration is a broader term than government administration and, in Bosnia and Herzegovina, it includes:

- the Presidency,
- government administration (the Council of Ministers, entity governments and Brcko District, ministries with their authorities and administrative units),
- defense system (the military and civil defense),
- judiciary system, courts, prosecutors' offices, and constitutional courts (2),
- the Central Bank,
- local self-governments (the cantons and municipalities).

Regarding the institutional organization, the two Entities, the Federation of Bosnia and Herzegovina (FB-H) and the Republic of Srpska (RS) are asymmetrical; FB-H consists of 10 cantons divided into 84 municipalities, while RS does not contain cantons, but 63 municipalities. The administrative structure of Bosnia and Herzegovina is shown in the Table 1.

| Government levels	State Bosnia and Herzegovina		Entities		Brcko District	Total
			FB-H	RS		
Central	1					1
Entity			1	1		2
Canton			10			10
Municipality			84	63	1	148
District					1	1
Total	1		95	64	2	162

Table 1: Administrative structure of Bosnia and Herzegovina

Source: World Bank, Bosnia- Herzegovina," From Aid Dependency to Fiscal Reliance", 2002

Such a constitutional structure makes Bosnia and Herzegovina a sovereign country with a decentralized administrative structure. The State of Bosnia and Herzegovina is the central power, however it has limited and specific authority. The two Entities and Brcko District are politically, administratively and fiscally autonomous. The Entities, which have their own

constitutions, perform all the functions that are not explicitly assigned to the State by the Constitution of Bosnia and Herzegovina.

e-Government Potential
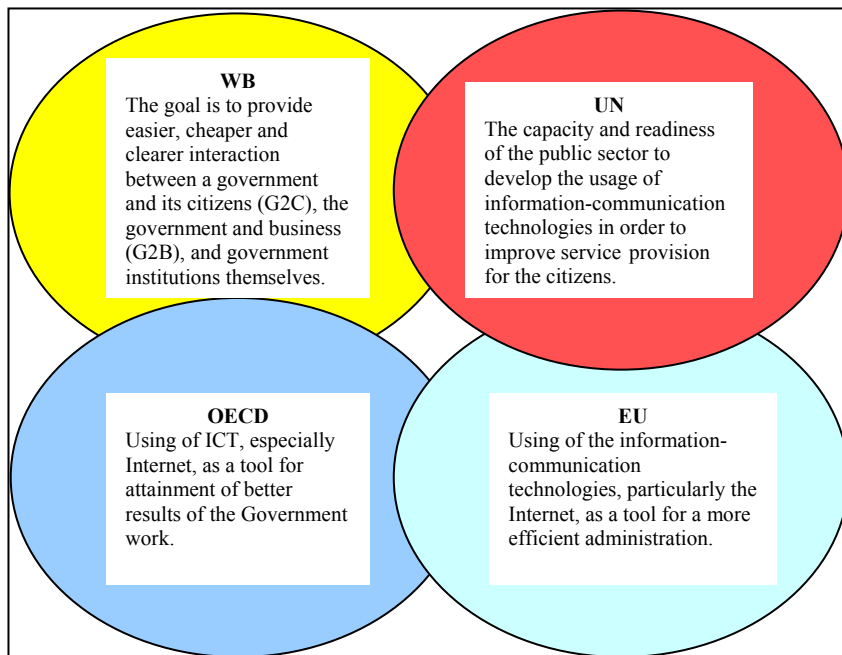
Figure 1: The definitions what e-Government means.

According to the UN definition, e-Government is the capacity and readiness of the public sector to develop the usage of information-communication technologies in order to improve service provision for the citizens.

According to the World Bank, e-Government has a goal to provide easier, cheaper and clearer interaction between a government and its citizens (G2C), the government and business (G2B), and government institutions themselves (G2G).

According to the European Union, it is using information-communication technologies, particularly the Internet as a tool for a more efficient administration.

According to OECD definition (2001) *e-Government* is using of ICT, especially of Internet, as a tool for attainment of better results of the Government work (see Figure 1. bellow).

The term e-Government implies an intensive and wide application of modern information-communication technologies (ICT) in public administration that should provide the citizens, local governments, business partners, governmental and nongovernmental organizations and other institutions with a permanent access to the services of public administration. For the employees it would mean simple and efficient work with fewer expenses, quicker administrative procedures for citizens and economy, and simplifying communication.

E-Government is based on applying of ICT. An intensive ICT application in administration entails new methods of management which should provide better services for the citizens and the economy under the full cooperation of all the levels.

E-Government functions in accordance to the '3*a* Rule' (*a*ny time, *a*nything and *a*nywhere). In other words, its users may turn to the administration at any time, because of any needs and from any place. Such a government is completely and always operative and it supposes the integration of all information systems and subsystems. According to their documents, the following wants are the major reasons why the countries that are going to introduce the e-Government want to put it in:

- To insure a new foundation of economic competitiveness;
- To enable redefinition of the role and to accelerate the transformation of the state and its administration into a citizen service;
- To lower the prices of public services;
- To stimulate the development of economy based on knowledge;
- To integrate and improve public services;
- To define a policy of a better quality and to improve and accelerate the decision-making process; and also
- To insure the efficiency and effectiveness of the government's work on all levels.
- In Table 2 are given the advantages of e-Government introducing for the public administration and its users.

Advantages for public administration	Advantages for users
• Lower costs of labor – less employees • Lower costs of administration – automatic input in database, simple input in database, present control of accuracy of data input, lower costs of correcting mistakes, lower costs of financial systems,	• Access to bigger number of services and data from one place – there is no need to stand in a queue or to go into more the one institution. • Access to the service in different ways – through inquiry desks, call centers, web sites, e-mails.

lower costs for paper and bookkeeping.

- Lower costs of advertising – lower costs of publication distribution, using the consignee list for sending e-information.
- Lower overheads, better internal information system.
- Shorter process time – less transactions for one service, faster transfer and data processing using one data base for different public institutions.
- Better relations with consumers – accuracy of data, more solved requests.
- Greater work clarity – preventing corruption.
- Better reputation of public administration.
- Higher efficiency.
- Simulation of e-business – development of new products.

- Greater comfort for users – 24 hours service access.
- Fewer interactions with different institutions. Possibility to participate actively in providing services and their improvement.
- Better quality of service and greater satisfaction of users.
- Quicker reply to requests and complaints. Lower costs for companies.
- Fewer administrational obstacles for business development.
- Fewer unnecessary activities.
- Smaller possibility for corruption and bribery.
- Greater confidence in institutions – greater clarity and supervision over the administrative work in accordance with regulations.

Table 2: Advantages of e-Government for the public administration and its users

e-Government Segments

According to this vision of the future, e-Government should be developed by the segments of:

- E-Government portal with services and information for citizens, business people and also for the government's internal affairs.
- Establishing a central mechanism for observing e-Government projects and the action plan of information society development
- A reliable information and telecommunication infrastructure of public administration.
- Realization of complex interdepartmental projects (for example, all at one place, the central registry of population, linking records)
- Establishing and action of infrastructure elements of the e-Government (fast communication net of public government, data centre, common informational solutions, central modules, central informational solutions, central registers, ...)

- Obvious savings in administration because of the effects of modern e-services (for example, a smaller number of receipts issued) and interdepartmental information projects.
- Introduction of the Possession Managing Model. This model provides a new, more efficient system approach in order to use immovable assets that are either private property or under the local authority. Firstly, it is necessary to make a list of the all assets. Secondly, each immovable property should be evaluated to set its best purpose for the local self-government. Finally, the model will solve other issues on possession managing through introducing methods which would deal with possession evaluation, analysis of the direct and indirect subventions, operative reports on each immovable propriety, etc. By applying the multidisciplinary approach in possession managing, the model will result with financial situation improvement of the local self-government, providing services, and it will help the development of the local economy.
- Introduction of the Citizen Participation Model. This model increases the citizen participation in decision-making in the local self-government, which represents a way of better resource distribution. It implies a system approach to the local authorities, in order to communicate more efficiently with citizens and to improve their initiatives.
- Introduction of the Economy Development Model. This model deals with the issues of local economy development based on community, in joint efforts of the local authority, business community and public initiatives to make and carry out the vision of economic potential of the community, and its realization.
- Introduction of the Informational Management Model. This model means a new approach to the information management and to the communication within the public administration, as well as among citizens and economic subjects and nongovernmental organizations and public administration. Along with this model, there should follow the application of modern communication instruments and information exchange, such as LAN, e-mail and electronic conferences.

However, there are many obstacles to the successful introduction of e-Government. The major obstacles are a low level of informatics literacy, problems with education, lack of legal regulations and adequate application of existing ones, lack of financial means, indifference of the managerial staff, prejudices and resistance towards innovations, insufficient connection, weak infrastructure and problems with system security.

## Results of e-Government Realization in Some Countries

The results achieved should be observed from different points of view, not only from the results of EU measuring. The EU methods of the evaluation of e-Government development, for example, do not take into consideration e-services regarding public administration (G2G). Because of that, some countries would be in advantage. There is such a case in Slovenia, speaking of its comparative advantages, because it has built central registries, central modules of the e-government, unique identification, legislative in that field, etc.

Services of the e-Government in Slovenia

Slovenia's national site, http://www.vlada.si, provides a solid gateway to the country's overall presence. It is, however, the e-government portal, http://euprava.gov.si/e-uprava, which is the highlight allowing it to advance 1 point in the global rankings in 2005. Besides login and personalization features, the site features audience approach information architecture for a well-organized and user-friendly environment. The portal also encourages inclusiveness as it is made accessible at several levels. Specifically, in addition to providing a text only version, it includes an adjustable font size feature and – notably – a wireless, WAP, access alternative. The e-Government services site is obviously also useful in and of itself. It offers up-to date news, including an email sign-up option, as well as numerous online forms, some of which can be signed electronically.

E-government includes electronic interactions of three types: government-to government (G2G); government-to-business (G2B) and its reverse; and government-to-citizen (G2C), and its reverse.

Services and solutions for citizens (G2C) As a part of this service there is state portal of e-Government which supports 16 life (real) occurrences for citizens and 5 real for business subjects, and nine more, even bigger informational and service portals. The services for citizens are the following: land book, access to personal data with digital ID card, cadastre, building-registry, and data service, information on public matters, agricultural land, interactive atlas and registry of regulations. Also, the information-processed register of births, marriages and deaths was made, and the register of present population was updated (see Figure 2).
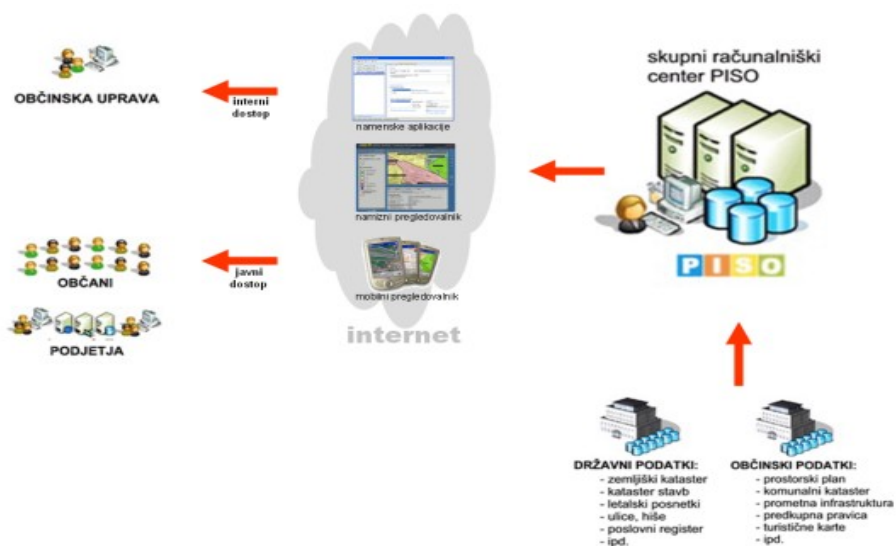
Figure 2 Schematics show of Personal Information System of Municipalities in Slovenia (PISO)

On the Figure 2 the meaning of the local language terms are as follows:

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Občinska uprava – *Local Government*	Namizni preglednik–*Top desk browser*
Občani – *Citizens*	Mobilni pregledalnik-*Mobile browser*
Podjetja – *Enterprises*	Skupni računalniški center PISO-*Central Computer PISO Centre*
Interni dostup – *Internal access*	Državni podatki-*State's data*
Javni dustup – *Public access*	Občinski podatki-Local community data
Namenske aplikacje - *Particular applications*	

PISO system is result of Strategy of Electronic Commerce in the Local Communities (e-Municipality), which goal is to increase and to relieve accessibility of electronic services to citizens and other users. It is web portal, which make possible to all employed in municipality, citizens and other users view in state and municipalities spatial data. Data are representing on simply, efficiently way and with lowest possible costs for users. PISO (Spatial information system) represent collection of state and municipalities spatial contents at one place, which allow users simple access to data over Internet. It is instrument for every day work of municipalities' expert services, and at the same time are also sources for citizens and other expert groups.

Services and solutions for public institutions (G2G) There were many G2G projects for restoring the link between public and other institutions, and their records and solutions, for example, linking between information solutions

of Institution for pension and disability insurance, Center for informatics of Slovenian Government and Central registry of population, linking between records of Ministry of Labor, Family and Social Welfare Center for informatics of Slovenian Government and Central registry of population, link between land-registry and Central registry of population, Ministry of Agriculture with registry of physical units, and many other links. *The* Electronic Central Register starts to operate May 2005. The Electronic Central Register is a reference electronic population register enabling authorized administrations to access the population registry electronically. There are 900.000 requests of physical units annually.

Services and solutions for business subjects (G2C) There are the following services available: cadastre, land book, building-registry, records about real estate, court registry, e-customs, interactive atlas, regulation registry, e-tax for business subjects, e-employ for business subjects and electronic services for notaries public (see Figure 3).
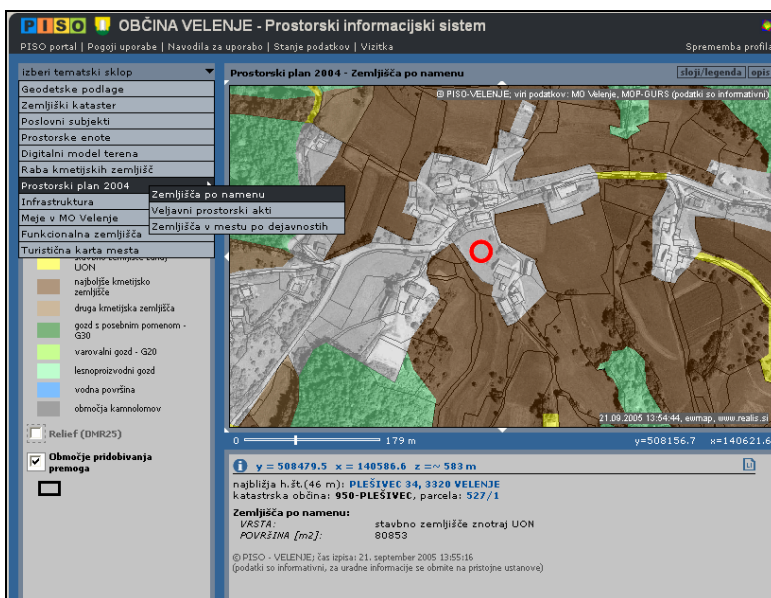
Figure 3: Spatial IS in Slovenia

One of fundamental Goals of Spatial Planning and Management are to achieve a spatially harmonized and mutually complementary location of various activities and to provide spatial opportunities for a balanced development of the community. Spatial planning stakeholders are the state authorities, local community bodies, and other bearers of public authorities who make decisions or participate in making decisions on the issues of spatial

planning and management. The state and local communities, and local communities among themselves, co-operate in the matters of spatial planning and management, particularly in planning the development and location of activities with spatial impact, which refer to the common use of natural resources, common transport, energy and municipal facilities, and to other spatial arrangements in connection with the environmental protection, nature conservation, and protection of cultural heritage.

The main characteristics of Spatial information system in Slovenia are:

- Own GIS technology ewMap
- Aplication Service Provider approach, using Internet
- Public access of citizens and internal access of municipality's administrators.
- Specific applications on the PISO basis for municipality's administrators (making of location information) and
- Integrated spatial country's and municipality's data.

„*Spatial data system*" is described as the system of preparing, collecting, and maintaining data banks in the field of spatial planning and other matters of spatial planning and management. State and municipalities maintain a spatial data system to monitor the spatial planning and management situation. The spatial data system shall contain databases referred to databases related to spatial planning and management provided by law or by a local community ordinance.

Austria and Italia e-Government Law Cases

The Law on e-Government in Austria came into force on March 1, 2004. It obliges the Austrian authorities to transfer to electronic transactions and services thoroughly by January 1, 2008. It covers all electronic communications, procedures and proceedings within all layers of government. Among other things, it sets the legal basis for the use of the Citizen Card, electronic signatures, sector-specific personal identifiers, electronic payments and electronic service delivery. It also provides for closer cooperation between all authorities providing e-government services.

A fundamental component of the Austrian e-government-strategy, the Citizen Card is meant to enable secure citizen access to electronic public services, and settlement of all routine procedures electronically. The first Citizen Cards (Bürgerkarte) are issued (February 2003) by the Austrian Computer Society and a. trust.

The Austrian Citizen-Card concept combines ease of use with maximum efficiency and security. It provides electronic identity (eID) management throughout the lifecycle of many online transactions and using a range of

implementations provided by both the public and private sectors. Concept of Citizen-Card in Austria is shown on figure 4.

Figure 4: Concept of Citizen-Card in Austria

In Italy, the Law on e-Government was passed in March 2005. It also obliges the authorities to accept the electronic method of payment by January 1, 2006; to create 'paperless administration' and to create a net of various local, regional and central nets, as well as the nets of 540 offices of Italian Government abroad.

A key element in this plan is the creation of a single front office for users. This will function according to three guiding principles:
- the same service must be available anywhere in the country;
- members of the general public are not obliged to know the administration's internal organization;
- users only need to provide information on themselves once.

Croatia-City of Zagreb Cadastre case

The Real Property Registration and Cadastre Project (RPRCP) is a comprehensive project of the Government of the Republic of Croatia (GoC) initiated with the objective of establishing an effective real property registration and cadastre system, and improving the functioning of the real estate market. Croatian Ministry of Justice strongly continued the reforms concerning land registration that were initiated in 2004. Continuous work has been done with regards to the reduction of backlogs and the digitalization of land register data, improvement of service to citizens, monitoring the situation and needs at land registries, office furnishing, equipment and computerization, monitoring and data entry analyses, as well as case processing and harmonization of legal procedures to simplify the procedures and regulations for registration. Croatian Land Administration System now is faster, easer and cheaper:
- The backlog of cases decreased by 37% in Zagreb.
- The rate of decrease is accelerating throughout the country

- All backlogs nationwide will be eliminated by January 1, 2007.
- Digitalized land book data is online - on the Ministry of Justice web page: http://www.pravosudje.hr
- Digital land registers, e-excerpts on http://e-izvadak.pravosudje.hr/mpweb/jsp/eopzk/menusud.jsp
- Cadastre records are available in electronic form as 'e-cadastre' service on this site: http://www.katastar.hr . This service is part of the Government's Hitro.hr project
- The number of days required to register a sale is down to an average of 25 (down from a high of 150 in the year 2000).
- In Zagreb the number of days is 65, reduced from a high of 834 in 2000
- The parties are enabled to obtain information on exercising their rights faster by using the web pages of relevant courts e.g. http://www.opcinsudma.t-com.hr
- Data replication has improved - all 109 land registries are connected to the MoJ central data base network and data is replicated within 24 hours.

The main next steps for the RPRCP project will be the development of a joint information system which will effectively unify the system - cadastre and registration - in a virtual environment (see Figure 5).
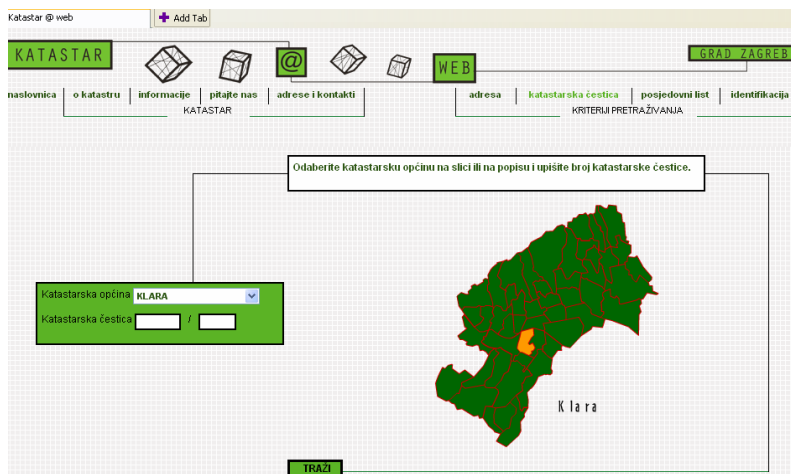
Figure 5: City of Zagreb Cadastre case

Case of e-Government in Serbia

In Serbia, the Law on electronic signature and its acts were passed in 2004.

Serbian subsystem of e-Government is composed from three portals:

- Citizen portal
- Industry portal
- Serbian government portal

   Figure 6 shows form for input of Serbian portal user data.

Figure 6: Form for input of Serbian portal user data

The objective of the subsystems of the e-Government is to ensure quicker and more efficient communication between citizens, businesspersons and public institutions and local authorities on the Internet. In that way, citizens and businesspersons could use the services without coming to the administrative buildings and queuing.

For example, citizens could make inquiry about the progress of their requests, about their data in the voting list, about rights regarding social welfare, get birth certificates, and so on. Businesspersons could change their address or activity, require license for opening separate business unit, and so on. But, because the legislative is yet not up-to date, it is necessary to have additional legal regulatory for developing a subsystem of e-Government.

## e-Government Position in Bosnia and Herzegovina

The development of e-Government in Bosnia and Herzegovina is in its initial phase. Currently, information systems (IS) on the state level are being built (CIPS, IS of the state border service, IS of the police reports, tax-system etc.), as well as web sites of two B-H entities (www.fbihvlada.gov.ba and

www.vladars.net), municipalities and also a review of public administration in Bosnia and Herzegovina.

The current model of e-Government work in Bosnia and Herzegovina, its organizational and legal frames cannot ensure neither the necessary efficiency, nor quality of its services. Furthermore, the volume of business and the number of users have been increasing constantly. The administration has to adjust itself to the needs of users. It should also make possible for the citizens and legal persons to use the services as soon, and as simply as possible, preferably from their home or office. The necessary conditions should be satisfied in order to reply promptly at users' requests.

The operative problems in public administration work are:

- The administration does not work by European standards;
- The work principles and practice of municipalities or entities differ;
- The clarity of the work and business is on a low level;
- The absence of a unique data base on any level;
- Lack of the electronic communication either on the horizontal or vertical level;
- Lack of hardware and software standards, there are various operative systems in use, applications and data bases;
- There is not a global plan of administration automation;
- The existing systems appear to be separated, unconnected and cannot provide the necessary information for the citizens;
- Modern ways of communication such as e-mail and the Internet are hardly ever used;
- There are no services provided over web sites.
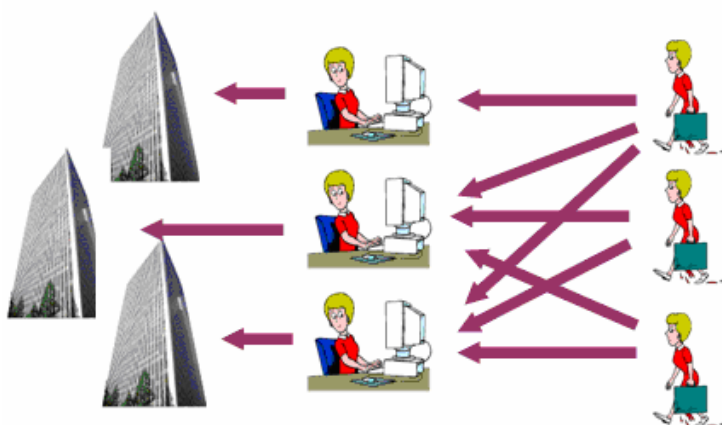
Figure 7: The current way of providing services for the citizens

The services have been provided for the citizens in the following way: a citizen has to go from one desk to another, to get a receipt or certificate, as it is shown in the Figure 7, instead of doing it at once, at one inquiry desk or on-line.

Each administration unit, then, takes and processes all data again, without comparing them with data in other databases, and issues a receipt or a certificate *per se* (Figure 8).
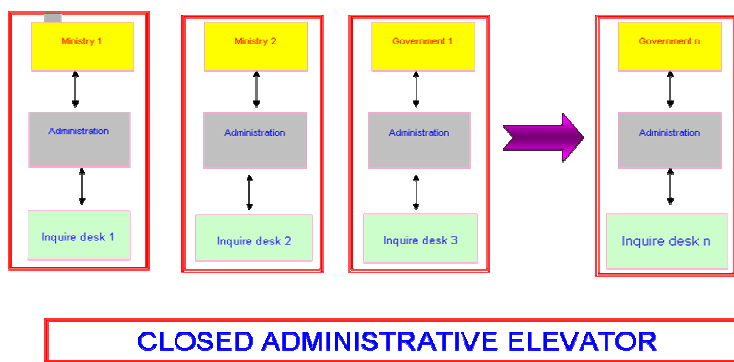
Figure 8: The current way of data processing in administration

Citizens mainly complain about:
- Bureaucracy;
- Crowd;
- Standing in a queue;
- Staff behavior;
- Impoliteness;
- Low level of organization;
- Old-fashioned methods;
- Absence of written instructions and maps;
- Complicated forms;
- High taxes.

The staffs, which are employed in the public administration, also complain about:
- Uncomfortable working conditions;
- Low level of Information system completeness and their functioning;
- Low material situation;
- The fact that there is too much work;

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- Incapable managerial staff;
- Aggressive clients;
- Not updated regulations.

The application of ICT, reorganization of public services and better management can improve the efficiency and quality of services in public administration, and thus influence economic and any other prosperity. However, the use of ICT in Bosnia and Herzegovina is on a very low level. Therefore, as the part of the development and functioning of the governmental system, one of the main goals is reform of public administration and introduction and application of modern technologies. In order to join the EU by 2010, Bosnia and Herzegovina has to carry out radical reforms in public administration and transfer to the concept of e-Government (see Figure 9).
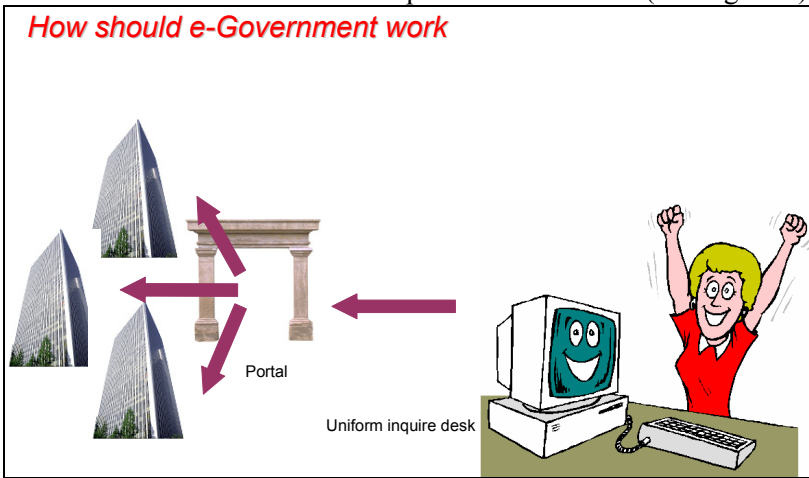

Figure 9: Web portal concept of e-Government

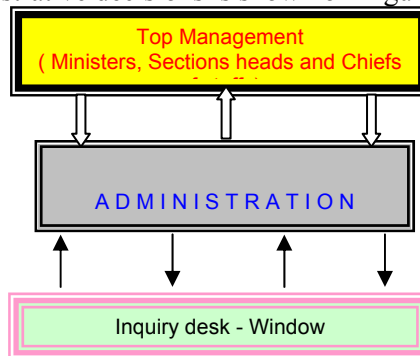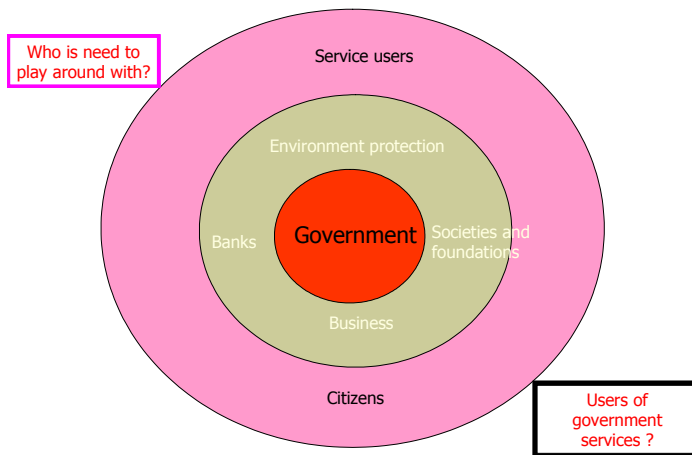The way of making administrative decisions is shown on Figure 10.

Figure 10: The way of making administrative decisions

Where we are and where we want to be? The answer on that question is shown by Figures 11 and Figures 12.

Figure 11: Place and role of government now

On the upper figure the government is in focus for „them self", but citizens and other government service users are „in their function", what is false logic of things.
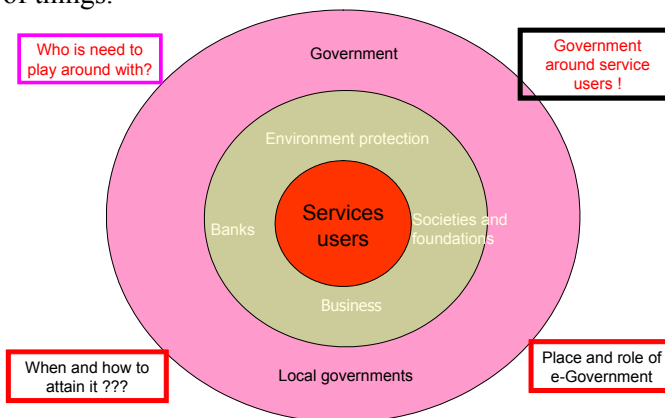
Figure 12: Desired place and role of government

On Figure 12 all governmental service users are in the middle, and are served by the local and state government, what is normal order of things.

New technologies and the new way of work will ensure that the public administration:
• improves the quality, availability and speed of work;

- increases the efficiency of trading information by the vertical and horizontal level in both directions, between the users and suppliers of services, the local administration and entities;
- improves the democratic dialogue with citizens and ensures their participation in democratic processes;
- improves its clarity;
- ensures the material and other conditions for satisfying general and individual interests of citizens;
- provides the conditions for the harmonic social-economic and regional development of municipalities as well as the entities;
- provides conditions for a healthy environment;
- provides the protection of legality and security of citizens and their belongings through supervision and fast computer control;
- gets the needed information faster;
- fits into the modern courses, standards, and gets closer to the developed world.
- accelerates the transition of Bosnia-Herzegovina into the information society.

On Figure 13 the phase and time positions of Bosnia-Herzegovina
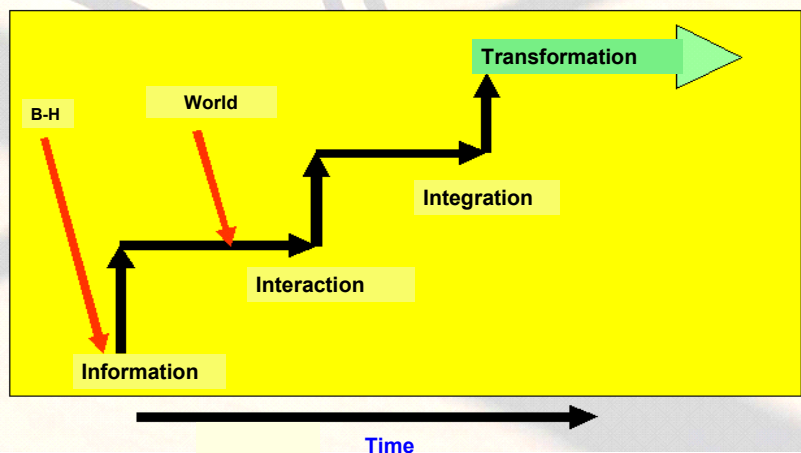
government transformation, comparing by developed countries, are shown.

Figure 13: Digital B-H Government Road Map

Exploring the interlinkages between e-government and development, the *UN Global EGovernment Readiness Report 2005: From E-government to E-Inclusion,* presents an assessment of the countries according to their state of e-government readiness and the extent of e-participation worldwide. The *UN*

Global E-government Survey 2005, like its predecessors, ranks the 191 Member States of the UN according to a quantitative composite index of e-readiness based on website assessment, telecommunication infrastructure and human resource endowment.

The basic message in that report is that there are huge disparities in the access and use of information technologies, and that these disparities are not likely to be removed in the near future unless a concerted action is taken at the national, regional and the international levels.

The Action Plan for Information Society Development

In 2004, the Strategy for Information Society Development in Bosnia and Herzegovina was designed in accordance with the European initiatives and documents, such as the Action Plan for eEurope Development, the eEurope+ Plan for the countries candidates for joining the EU, Policy of Informational Society Development in Bosnia-Herzegovina the Agenda for Informational Society Development which has been adopted by the countries from Southeast Europe.

Cited document states the directions and the key factors of development and activities on overall ICT application in reconstruction of public administration, which will be carried out in state (1), entity (2), cantonal (10), city and municipal governments (86+63), and Brcko District(1) by the year 2010 (see Table 1).

One of the five development pillars of an informational society in the Strategy is the e-Government section. The other pillars are: legal infrastructure, eEducation, ICT infrastructure and ICT industry. In the Strategy, for each of the five development pillars there is: a review of the present state, a development vision, basic strategic trends for realization of the vision and specification of concrete actions that should be taken according to the strategic notes.

The Strategy established the action course on the following segments of B-H administration:

- Public administration reengineering
- Technological-developmental grounds
- Communication and information infrastructure
- Interoperation
- Security
- Fundamental registries
- Informational processing of common and specialized administration functions
- E-Democracy

- Electronic services
- Portal sites and
- Access points.

For each of the above-mentioned segments there is analysis of its condition in B-H actual trends, goals that should be obtained, and action courses. These notions produced many developmental projects and measures.

The Action Plan for Information Society Development in Bosnia and Herzegovina includes 59 programs, projects and initiatives. Those are considered so important for the development of informational society, that the direct support from the Council of Ministers and entity governments in Bosnia and Herzegovina was suggested. Each of the activities (project, pilot project, media campaign, organizational activity, research project, development project, researchable-developmental project, implementation, strategy making, development, research and project and application development) was specified as a sketch of project assignment in which there was a clear notion of carriers and participants in the activities, expected results, earlier prerequisites, time lines, relative priority, financial projections and sources of financing. The estimated funds for the realization of those activities by 2010; for those 59 projects are about 42 million Euros. The financing resources should be entity budgets, local sources and donations.

The above-mentioned programs, projects and initiatives have different level of complexity:

- The strategic multidisciplinary programs were set on the state level, and those are crucial for informational society development
- The development programs set in order to strengthen and develop a certain ICT segment (education, infrastructure, etc.)
- The development projects directed towards the realization of concrete goals or products, but of greater importance for e-society (for example, introduction of electronic identification card, media digitalization etc.)
- The pilot projects that are directed towards the implementation of concrete specific solutions, but for the purpose of accepting some solutions through the evolutional development (for example, experimental introduction of electronically supported education etc.)

The Primary Public Services of e-Government in B-H

The primary public services of the e-Government in Bosnia and Herzegovina are listed in Table 4. The transformation of the administration (government) into the e-government should provide the citizens, business partners, nongovernmental and other institutions not only with the permanent access to the administration services, but also with simple, efficient and cheap

business procedures. Such services would contribute a significant increase of efficiency in business systems and decrease of business expenses.

The internationally standardized indicators are supposed to be used when surveying the realization of the Action Plan. Of course, it is necessary to have an insight into the development progress of the certain parts and the system in whole, and also to get a clue and mark about the effects of individual projects realization in the Strategy for Information Society Development in Bosnia and Herzegovina. Therefore, the minimal benchmarking indicators for e-Government were minimally adopted (e-Europe, 2005), in order to observe the primary public services of the e-Government. The e-Government services which will be applied to the 2010-th is shown in Table 3.

The crucial indicators of e-Government implementation progress are: firstly, the percent/level of accessibility of the primary public services which could be used on-line and secondly the percentage of (individual and business) users of the Internet public services. Besides these indicators, it is necessary to follow the next, additional statistic ones:

- The percentage of individuals and business systems which use public electronic services. The following categories should be taken into consideration: obtaining information, getting forms, filling in the forms and completely digitalized procedures of solving subjects
- The number of public services integrated with administrative („back office") processes
- The percentage of digitalization of public acquisition procedures
- The percentage of the open software usage in public administration.

Services related to citizens	Services related to companies
Income taxes	Social taxes for employees
Job search	Corporation taxes
Social privileges (unemployment benefits and children's allowance…)	Turnover taxes
Personal documents (passports and driving licenses)	Registration of new companies
Vehicle registration	Submitting data to the statistical institutions
Applications for building permit	Customs declarations
Police reports	Licenses related to environment
Birth/marriage/death certificates	Public purchase
Change of residence	

Table 3: Services of the e-Government in Bosnia-Herzegovina

In order to measure the percent/level of availability of the primary public services which could be used on-line, there is a „zero level" accepted in the

Action Plan and four levels of e-service condition that have been adopted by European commission:

- 0 level
- Complete absence of a publicly available web site and
- A public available web site exists, but does not offer any relevant information, interactions or transactions regarding the services mentioned
- 1st level Information: on-line information about public services
- 2nd level Interaction: possibility of getting (downloading) forms
- 3rd level Two-way interaction (processing the forms along with authentication)
- 4th level Transactions (a possibility to completely process a request, including electronic payment and decision delivery)

According to the data from *UN Global E-government Readiness Report 2005-From E-government to E-inclusion*, which deals with willingness to transfer to e-Government, Bosnia-Herzegovina (after FYR Macedonia) had the greatest progress on the rank list. Bosnia-Herzegovina moved from the 93rd position (out of 191 countries) in 2004 to the 86th position in 2005. Among the neighboring countries, higher on this list is Croatia (47) and Serbia and Montenegro is lower (156). Bulgaria fell from the 41st to 45th place in the same period, and Greece rose from the 36th to 35th position. Denmark, Sweden and UK, respectively, take the first place of the list. Ahead of them, in the world level, is only the USA.

Projects for the e-Government Concept Realization

According to the Strategy of e-Government Development in Bosnia-Herzegovina (in the period from 2004 to 2010) an adequate Action Plan for Information Society Development was designed. The plan includes some concrete developing programs and projects with suitable descriptions, carriers of the realization, deadlines, estimation of resources needed, and the expected effects of the realization. Similar strategies and action plans have already been made in Slovenia, Croatia and Serbia. Those are important segments on the B-H course into the EU integration by 2010, because they require satisfying the conditions of competitiveness and the state presence in informatics activities.

The strategy objectives begin with the urge to increase the level of awareness that this area needs to be developed. To do so, it is also necessary to provide resources for the objective realization, to develop the institutional infrastructure for the implementation using the model of public and private sector cooperation, and promotion of all effects of ICT technologies.

We will mention only some organizational activities (out of 59) and some projects that should be realized according to the Action plan by 2010:

- creating a forum for the e-Government development
- organizing associations of e-Municipalities
- analysis of the possibilities and recommendations for the open software application
- developing and defining methods for application and system improvement in the public administration
- identification, systematization and setting of the standards needed for informational society development in Bosnia and Herzegovina
- the project of communicational infrastructure in the public sector in Bosnia-Herzegovina
- concept and standards for informational interoperation in the public sector
- realization of the application Personal and Driving Documents on-line Project
- the pilot project Harmonization and Linking/Integration of Partial Records
- Tax System on-line Project and its realization
- project and implementation of EDMS (electronic document management software) and Workflow systems
- e-Purchase Project implementation
- Implementation of the application Informational system of Statistic agency and on-line statistic
- application of information systems for the Statistics Agency and on-line statistics
- implementation of the Citizen Base Project (registry offices on-line)
- application of the Cadastre and Immovable Property – GIS on-line Project
- implementation of the Building Permits on-line Project
- pilot project e-Participation
- project the State Portal, and
- project SMS Gateway.

Only two (out of 59) projects deal with e-Government, that is, with the on-line usage of spatial data, and those are: *the Cadastre and Immovable Property – GIS on-line Project* and *the Building Permits on-line Project*. Here, the identification system of land parcels could have a significant role. This means that with the help of satellite tracking and digitalized cadastre, a better supervision of production areas (such as planned sowing and soil usage) could be ensured. However, the Action plan does not determine its realization. There is the same case was the subterranean and overhead installation cadastre (which is needed when licenses should be issued to permit digging through construction sites, making city and regulation plans, giving a city- planning agreement and construction license). And finally, if the aforementioned

projects are realized, it will be much easier to make a spatial plan of Bosnia and Herzegovina or its entities and to monitor its actualization.

The information-communication technologies that applied the projects within the Action Plan are:

- Technologies and methods of software product development and servicing
- GSM, WAP
- WEB Software technologies and data base, security and protecting data technologies and on-line service and communicational technologies
- The Internet, Public Key for Information Structure (PKI) and telecommunication technologies
- Software tools for managing multilayered land maps (ARC GIS tools)
- Defining standards for displaying land data or their coordination
- Fast and reliable infrastructure with safe hardware and software techniques for financial transactions, and
- Internet programming, web/Internet standards, web-servers.

Conclusions

The focal point of the presentation is a spatial aspect of the state and perspectives e-Government in Bosnia and Herzegovina. Its eighth chapter clearly states that only two project (out of 59), which deal with spatial data digitalization, have been planned and are supposed to be realized by 2010. Having in mind the problem of citizen participation in e-Government, called social inclusion, the idea is to add another project on such a topic. The project would manage the usage of agricultural soil in terms of planned sowing and planting. The fact is that only 40% of the fertile soil has been used in Bosnia and Herzegovina, and currently 15-20% GDP has been achieved by agriculture. Therefore, it will be extremely important for Bosnia-Herzegovina to include the parts of the unused agricultural area into the e-Government system together with their owners.

The author of the article was also the author of the preliminary project design called *The Information System of the Public Utilities in the Biggest Municipality of Bosnia and Herzegovina* in the 1980s. Even then, there was a suggestion to digitalize the maps of subterranean and overhead installations and infrastructure; however its realization has not been achieved yet. Since the former ICT support was incomparably poorer than one today, the question is: What are we waiting for?

However, the answer to the question is related to the various problems of e-Government implementation on the whole in B-H by 2010, such as: a low level of technical equipment of public administration, the staff is poorly

educated about information technologies, and the Action Plan realization is very slow.

It seems that lack of resources is their major cause, after all. Thus, for example, in the Entity of the RS, the budgetary funds planned for 2006 which should be used to realize the Action Plan projects, amount to approximately €750,000. This is simply not enough when compared with the estimated sum of €42 million which is the value of the B-H e-Government Project that should be financed by 2010. A conclusion remains that the current earmarked funds need some additional donations or other local resources in order to accelerate the realization of the Information Society Action Plan.

E-government development appears to have a strong relation with income per capita. Whereas part of the reason for the high e-readiness in most of the developed economies is past investment in, and development of ICT infrastructure, resource availability appears to be a critical factor inhibiting e-Government initiatives in many developing countries.

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