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The Impact of Information and Communication Technology in the Government Reform

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Abstract: The deep transformations of the society induced by the development of IT had determined significant changes in almost all the fields of activity. Many countries started to implement information and communication technology in the public administration as a fast way to the performance and efficiency of its services. This paper aims to underline the significant improvement determined by the use of information technology, with focus on e-services. It is mentioned also the effort of Romanian Government to align with the requirements of the EU on the computerization of governance. Also there are presented some recommendations for the improvement of e-governance in Romania.

Key words: e-government; e-administration-governance; e-services; information and communication technology

JEL Classification: K23 O38; H70

1. Introduction

In the last decades, we have been the witnesses of a rapid development of IT and its applications, among which one of the most widespread is the Internet. The significant reduction of computers purchase prices and the fast increase of Internet accessibility gave the possibility of more and more people to use them. The results obtained in many domains through the IT implement**a**tions had opened the door for the introduction of this technology in public administration. Based on the finding that government information is often unclear, inadequate or outdated, people have realized the necessity to modernize the government activity and improve the citizens' access to the government information. It became obvious that progress in this domain can and should rely on information technology and its applications.

New concepts emerged: e-government, e-governance and new connections were made between government and citizens: the e-communications through the e-services.

The extensive use of IT services transforms and develops the organization: it becomes more effective, more transparent and less expensive related to its internal processes. In addition, it has a significant impact on the production, processing and transfer of information. The use of information technology influenced internal government processes at all the levels: local, regional and national. The new way of communication between government and its clients

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includes changes of the government structures, too. The new e-communication permits a transition from a passive information transfer to the people to an active involvement of the citizens and simplification of public administration by use of ICT (Batalli, 2011). The modernization of the public administration means also changes of the government structures and their transformation into new competitive systems, more transparent and with increased participation of the citizens and community to the government act. Information and Communication Technologies (ICTs) have changed the process of governance in the world and represent a way of governance improvement in the benefit of citizens (Archman & Iglesias, 2010).

The capacity of a country to implement these technologies is dependent on the existing reality of the country and its stage of development. It is considered that Internet experience, organizational reputation, website/portal quality are the main factors determining the confidence in on-line government services (Beldad et al., 2012).

2. Changes in the Activity of Government as an Effect of IT

The introduction of information and communication technologies in public administrations influences the mechanisms of control, supervision, communication, and information management. As a consequence of the implementation of IT and use the electronic means in the government's activity internal and external changes have occurred.

A concise and clear conclusion regarding the impact of IT in the government activity says that 'the clearest positive impacts generated by IT on public administration are in the areas of efficiency and productivity of government performance' (Cordella 2010; Şandor, 2012).

Although in most cases governments start with the delivery of online information, the demand for more complex services appears in time. Generally, the services develop gradually; and some features become available earlier than others. In some cases the public demand is the driving force; in other cases the cost reduction has the main role.

The implementation of ICT in order to make government services and information easier accessible to citizens has impact on the following aspects:

- Continuous Service Model: The interaction between government and the public using various IT applications allows people to ask questions via e-mail, use search engines or to download all kind of documents. In fact, all the applications become available and online 24 hours/day, 7 days a week. The systems and processes need to be permanently adapted to this new reality. As a consequence, in this new communication medium the citizen receives a response to his/her request immediately online or by e mail, replacing the traditional channels such as telephone, physical counter etc.;
- Content Integration: The design of a complex system containing a large volume of data and information, easily accessible by a normal user, is involving several technological issues. Firstly, these systems need to be based on strategies that combine

integration, evolvability and upgradeability. These strategies require cooperation between all departments of the government. Also, to insure a real time source of data, it is necessary to have an adequate portal connected to the relevant information sources;

- Human Resources: The use of ICT's in an organization requires knowledgeable employees, up-to-date information technology workers able to operate and manage the new systems. Also it is necessary to develop a process of training for the existing workforce in order to understand and begin to use the new tools;
- Information Confidentiality: It is well known that any computer system is vulnerable to external attacks. Such system contains information that should be available only to authorized people – the IT system needs to assure both availability and confidentiality for the information;
- Personal Data Privacy: Because some phases of information processing need detailed personal data about citizens and businesses, there are necessary safeguard measures to protect all these data against unauthorized access (Tejasvee & Sarangdevot, 2010).

3. ICT as a Change Driver for Public Administration

Information and Communication Technology are important initiators and drivers of change in an organization, being recognized that the use of ICT creates new possibilities, and has the potential to reinvent organizations and their services.

In this respect, three strategies for the implementation of ICT in an organization were identified (de Jager & van Reijswoud, 2008):

- Business process automation (BPA);
- Business process improvement (BPI);
- Business process reengineering (BPR).

The impact on the organization is reflected in the increase of the efficiency of the users' work, as a consequence of replacement of handicraft activities by automated processes.

A complex management system is usually implemented in order to manage, hand on and store information, replacing the papers. The related processes are reconsidered and improved by introducing some moderate changes. Very often, many of the existing problems of the organization are eliminated through the implementation of IT.

The introduction of IT after a fundamental and critical rethinking of the organization's processes improve performance of it in terms of costs, service delivery, quality and speed. Today, in many countries government reform focuses as a first step on the introduction of IT.

The introduction of the new technologies in public administration of European countries generates organizational changes including:

- the nature of public service jobs (job design, necessary skills);

- the organizational structure (from hierarchical to network oriented), or even virtual organization);
- virtual teams (for data exchange and experience sharing between government bodies);
- the participation of the citizens in the governance process citizenship.

The main ICT tools used for governance include channels of online participation, interactive spaces which allow users to connect and communicate each other. These 'technologies of connection' allow people to communicate, give feedback, ask questions complain, exchange information, and build relationships (Commission of the European Communities, 2001).

The use of IT services provides more qualitative and quantitative services, changes the way in which services are offered to citizens and businesses and permit a quick and easy access to information. In the same time, it helps the public to actively participate in policy formulation, ensure the transparency in the use of public funds, as well as positive effects in the diminution of bureaucracy (Litan et al., 2011).

On the other hand, the introduction of the information technologies in public administrations enhanced the mechanisms of control, supervision, communication, and information management. Despite of these advantages, there are some limitations of using IT in Public Administration. The main limitation refers to the absence of the characteristics of verbal communications (face-to-face) in the virtual communication medium, promoting task-oriented, depersonalized and anti-normative behavior.. It is an anonymous depersonalized message (Lamerichs & TeMolder, 2003).

The development of electronic services at the European level is in attention of the European Commission, which planned to introduce 20 basic electronic services, 12 for citizens and 8 for the business sector. These e-government services are included in the e-Europe Action Plan.

4. Trends in the Future. New Channel for e-Communication in Public Administration

The development of technologies and the introduction on the market of new devices created opportunities for governments to offer and use these new channels to interact with citizens. The smart phones are the most quickly adopted and widespread technology. All these new technological challenges are reflected in the activity of governments, too.

The new environment brings some challenges for the public officials, such as the implementations of multi-channel platforms. Devices like smart phones, interactive voice response systems, digital television, self-service terminals, are already use for a long time in the private sector. Although many governments are aware of this new trend, only few developed countries currently use them. Digital channels encompass websites, mobile-based services and public access points such as kiosks. In multi-channel delivery, public services can be delivered by using a mix of channels, complemented by human interaction and networks.

In Fig 1 is presented an overview of the new channels already used for public service delivery in EU:

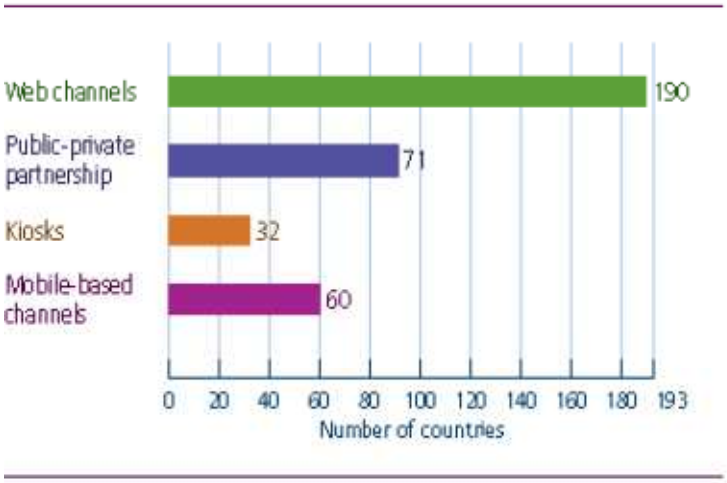

Figure 1. Overview of Channels for Public Service Delivery in EU

Source: United Nations e-Government Survey, 2012

A new term 'mobile government (or m-government)' emerged: it is an extension of e-government to mobile platforms, as well as the strategic use of government services and applications via cellular/mobile telephones, laptop computers, personal digital assistants and wireless internet infrastructure.

Comparing with e-government, m-government has some additional benefits like convenience and flexibility, better services to the citizens, ability to reach a larger number of people through mobile devices than would be possible using wired internet only. SMS is another widely used data application. Mobile technologies with the use of smart phones and web enabled phones represent an important channel in multi-service delivery. M government and specifically the usage of mobile-based channels will continue to develop and expand in the coming years. It is interesting to mention the rapid increase in mobile applications in EU, from 14 Member States in 2010 to 29 in 2012.

5. The Use of Information and Communication Technology in Public Administration in Romania

After 1989 Romania has began a process for modernization of the public administration, which started from the social and economic realities of the country and defined the logistic and legislative framework for the restructuring of public administration. In the next period, after the adoption of the legislative support necessary for the application of the information and communication technology, the adequate infrastructure steps were made in the development of the national e-government infrastructure.

The Law no. 161/2003 included some measures for assuring transparency in public services, both at central and local public administration level. In this context, it was created the Portal www.e-guvernare.ro.

The e-Government portal - www.e-guvernare.ro - was launched in September 2003, providing a one-stop shop to public services online, and incorporating a transactional platform enabling users to register for interactive and transactional services. Romania's national portal received in 2003 an achievement award from the World Summit of the Information Society for its comprehensiveness and innovation.

Since 2003, a fast-developing infrastructure made it possible for the Romanian government to deliver a number of interactive and transactional services online, such as VAT declaration, a fully operational e-procurement platform, submission of statistical information, electronic payment of social security contributions and of local taxes, advanced job search facility and civil service recruitment platform.

Romania's national portal www.e-guvernare.ro aims to progressively make all services and information accessible through the portal. However, the success of these efforts depends to a great extent on how well the targeted users for such services, citizens in general, make use of them.

However, the development and use of IT for interaction with public administrations in Romania is below the average of the other countries of Europe. There are still differences amongst Member States and the take-up of e-government services by citizens is still low. In 2009, only 38% of EU citizens used the internet for accessing e-Government services, compared to 72% of businesses.

According to the UN e-government survey conducted in 2008, Romania comes under mid range countries by utilization of e-government (percent of utilization 37%). This level of e-government usage suggests that a big part of the adult population remain outside of the world of digital government. It also proves that Romania needs to increase its efforts to encourage potential users to use the available online e-government services.

The e-government services usage in Romania in 2007, comparatively with the last situated, top countries and EU average can be seen in Figure 2.

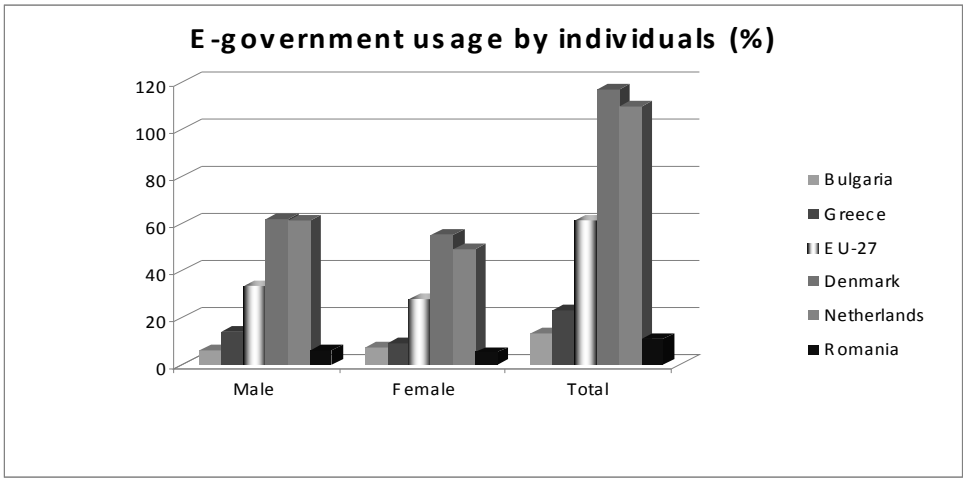

Figure 2. Rate of e-government services usage by citizens in several European countries

Source: Eurostat Yearbook, 2009

The most frequent types of electronic interaction with public administrations are: obtaining information, downloading forms, returning completed forms. In Romania only 33.4% of the population is using Internet, as compared to the EU average of 63.8%.

The top internet countries in Europe are: Germany (55.2 %), UK, France, Italy, and Spain. Romania is situated on 8th place with 7.4%.

Romania needs to increase the access of population to the ICT services in order to improve the public administration on national level. Beneficial use of information technologies involves awareness of the technologies and their benefits to individuals, availability of the technology. On the other hand, in Romania the percentage of the government budget for R&D is the lowest among peer groups and EU27 (Borisov & Bărbulescu, 2012).

In terms of overall public administration performance, Romania scores significantly below the EU-average which implies negative perceptions of the quality of public services and the quality of policy implementation. This performance has hardly changed in recent years.

In terms of the use of tools for administrative modernization (eg IT-based solutions, performance orientation and evidence based steering) Romania performs below the EU average. This is primarily due to a lower availability of business related e-government services (eg electronic submission and payment of corporate tax returns, submission of social security contributions and the registration of start-ups) as well as limitations in the implementation of modern human resource management tools such as flexible modes of tenure and salary systems as well as decentralization of powers and responsibilities for human resources.

According to the Digital agenda[1], e-Government services offer a cost-effective route to better service for every citizen and business and participatory open and transparent government. E-government services can reduce costs and save time for public administrations, citizens and businesses. They can also help mitigate the risks of climate change, natural and man-made hazards by including the sharing of environmental data and environment-related information.

The analyses of use of online services by the citizens in Europe in 2009 indicate that aprox. 28 % of the European citizens accessed information on public authorities' websites and only 13 % of European citizens sent information electronically within last 3 months.

There are significant differences between the percentages of use of online services in EU countries. So in Denmark almost 65 % of the citizens looked for information from public authorities online compared to only 6 % of citizens in Romania (Fig. 3).

[1] http://ec.europa.eu/information_society/digitalagenda/ scoreboard/ index_en.htm.

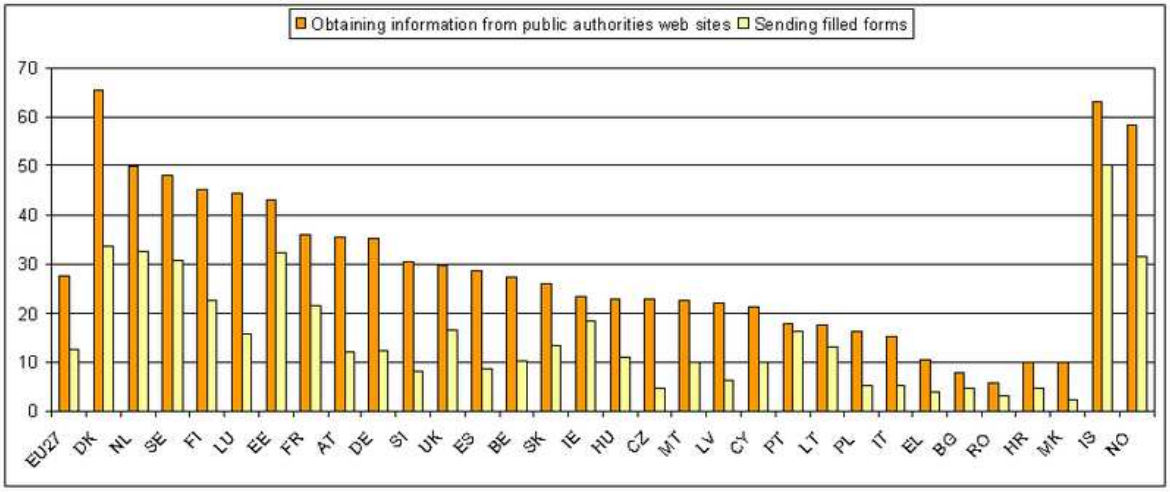

Figure 3. Online Interaction of Individuals with Public Authorities, 2009

Source: E-government Statistics, 2010

Comparing the European countries, Denmark, the Netherlands, Estonia and Sweden are the leading countries, where the highest percentage of citizens sends electronic forms to public administrations. In Czech Republic, Bulgaria, Greece and Romania, the percentage was below 5 % in 2009. Some differences were observed regarding to the interest in using e-government services by the citizens. In EU, more than a third (35 %) of individual Internet users had already used e-government services in 2009 and only 37 % of them have been interested in replacing personal visits to public authorities with services via the Internet. The highest proportion of Internet users who are not interested in e-government services are in Latvia, Czech Republic, Romania and Ireland.

Considering the Report *Government for the People* published by The United Nations in 2012, having in mind the existing situation in our country and the permanent monitoring of the level of implementation of electronic government in the countries by the EU Commission, it is obvious the immediate need of improvement of the e-governance in Romania. Several possible measures are presented below:

- initiate a program for training of citizens in order to understand the advantages and utility of electronic communications;

- create some open offices in the halls of local and regional authorities to permit the access to the information portals;

- promote in schools campaigns regarding the new technologies, especially the new ways of communications; their advantages and the main domain of application;

- activities in the rural areas to demonstrate the importance of communications through Internet;

- develop an unique point of access for citizens and businesses to all relevant services from the local, regional levels of administration.

6. Conclusions

Due to globalization and technological innovation, people started to seek more advanced public services from their governments. After more than thirty years of information revolution and notable results of the implementation of IT and its applications, we assist now to a modernization of public administration, partly due to the implementation of the information technologies.

Because of the advantages that IT brings for a social and economical growth, all the developed countries have adopted IT in their public services and participate in a race to successfully adopt e-government applications to deliver better service to their citizens and acquire a more modern appearance. So, the public management reform and the government modernization take place in almost all of countries.

This paper aimed to evidence the relation between government modernization and IT. It is mentioned the impact of electronic applications to the improvement of the communication between public authorities and citizens with emphasis on the public services.

There are mentioned the beneficial results of electronic applications: the increase and the improvement of the participation of citizens to taking decisions, rapid, efficient, transparent, fast connections between authorities and their clients (businesses /citizens). The authors particularly insisted on the implementation of e-services and mentioned their advantages referring also to the future trends due to the new technological advances development and the appearance of new communication devices. In fact the implementation of IT in public administration is a continuous process, which must develop and align to the new trends.

In Romania the implementation of IT in public administration has recorded some progress, but there are a lot of things to do in the future, from the investment in IT infrastructure to the training of the people to better understand the real benefits of this modern way of communication and learn to use it.

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