

ARS PORTALIS

The Road Ahead Towards Electronic Government in Romania

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Thesis abstract

This thesis tries to assess the development of eGovernment in Romania. In order to achieve this I looked for answers to the following four main questions:

1. Which is the general development of the Information Society in Romania in terms of computers and Internet usage?

1. How can be assessed and interpreted the online presence of central and local governmental institutions?

2. What is the level of physical implementation and support for eGovernment at the local administration level?

3. What are the central administration's strategic goals and what are the results of its actions?

The answers to these questions were the result of different methodological approaches. I studied statistical data available from various surveys to answer the first question, I analyzed with the help of a framework put together by me the quality of the governmental institutions' online presence in order to answer the second question. For answering the third one I interviewed IT professionals in local administration units and finally I got the answers for the fourth question analyzing both the strategic goals and the achievements of the central administration and of the government as related to eGovernment implementation. I tried to minimize the biases using triangulation for the interviews and mixing and comparison of different sources of statistical data and news for the analysis of the central administration.

I grouped the main findings into a table of drawbacks and opportunities of the shift to eGovernment in Romania. Among the most important factors I can mention: lack of leadership, lack of money and lack of coordination and standardization. However, I argue that at this point there are good signs that the eGovernment initiatives could really take off in Romania, but this depends mainly on the political will to achieve them.

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Author's declaration

No portion of the work referred to in this thesis has been submitted in support of an application for another degree or qualification of this or any other university or other institute of learning.

Sebastian ALIOAIE

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Preface and acknowledgments

In Chinese the word CRISIS is written using 2 ideograms. If one translates them separately the first means THREAT and the second means OPPORTUNITY. The adjustments need to be done to the pervasive use of digital technology by people, businesses and governments worldwide it represents a CRISIS. And, as well as the Chinese word for it, the crisis comes with threats as well as opportunities.

My thesis is the result of a restless activity of getting in contact with the technological realities of the new society we live in. I have to thank first to my professor – Mr. Miklós Sükösd- who encouraged me to sail to uncharted waters and always urged me to be critical and structured in my approach. I would, also, like to thank Mr. László Csirmaz that taught me many technological lessons, but also shown me the value of self-respect and honesty.

This thesis wouldn't have been possible without the kindness of some people, who agreed to be interviewed by me. Consequently my thanks goes to: Mr. Varujan Pambuccian, Ms. Adriana Fulga, Mr. Marian Botocan, Mr. Miklós Pal Gabor, Mrs. Sevil Sumanariu, Mr. Radu Aldrofan, Mr. Fitai Donald Carol, Mr. Dan Artimon, Mr. Sorin Ciuca, Mr. Badea Gabriel, Mrs. Rogoz Gabriela, Mr. Predescu Mugurel and Mr. Lucian Urugiuc.

I am also grateful to Mr. Peter Barlow – co-founder of the Electronic Frontier Foundation – whom I met in Köln in April 4, 2001 and who inspired me in writing my thesis. He made me feel that human actions depend first on desire and only second on resources.

Last but not least, I thank to all my friends that supported me in my research work and especially to the www.eDemocratie.ro team with whom I am trying to build the first eDemocracy and eGovernment portal in Romania.

Sebastian Ailioaie

Budapest

May 25, 2001

Introduction

Ars Portalis – Excellence in Government

*Motto: “The Internet emerged as an academic research tool but has rapidly blossomed into the most profoundly influential force of our era. Its social and economic importance has been likened to the Industrial Revolution. There is now a widely shared vision of universality – an expectation that every individual and organization will have easy online access to a vast array of information and services.”*¹

Internet and the World Wide Web as new paradigms for individuals

It is obvious for everyone that Internet changed the way people communicate. E-mail accounts, chat, mailing lists, forums, video conferencing over the web, data mining, Customer Relationship Management, Electronic Data Interchange, electronic payments, profiling etc. are buzz words belonging to a more and more pervasive encyclopedia – the so-called webopedia of our time. However, these words did not come out with any reason. They come out to stress the paradigmatic shift that our society experiences today from classical mass communication tools [such as television and telephone] to new personal technologies [such as personal wearable computers, personal digital assistants, email accounts and electronic signatures] deployed over the global network of networks – the Internet. And this vision gets only better if we believe some people, which say that “*eventually the Internet will be as ubiquitous and as normal as electricity today.*”²

Starting with Tim Berners Lee’s creation of the World Wide Web [WWW] application in 1993 the Internet quickly became a mass medium. The browsing technology and the inner “philosophy” of hypertext allowed people of all backgrounds to

¹ Booz, Allen and Hamilton. March 7, 2000. *Achieving Universal Access*. London

² Michael Dell - founder of Dell Computers in a speech delivered at Davos World Economic Forum 2000

use more easily the network tools for communication and personal enrichment. Beginning with 1995 – 1996 the business got in and the former academic Internet became more and more commercial. Today, the vast majority of content and know-how on the Internet belongs to commercial enterprises either big or small and medium sized.

Internet changes the way politics are done

The Internet did not change only the way people do business or forge relationships. The decentralization and the so-called “mass customization” brought by the Internet to human communication influenced the politics field as well. The state is learning now how to become an e-state, deploying information and services over the Internet and the citizens are learning to become ‘e-citizens’ and ‘wired people’. Moreover, even political habits are changed by technology at the micro, fundamental, human level. A 1998 survey from the Institute for the New California showed that *“wired high-tech workers are much more interested in consensus-based politics because they are used to team-based, collaborative work environments.”*

In this new environment the classic distinction between private and public is blurring. After the advent of eBusiness in the last couple of years the public administration hurries now to keep pace with the new developments, through bold eGovernment initiatives, that are sometimes joint ventures and cost-sharing enterprises between public and private companies.

Following closely the “e-“ pattern, first attached to the word business [eBusiness – was a concept coined by IBM in 1997], “eGovernment” became a common word that described the interactions that took place between government and citizens over the Internet.

“Strictly speaking, the term 'electronic government' should refer to government activities facilitated by any electronic means - from telephones, faxes and photocopiers to the storing of electronic

records. But obviously this is splitting hairs, because it is the interaction with the public the Internet permits which is the distinguishing factor.” [Hutchinson 2000]

In the perspective of Harvard Policy Group there are some crucial challenges that the classic governance model is facing now, in its transition to eGovernment: [The Harvard Policy Group 2000]

“Service effectiveness and efficiency. Economic productivity is at stake.

Privacy and security. The constitutional balance between individual liberties and civil order is very much at stake.

Equity and community. Social justice and cohesion are also at stake.

Governance. Democratic governance resolves conflicts through the application of values determined by legislative and administrative processes and authorized by community electorates.

Jurisdiction has traditionally been based on geography and vested in towns, cities, and counties within states and nations. In a networked world, however, interactions increasingly extend beyond the boundaries of existing jurisdictions, making it harder to resolve conflicts.

Leaders need to address these cross-boundary phenomena by devising new approaches to governance. Government’s legitimacy and our ability to govern ourselves are at stake.”

Because several main components of the public sector are deemed to be changed a new question has to be answered – how should governments shape their Internet presence properly? Will this electronic governance lead to more accountable governance, to social inclusion, to total transparency, to ‘direct’ democracy and thus to a better governed society?

The particular case of CEEC’s and of Romania in the transition to ePolitics

These questions become even more interesting if we consider them in the context of the new democratic countries in Central and Eastern Europe. It is only a decade since these countries started to learn what was democracy and how a state should be more open and accountable in front of its citizens. Now, even if before they learned how to build accountable governments and how to respect human rights, a new challenge has to be faced – the shift to the Information Society.

For some of these CEEC countries the need to do this shift come at the right moment and they can only benefit from these new electronic ways of linking citizens, government and state altogether. I would quote here as an example the tiny countries like Estonia and Slovenia. However, not all CEEC's are the same in this respect. The vast majority of them lack the resources, the human education and the political commitment to perform this shift. This is also Romania's case – the country I am coming from.

The purpose of this thesis and the questions to be answered

The aim of my thesis is to assess the current stage of eGovernment initiatives in Romania, putting emphasis on the drawbacks and opportunities involved in this shift. In pursuing my goal I start from the premises that the methodological framework I rely on is exhaustive and the methodology of my research work diminished to a minimum the eventual biases that might interfere.

I tried to accomplish the assessment proposed in this thesis by relying on four particular questions, which are the core pillars of my research.

1. Which is the general development of the Information Society in Romania in terms of computers and Internet usage?
2. How can be assessed and interpreted the online presence of central and local governmental institutions?
3. What is the level of physical implementation and support for eGovernment at the local administration level?
4. What are the central administration strategic goals and what are the results of its actions?

These questions will be answered in this paper and the answers will enable me to outline a map of drawbacks and opportunities for the shift to eGovernment in Romania.

Explanation of ARS PORTALIS concept

I have chosen to name my Masters thesis – ARS PORTALIS – because I believe that serving the citizens better through electronic channels, finally becomes a form of art embodying efficient creativity. I have chosen this also taking into consideration the growing tendency of eGovernments worldwide to integrate all the e-changes of administration into a “one-stop shopping portal” – a symbol of the perfect use of technology which empowers citizens, offering governmental services delivery at a mouse click, 24 hours a day, 7 days a week. In this respect, ARS PORTALIS – becomes a metaphor for the perfect use of technology empowering citizens.

Chapters’ outline

Even if the aim of my thesis is to assess the Romanian eGovernment initiatives, it would be impossible to do this without outlining the definition and the stages through which eGovernment initiatives pass till the perfect stage of accomplishment called by me ARS PORTALIS. I do all these in **the first part** of my thesis, which constitutes thus the theoretical rooting of my research.

Accordingly, in **the first chapter** I analyze several definitions of eGovernment and I draw a map of the main eGovernments components, which, in my view, are the following: G2G[Government-to-Government], G2E[Government-to-Employees], G2C[Government-to-Citizens], G2B[Government-to-Citizens], C2C[Citizens-to-Citizens]. The literature review and the mapping process alongside with associated examples for each of the 5 eGovernments components, allow me to conclude the first chapter by giving a definition of eGovernment which is *“the process of the public sector reinvention through digitalization and new information management techniques, a process aiming at more participatory politics and much more administrative efficiency.”*

Then, in **the second chapter** I try to figure out how to map the stages of eGovernment development starting with a simple Internet presence to full transactionality and back-office integration. I use in this respect a 5 stages model proposed by the American Society for Public Administration and UN in a joint survey of eGovernment worldwide that started early this year. I criticize their model, as being not rooted in all eGovernment particular components and trying too much to get to an overall result without analyzing each eGovernment component in detail. Consequently, I come up with my own proposal of an eGovernment classification in 4 stages, which I will use later in the Romanian eGovernment analysis.

Thus, at the end of the first part I succeeded to give a comprehensive definition of eGovernment and to map all eGovernment main components and the stages of development through which each of them could pass.

Having this theoretical framework in place I start to analyze then, in **the second part**, the Romanian stage of electronic governance, by looking at the Internet penetration and at the categories of users, at the online governmental presence and at the eGovernment fulfillment, both at the central and at the local level.

I start the second part with **the first chapter** where I will look at the general indicators illustrating the Information Society in Romania. I discover very low rates of computer penetration into households, relative low levels of Internet penetration and of number of hosts [DNS] at 1000 inhabitants and I particularly found out that the majority of the Internet users are young people between 18 and 25 that access the Internet from Internet cafés. All these are major drawbacks in creating a “demand” and a user base for the eGovernment initiatives.

In **the second chapter**, using a framework for the online governmental presence analysis, that I created through a critical compilation of different sources [the framework is annexed to this paper as the Appendix number 1] I analyze websites both at the central

level [the websites of the Romanian Government and Romanian Parliament] and at the local level [The Bucharest City Hall website]. This analysis is performed both from the point of view of the quality of the online presence, but also taking into consideration the information gathered from the face-to-face interviews I had with their webmasters and programmers. Starting from the presumptions that these websites are highly representative for the online presence of Romanian governmental institutions I can draw the conclusion that this is rather an incipient stage of eGovernment corresponding most to the level “Informative Enhanced” to “Interactive Simple/Enhanced” as described in the first chapter of the first part.

This conclusion is stressed afterwards, in **the third chapter**, by taking into consideration 10 email interviews taken with heads of IT departments within local administration units around the country. The interviews allow me to study the level of implementation and support found at the local level towards eGovernment and to find the poor level of coordination and resources that are put in place there.

I finish the second part of my thesis analyzing in **the fourth chapter** the policies and measures towards Information Society and eGovernment taken by the Romanian government. I found out that it is very hard to overcome the particular lack of money and of leadership.

Completing this very exhaustive survey of the Romanian eGovernment I am able to draw in **the conclusion** a map of the drawbacks and opportunities that lie on the road towards electronic government in Romania.

Methodology

The methodological approach of this research was complex from the point of view of the types of data gathered. First, in order to define the framework for the concept of eGovernment I had to accomplish a very comprehensive research of literature. Unfortunately, little, if any, of this literature is of academic standing. Moreover, the way I approached the literature on eGovernment might have been biased by the fact that I am always very optimistic about the potential of the electronic channels in our daily life.

The sources from where I collected the information for analyzing the Romanian eGovernment experience were diverse. At the beginning I used official MCTI³ statistics and statistics issued by the European Survey of Information Society – a project that spanned over 1 year and a half and covered complex problems of the CEEC's Information Society indicators and concepts. [ESIS II was concluded in January 2001] I trust these data as being reliable and transparently presenting the reality in CEEC's. I, also, used indicators – with a lower level of reliability – that were produced by some market research companies in Romania.

As part of my research I have studied the official websites of some local and central institutions. These observations were based on a framework annexed. I respected the framework and I found answers to almost all the issues mapped in it. However, this observation might have been biased by the fact that was done at the CEU computer lab where the speed of access was considerably faster than in Romania. However, this fact might have biased only the accessibility issues of the framework, and not the content, feedback, navigation etc.

³ The Romanian Ministry for Communication and Information Technology – the leading authority in implementing the shift toward Information Society and eGovernment

For getting a bigger picture of the eGovernment stage I succeeded to interview the most active heads of IT departments in public administration. Their answers helped me to conceptualize a map of drawbacks and opportunities that faced at the level of local administration. Of course, the accuracy of their answers is questionable and also depends and the particular level of information that they had access within their own institutions. Moreover I am sure that some of their answers were a matter of their political sympathies and personal beliefs. However, I trust their answers as not being too much biased by the political environment since they are people that usually have a more logical thinking and a lower level of political partisanship.

In the end I have studied the latest developments of the Romania public policies concerned with the shift to the Information Society and thus to the shift to eGovernment in the public sector. The sources for this analysis were news and press releases, governmental strategy papers, ministry proposals and other documents containing the intentions, the possibilities, the deadlines and the specific measures to be implemented. I had no way how to find out the real intentions and the possibilities of the MCTI, with the exception of interviewing Mr. Varujan Pambuccian – an MP - who said that their expectations were overrated. Basically, I tried to triangulate and to get less bias for my research by opposing the interviews of the local public IT people with the developments announced at the central level. I hope that I succeeded to get to the right conclusions on these.

Novelty and finality of this thesis

ARS PORTALIS is about our future that is now at stake. As a Harvard study says *“While we face the future with substantial optimism, we also feel undeniable anxiety about what lies ahead. Virtually everything is at stake.”* [Harvard Policy Group 2000]

I tried to outline in my thesis the major components and stages of eGovernment. I consider that this theoretical part of my work brought a contribution interesting to

consider to both eGovernment definition and components mapping, but also to the classification of eGovernment in stages of evolution. In addition, the theoretical framework for public web sites analysis I used in the second part of my thesis, it is a very important contribution to the study of eGovernment.

In this thesis I tried to offer to my country a first thorough analysis of the challenges that we face now in the field of governance [both as drawbacks and opportunities], and as far as I know this is the first academic attempt concerned with eGovernment in Romania.

These are basically the novelties that my thesis brings to the study of eGovernment in general and especially in Romania.

The core conclusion of this work is that eGovernment in Romania is hindered by lack of money in the public sector and poor access of population to Internet, Internet users' lack of interest to eGovernment applications, lack of leadership at the central level of administration and lack of general know-how for making eGovernment work. The opportunities are two: there is the will to implement it especially at the local level and now it seems that also the funds needed for performing the shift were found.

My thesis will not bring recommendations for the political forces in Romania. This is left to other studies that may come. However, to know what to do is important, but doing it is something else and needs political commitment and sacrifices.

I conclude this thesis with Mr. Barlow⁴ words that are a remainder of where we are and what can we do:

“There is a lot to be done in Romania. The space is open and you can basically do everything there. You can shape it properly and with less problems than we did”

⁴ co-founder of the Electronic Frontier Foundation [www.eff.org]

Part 1. A theoretical approach to eGovernment in democratic societies

Chapter 1. Defining eGovernment

Even my thesis deals with the stage of Romanian eGovernment first one need to understand what is eGovernment and what are its main components. Consequently, what I will try to do in this chapter will be to define the concept of eGovernment by making a comprehensive literature review and also to map the main components of eGovernment not only on the theoretical level, but also with examples of such implementations.

1.1. Approaches to eGovernment

We live in a busy world with lots of information flows running around and sometimes running across us. In the information overload age we live in, branding becomes more than ever a survival technique. Consequently, plenty of buzz words and new concepts were shaped in the last couple of years and most of them were based on the “e-“ prefix. We find many examples: eBusiness, ePolitics, eProcurement, eGovernment etc.

Consequently, whenever a buzzword becomes a fashion, there is a tremendous need to define that word, to relate it to already documented concepts and to find examples that best suit the different aspects of the notion embodied by the respective word. It is also the case with “eGovernment”. During my research work, I found out that a vast majority of the working papers on eGovernment were coming from eGovernment task forces set up by national governments or from private working groups affiliated with big IT companies, all of them parts of an established lobby in favor of the highly praised Information Society. Consequently, I tried to be aware by grasping from those definitions the most objective and functional parts and by putting aside the demagogy, the empty words and the self-fulfilling prophecies.

In a survey jointly designed by the American Society for Public Administration and by the United Nations Division for Public Economics & Public Administration eGovernment is defined as “ *a permanent commitment by government to improve the relationship between the private citizen and the public sector government through enhanced, cost-effective and efficient delivery of services, information and knowledge. It is the practical realization of the best that government has to offer - knowledge.*” [ASPA 2001, www.aspanet.org]

The fact that first calls our attention in this attempt of definition is the low stress put on “e” in eGovernment. The authors do not present the electronic channels as new paradigms. They only focus on the need to improve administration through enhanced delivery of services.

A scientist, Meghan Cook from Albany University, points out that “*The movement to e-government, at its heart, is about changing the way people and businesses interact with government.*” [Cook 2000] Her definition, unlike the latter one, concentrates not on the improvement of efficiency that eGovernment may bring, but on the paradigmatic shift towards new channels of communication. Thus, she puts the stress more on the “e” that comes in front of the government.

A think tank - Momentum Research Group of Cunningham Communication commissioned by NIC [a corporation that operates governmental portals in several US states] defines eGovernment in more operational terms [Momentum Research Group, 2000]:

“eGovernment solutions are Internet-based or electronic transactions between citizens and government (C2G), businesses and government (B2G) and government and government (G2G).

There are three core components to comprehensive eGovernment solutions:

- 1. Government services and applications*
- 2. Enterprise portal management*
- 3. Back-office infrastructure integration”*

Other eGovernment consultancy defines this concept stressing the unimaginable interconnectivity which eGovernment brings to all its stakeholders:

“Electronic government is more than a Web site. It is connecting a government with its stakeholders on a scale that until now has been unimaginable. It is leveraging the Internet to simplify government. It is that simple and that profound.” [EzGov 2000, 1]

1.2. Mapping eGovernment

Taking into consideration all these points of view we realize how difficult it is to define eGovernment in a simple sentence. For making this work easier, I developed below, based on my own vision on eGovernment, a map of the public sector information stakeholders and of the specific information flows that are running between them giving birth to eGovernment. Moreover, I give examples for each category described and I comment on its form of implementation and on the advantages it might bring to the citizens.

In my mapping process I considered 3 major types of stakeholders:

1. **state bodies/agencies [G]:** I define these as different bodies of the government, both at central and local level, part of the political and administrative system.

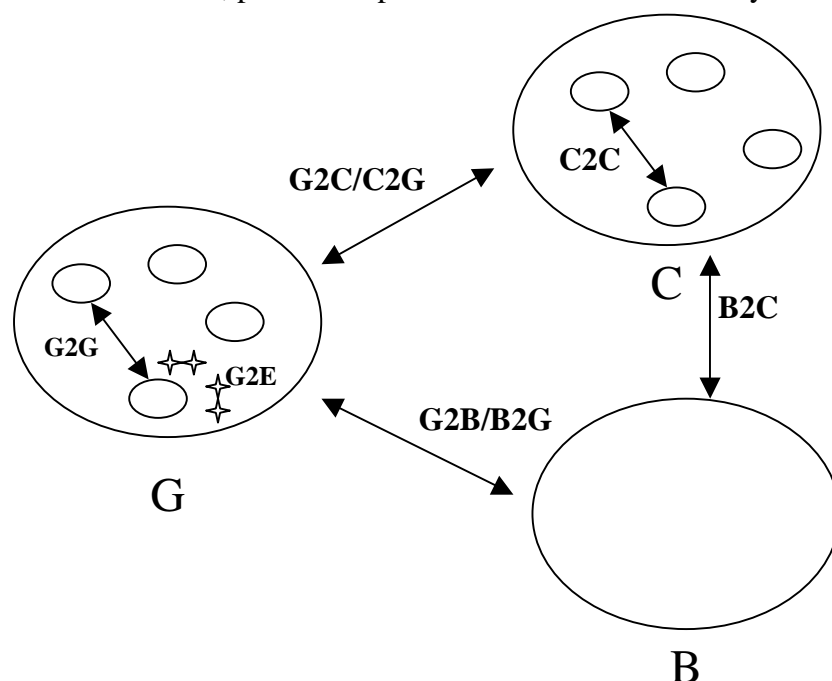


Figure 1: A map of main eGovernment components

2. **citizens [C]**: they are “we, the people...”, the citizens of the country, the main reason to be for the political system and the principal target for the administration.
3. **private businesses [B]**: private enterprises organizing commercial activities, looking mainly for profit and working in a market environment.

As we can see in this map, there are many possibilities for the information to flow between the social stakeholders. However, in this study I considering only the information flows that are of public interest or through which are performed public functions. I will also make two distinctions that will make easier to grasp those from the multitude of information that flows in between.

A first distinction has to be made between *internal flows* that are running between players from the same category [for example between bodies belonging to Government, either local or central] and *external flows* running between stakeholders from different categories [as for example the information running between a governmental body and a private business in the case of an online auction or the so-called eProcurement]. I choose to call the first category of information flows *intra-flows* and the second *inter-flows*.

A second distinction of this flow has to take into consideration the nature of the information exchanged. If the nature of this information has an inherent public component or an embedded public interest then this concerns my study. If it is not of public interest, the information flow is a part of the private area then and thus uninteresting for me in this paper.

Applying these 2 principles we shall put apart the B2B market places [business-to-business online auctioning applications, exclusively of business interest] and the C2C⁵ [consumers-to-consumers] online communities. The remaining flows of information embedding public interests are the ones that I will analyze below.

⁵ the peer-to-peer file-sharing communities like www.napster.com where people physically share files or the opinion sharing-communities where people change opinions on products and services like www.eopinions.com

INTRA-FLOWS

G2G [Government to Government]

This is the case of the IT systems connecting governmental agencies and departments running either as Intranets or as VPN [Virtual Private Networks] over Internet, and exchanging classified information in a secure and multi-level authorized environment. Achieving G2G is a base for achieving integration of governmental services and this is the first milestone towards eGovernment as Janet Caldwell from IBM eGovernment Institute points out in her latest work - *Seven E-Government Leadership Milestones*.

“Integration requires both process integration and technical integration. The customer experience drives both. A business perceives the task "open a business" as a single objective with government, whereas government perceives it as multiple steps with multiple transactions. Underneath process integration is technical infrastructure integration. Not only do your databases and applications need to talk to each other, now the engines that drive them - the PCs, web servers, LANs, networks have to attain a new level of standards.” [Caldow 2001, 7]

G2G is thus a basic step toward eGovernment because the whole point for using governmental electronic services for the citizen is not only the time and space savings factor, but the aggregation of the multiple services of different agencies in a final product – that is just a click away [and not several clicks away].

“Most governments have already recognized the fact that effective citizen services are delivered independently of organizational structure. Some call it one-stop shopping, one window, or a portal. This approach is designed to let citizens access services without having to know which department handles the service.” [Caldow 2001, 4]

Moreover G2G is seen as breaking the “stove piping” nature of public data stores in favor of more efficient enterprise-wide models:

“...providing a single portal for all government services has allowed government entities to break down the "stove piping" nature of public data stores, creating a more effective enterprise-wide model.” [Nortel Networks 2000]

As I have stressed, the back office integration of all public state agencies is a “must” for every eGovernment strategy. This difficult task is not only hard to achieve on the technological level, but also challenges the management techniques integration of very different and autonomous governmental bodies. However, in the end, the bureaucracy could be diminished significantly this leading to much lower costs and increased citizens satisfaction.

“One of the basic reasons for public-sector inefficiency — “bureaucracy” — is that, whereas departments are vertically organized, many of the services that they have to deliver require complex collaboration between employees across departments. The British government has for several years been preaching the need for “joined-up government”, but has found that the underlying structures of government conspire against it.” [The Economist eGovernment Survey, July 2000]

G2E [Government-to-Employees]

A more specific flow within the G2G type is the **G2E [Government-to-Employees]** flow, that is the online management of the government relations with its employees, through distributed databases’ applications with different security access levels. In this respect, I can give the example of the Bucharest City Hall’s employees usage of the different legislative database applications running on the institutions servers, making them sharing access to each other work instantly.

“State employees can leverage the advantages of Web-enabled technology to conduct more efficient business processes, like enrolling in online health plans, accessing provider directories and conducting electronic expense reporting.” [Nortel Networks 2000]

C2C [Citizens to Citizens]

This concept, that is also very related to concept of eDemocracy, has to be approached two-fold, both at virtual and at physical level.

At the virtual level, the C2C communities are found on the websites aggregating users around some interests that have a public nature as, for example, Bahia online community in Hungary [www.bajavaros.hu].

At the physical level, some good examples are the initiatives of civic networking. Such initiatives are “FreeNet” and “Neighborhoods Online” in USA, “UK Online” in United Kingdom, “Telecentres” in EU, “Telehasz” in Hungary and “Telecentre” Romania etc. Both the good services offered on some specific community web sites and the physical networking lead to the formation of online communities interested in the public sphere and politics.

As the focus of this paper is on the online manifestations of eGovernment and less on the physical backup, I will list some of the most successful C2C applications. These applications basically gain ground, due to the fact that they can empower citizens by offering them increased access to information and participation. Among the most widespread forms of implementation I can mention:

- online campaigning and fund-raising;
- voter registration;
- opinion polling;
- communication between representatives and voters mainly through chat and forums;
- online legislative bodies with feedback from the public on the legislative drafts
- online petitions on almost any subject as the “E The People” website, which describes itself as “America’s Interactive Town Hall”.

However, the concept of C2C is closer to eDemocracy than to eGovernment. The difference between the two lies in the different place where the initiative comes from. For eDemocracy the initiative comes from the people that self-organize in on-line networks. eDemocracy is thus a grassroots movement. Unlike it, the eGovernment comes from the governmental level, thus from the top to the bottom. But, both concepts involve a common part. They facilitate to citizens to communicate with each other and with the government. But in this paper I am more interested in the communication that takes place between citizens when they communicate in the same time with the government and less in the communication between citizens in general – which is pure eDemocracy and it is not a focus of my research..

INTER-FLOWS:

G2C [Government to Citizens]

This is one of the most known and debated components of the eGovernment initiatives i.e. bringing government online for its citizens. First, it is brought basic information, then interactivity and new communication channels and only afterwards transactional facilities. Some governments organize these services around a “one stop shop portal” as it is the case for USA with www.firstgov.gov or Singapore with its “eCitizen Center”. Other governments keep them decentralized, linked to the websites of the departments deploying those services also offline, such as the case of “UK now”. The G2C sector is not only one of the most active in terms of information exchanged, but also one of the most popular sectors within eGovernment attracting consequently a large part of the funds committed to eGovernment.

For giving voice to the enthusiasm towards this popular sector of G2C services backed by G2G integrated applications [discussed in the section above] I quote a fragment from a work of Janet Caldow from IEG:

“Without knowing anything about the city bureaucracy, citizens should be able to complete hundreds of tasks -- pay fines, file taxes, renew licenses, file court papers, apply for fishing licenses, or report stolen bikes. City employees should have the ability to access policies, employment benefits, time sheets, and mine data across departmental databases, previously trapped in islands and hand off work flow from one department to another.” [Caldow 2000, 4]

G2C is also multileveled. First we have a major role of eGovernment–transparency provider and free flow of information facilitator. Then it comes its function of delivering services over the Internet for the benefit of the people. And finally, a feature not that popular yet but with fair opportunities – the eVoting.

1. eGovernment as a transparency provider and free flow of information facilitator

According to Edwin Rekosh “*the public access to information on government decision-making is vital to ensuring accountability in post communist societies.*” [Rekosh 11, 1995].

However, the access to public information is an issue at stake not only in the postcommunist societies, but also in the most developed capitalist societies. In these circumstances the Internet seems to be a major facilitator and a great enabler of citizens access to public information, unless the political forces decide not to use it.

On www.firstgov.gov we can find an exhaustive list of contacts grouped on the following categories:

- President and Vice President
- Your Senator
- Your Representative
- Other Government Contacts, by Topic
- Telephone Numbers for U.S. Government

Also in many countries on the websites of the government, of the national parliament or of other governmental institutions one can find many working groups’ reports, speeches, progress reports, reports of daily activities, interministerial communications, press releases, drafts of law proposals and bills, budgets etc. All this amount of information needs to be put online for citizens to be able to access it, but the decision belongs to the national governments, which in the Eastern European countries perform this only to a certain extent, that will not endanger their monopoly over information.

Consequently, the Internet is a great 24x7 enabler for the freedom of information flow, but this happens only if the political authority gives a green light to this process.

2. Electronic service delivery through one-stop shop national portals

The delivery of administrative services over the Internet is one of the most sought application of eGovernment, that calls the attention of governments worldwide. A classification of these governmental services delivered online would be hard to accomplish given the different developments in different countries of the world. This is why I have chosen for my paper to present, the most advanced e-services delivery center in the world – the one known as eCitizen Centre and developed by the Singapore government for its citizens and also its counter part developed by FirstGov.gov in the US.

On the Singaporean website you can do whatever you want from paying your fines online to registering your childbirth or enlisting into the military service. As one may see in the web page picture below, the services are grouped under some categories as Family, Employment, Health, Defense, Business etc, but links to some community websites

The image shows a screenshot of the eCitizen Centre website. At the top, there is a dark green header with the text "eCitizen Centre" in white. Below the header, the website is organized into a grid of service categories. Each category has a bold heading and a list of links. The categories are: Business, Defence, Education, Employment, Family, Health, Housing, Law & Order, and Transport. At the bottom of the screenshot, there is a dark green box with the heading "COMMUNITY SITES" in white, followed by a list of links to various community organizations and services.

eCitizen Centre		
Business Adopt Best Practices Apply For Patent Apply For Technology Support Apply For Trademark Develop Your Enterprise Organise Arts & Cultural Events Rent Commercial / Industrial Property Set Up A Business	Defence Apply For MINDEF/SAF Scholarship Claim NSmen Pay Do Business with MINDEF Find out about National Service Give Feedback to MINDEF Go For IPPT Go Overseas Pursue A First Class Career Register For National Service	Education Attend JC/CI/Poly/ITE Attend Primary School Attend Secondary School Overseas Singaporean Enrollment Pursue Tertiary Education Upgrade Your Skills
Employment Back To Work Employing People Looking For A Job Retiring From The Workforce Upgrade Your Skills Working in Singapore	Family Attend to a Demise Care for the Elderly Get Married Register Birth Start a Family	Health Care for the Elderly Seek Dental Care Seek Healthy Sporting Lifestyle Seek Hospital Services
Housing Buying a Property Looking for a Property Move House Renting a Flat Selling a Property	Law & Order File a Police Report Insolvency & Public Trustee's Office Obtain Legal Advice Pay for Offences	Transport Travel Overseas Travel within Singapore
COMMUNITY SITES People's Association Grassroots Organisations Community Development Councils Constituency Secretariats Community Centres/Clubs Resident Committees Town Councils National Youth Council Youth Activities Senior Citizens' Activities Courses for Everyone Childcare Services Facilities Search Community Chest National Council of Social Service CDAC MENDAKI SINDA Charities Expatriates' Websites Singapore Sports Council		

Figure 2: eCitizen Centre
 Source: <http://www.ecitizen.gov.sg>

performing also public services are listed on its bottom.

Additional services are offered in real time about weather, traffic jams or stock exchanges.



Figure 3: Extra services offered by eCitizen Centre

Source: <http://www.ecitizen.gov.sg>

On the US portal www.firstgov.gov there is also an eCitizen page which puts together links to “government transactions and services for citizens”, such as: “*Buying, Forms and Applications, Contacts and Resources* “ Considering the purpose of this paper I will provide a complete list of the services that this online center brings to the citizens.

Buying

Coins, Jewelry & Gifts from the U.S. Mint

Auctions

Personal Property and Other Property

Real Property

Wild Horse Adoption

Bureau of Engraving & Printing Store

Financial Assets

Flag Flown Over U.S. Capital

Government Bookstore

Government Consumer Publications - Pueblo

Maps

U.S. Postal Service

Stamps

Pay Bills

Calculate Rate for your Letters and Packages

Savings Bonds

Smithsonian Institution Shops

Treasury Bills, Notes, And Bonds

White House Gifts

In this first category we notice that one can buy different things from public institutions, starting with coins and stamps if it is a collector to state bonds if it is a private investor. This first category is one that I would classify as the “Government B2C” and plays more or less a role of PR for the Government.

Forms and Applications

- Federal Forms Portal
- Address Change
- America's Job Bank
- Birth, Death, Marriage, Divorce Certificates
- Federal Student Financial Aid
- Grants
- Health Insurance for your Child
- Medicare Card Replacement
- National Parks Reservations and Tours
- Patent Applications
- Passport Application (PDF form)
- Register for the Draft
- Research Grants
- Social Security
 - General Social Security Services
 - Apply for Retirement Benefits
 - Apply for Social Security Card (PDF form)
 - Request a Social Security Statement
 - Estimate Your Future Social Security Benefits
 - Services for people who already receive Social Security
 - Request a Social Security Benefit Verification Letter
 - Request a Social Security Benefit Statement
 - Check Your Social Security Benefits
- Taxes
 - E-File Your Taxes
- Veterans Benefits Applications

This second category is clearly the one that has a vast majority of electronic service delivery [ESD]. This is the very heart of the eGovernment function of ESD facilitator.

Contacts

- President and Vice President
- Your Senator
- Your Representative
- Other Government Contacts, by Topic
- Telephone Numbers for U.S. Government

This category performs another vital function of eGovernment – transparency and freedom of information facilitator. From this point one can go to agencies or to Parliament and get information on its work. One can contact people responsible for the problems he is interested in and ask for more information too. This basic function of eGovernment making the public information free is brilliantly exhibited here.

Resources

- Government May Owe You Money:
 - Credit Union Unclaimed Shares
 - HUD/FHA Mortgage Insurance Refunds
 - Pension Funds from Former Employers

States Unclaimed Property
Undelivered Tax Refunds from the IRS
Drivers Licenses
Education Resources
Eldercare Locator
Nursing Home Compare
Recalls

This 4th category is again operational and it is encompassed in the ESD area of eGovernment.

All these services are made available by the proper agencies from their own websites, but the www.firstgov.gov website provides to citizens the benefit of saving time by using this one-stop shop feature

3. Delivery of community service through local portals

This is basically the same as the one-stop shop national portal, but it is developed for smaller communities such as cities or towns. The examples for these are: Infoville in Valencia/Spain or NaestvedNet in Naestved/Denmark.

“The government of Valencia, working with Oracle, a software and consulting firm, conceived Infoville not just as a local government website, but as a portal that would combine a broad range of services from both the public and the private sector. Juan Rada, who heads Oracle’s serviceindustries practice in Europe, says that Infoville is a kind of local information utility which integrates e-commerce, e-government, online learning and virtual governance.” [The Economist eGovernment Survey, July 2000]

The benefits and functions are here the same with the one-stop shop national portal but reduced to scale.

4. Electronic voting

Both voting preparations [online voter registration and online postal vote application in UK] and the voting process itself could be delivered online.

“Experiments at the local level, such as the Arizona Democratic primary in March, when 40,000 people voted via the web (a 600% increase in turnout over the election of 1996), will proliferate in both America and Europe as governments learn how to run cyber polls.” [The Economist eGovernment Survey, July 2000]

At this moment eVoting is not trusted, but people favorize more and more the inference of technology with the voting process especially since the manual count has always shown errors [the case of last year national elections in the United States.]

Even if there are also pessimistic views on the G2C possibility to improve citizens and business lives [opinions based mainly on the general apathy and use of Internet for infotainment purposes and also on the digital divide gap between online and offline citizens] the conclusions of the last year The Economist’s Survey on eGovernment are still unbeatable “24-hour, seven-days-a-week availability and convenience, fast delivery, customer focus and personalization became the norm in the public sector, it would not just make life easier, it would fundamentally change the way that people view government itself.” [The Economist eGovernment Survey, July 2000]

B2C [Business to Citizens] This is a strange example that theoretically does not have its place in my map, but which, due to objectives conditions, I have to include. Mainly because of the financial reasons and of the budgeting burden, the governments sometimes enter into partnerships with private enterprises, by forming joint services for public utility. I would mention here as an example the case of www.payyourticket.com or www.ezgov.com that developed public services for governmental bodies, being private enterprises commissioned to design, implement and run public services delivered over the Internet. [see the figure below]

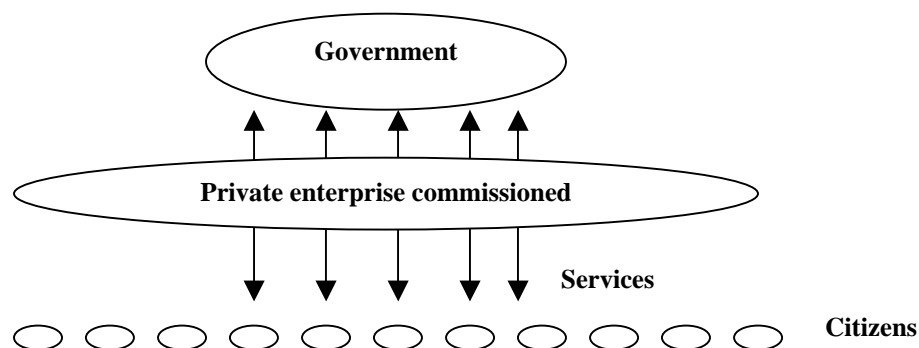


Figure 4: Business-to-Citizens eGovernment applications

G2B [Government to Business]

This sector has two main categories of interactions. First, the government looks for suppliers and buys through eProcurement applications from these companies. This is the hot application, which saves money and brings more transparency to the state acquisitions process. Second, there are here lots of interactions between the state agencies and the business.

1. eProcurement

The first Internet-based government procurement system was launched couple of years ago by MINDEF's [Ministry of Defense] IT arm in Singapore. Since then it has become obvious how these new techniques could provide more competitive bidding processes, lowering frauds, more accountable paperless system of tenders management, easier access to corporate suppliers worldwide, time saved by online processing of orders and electronic collections of high-quality data.

“The state government of Australia’s Victoria has worked with Oracle to improve the purchasing efficiency of its Department of Natural Resources and Environment by 70%.” [The Economist eGovernment Survey, July 2000]

Consequently, the main importance of this sector relies on the cost savings and improved efficiency and transparency that the eProcurement brings. In a US Presidential Directive related to e-Government dated December 17, 1999, Bill Clinton mentioned that: *“The heads of agencies shall promote the use of electronic commerce, where appropriate, for faster, cheaper ordering on Federal procurements that will result in savings to the taxpayer.”*

2. e-Business Service Center

I looked again at the governmental portal www.firstgov.gov in order to see what a business in US should expect to be put online by its government. This is what I found:

Buying and Selling

Auctions, Asset Sales, and Surplus Property
Auction (Reverse); and e-Government Buyers
Purchase
Business Advisor
Buying from the Federal Government
Exports
GSA Advantage for Federal Agencies
Postal Services
 Letters and Packages
 Stamps
Sales to the Government/Procurement (FedBizOpps)
Surplus Computers Free for Education
Treasury Bills, Notes and Bonds
U.S. Department Of Transportation Payments
Women Owned Businesses Selling to the Government

Forms and Applications

America's Job Bank
Animal and Plant Import Permits
Business Advisor
Business Taxes
Employers Information
Federal Forms
Federal Energy Regulatory Commission's EFile program

Grants

Research Grants
Per Diem Rates for U.S. Government Travelers:
 Per Diem Rates (Domestic)
 Per Diem Rates (Foreign)
Securities & Exchange Commission (SEC) Disclosures
Filing
Trademark Application
U.S. Postal Service Forms

Contacts

Comments: Let the Federal Government Know
Telephone Numbers for U.S. Government

Resources

Afterschool
Business Advisor
Education: Federal Resources for Educational Excellence
Export Information
Federal Laws
FedWorld
Geographic Data
NonProfits
Statistics
Trademark Information

The classification is more or less the same as the one belonging to the eCitizen page: small size eCommerce with the government, ESD [Electronic Service Delivery], information and resources. We can find a vivid description of this G2B component at Janet Caldwell:

“Businesses should be able to do business with government in a simple, integrated environment. Aggregate the initiating process and compliance processes into single points, without having to contact multiple city agencies. For example, a business should be able to report and write one 'digital check' for all tax payments: hotel-motel tax, sales tax, beverage tax, real estate tax, and property tax. Initial business startup permitting should follow the same principles, conducting all the business necessary in one step regardless of the number of city departments involved. After all, your local companies are not only one answer to the Internet sales tax dilemma, but they also hire your citizens, pay income tax, property tax, business license fees, and contribute to overall economic growth. Amazon doesn't.” [Caldow 2000, 4]

1.3. eGovernment definition

Finally, I got to the point where I have to answer the question ‘What is eGovernment?’ Hopefully, I offered to the reader a thorough examination of all eGovernment components and of the subsequent examples. The reality is that eGovernment is in fact a new paradigm of organizing our society. Even the social laws and norms remain the same, the way we apply and value them is changing a lot. The social relations reach through eGovernment to such a personal and customized level never even imagined before. What is eGovernment then?

“eGovernment is not eBusiness. It is much more. Ultimately, eGovernment is about our relationships with our civic institutions and the foundation of our next-generation communities. It is about extending the social contract to provide better services to all citizens and businesses. It is a technology platform for hope and promise – the promise of an entrepreneurial and more personal government for our children and their own.” [Momentum Research Group, 2000]:

Simply put eGovernment consists in new ways of interacting between citizens and officials through any electronic means.

“Strictly speaking, the term 'electronic government' should refer to government activities facilitated by any electronic means - from telephones, faxes and photocopiers to the storing of electronic records. But obviously this is splitting hairs, because it is the interaction with the public the Internet permits which is the distinguishing factor.” [Hutchinson, 2000]

However, using the means is only a part of the definition. The government should know how to deploy them for getting not only maximum efficiency, but also new competencies.

Based on all this theoretical background I can give now my own definition for eGovernment:

eGovernment is the process of the public sector reinvention through digitalization and new information management techniques, a process aiming at more participatory politics and much more administrative efficiency.

In this chapter I was concerned with the outlining of the eGovernment concept, which I will use in the second part of my thesis as a theoretical background for the analysis of eGovernment in Romania. Because the simple reviewing of some definitions was not enough for getting to a comprehensive definition I have chosen to map all major components of eGovernment. I used this result not only in the definition of eGovernment I formulated but also in the second chapter of this first part where I will propose a classification for eGovernment stages of evolution.

Chapter 2. eGovernment stages

In this chapter I will propose a model for a classification of eGovernment stages that I will use later in the second part of my thesis in my assessment of eGovernment in Romania. In making this proposal I start by investigating the most well known model of eGovernment created by ASPA early this year. My method will be to approach this in a critical manner and to point out all the inconsistencies and vagueness and to get through elimination to a consolidated model – much more accurate and useful for further research.

2.1. The 5 layers model of eGovernment: a critical approach

As you remember I proposed as an aim for this first part not only to find a definition for eGovernment and to map the different aspects of this concept, but also to find an operational classification for eGovernment stages of development, which will be useful to me later when I will assess the Romanian eGovernment stage. My search of literature offered me some choices, but I considered them improper for really defining in a scientific manner where eGovernment initiatives of a national government lie.

The best-documented classification belongs to an ASPA/UN survey. This classification envisions 5 stages of transition to eGovernment [ASPA 2001]. However, I challenge this model, because it does not take into account the separate areas of eGovernment action [G2G, G2C etc.] and simply relies on a superficial G2C/G2B analysis for assessing a country eGovernment system in one of its five stages. I will make my comments and my critics now for each of the 5 stages proposed by ASPA.

“Stage 1: Emerging web presence

A country has a formal but limited web presence through a single or a few independent government websites that generally serve as public information sources. The site(s) provide users with static information on the government and/or its ministries, agencies, elected officials etc. Contact information like addresses, phone numbers, office hours, calendars, etc are posted. Special features like frequently asked questions may be found.”

“ Stage 2: Enhanced web presence

A country's web presence expands as users can access dynamic and specialized information that is regularly updated through an increasing number of official websites. An official national government website or homepage may serve as an entry point linking users to other branches, ministries, departments and sub-national government sites. Official government publications, legislation, newsletters and other useful documents can be downloaded or ordered online. Search features, e-mail and areas for posting comments are accessible.”

First, I would like to bring some commentaries to what is presented as a plus in stage II as compared to stage I:

1. *“an increasing number of official websites”* The question here is how can one benchmark this? How many should be in order to skip from stage I to stage II? A solution could be to link this to the number of offline governmental bodies and institutions, for example considering that if more than a certain percent of all the institutions belonging in some way to the public sector are online, the eGov level of that country can be placed in one of the five stages. However, there is still an accuracy problem when it comes to determine if an agency is an independent entity or only some departments within it should be considered independent entities that have to develop their own websites.
2. *“an official national government website ... as an entry point”* This means that the “one-stop-shopping” feature of eGov begins to develop. However, in my opinion this is not that relevant. I think that if in a certain country there are 4 sites, each of them will have links to the others. This costs nothing. Any of them is a one-stop-shop from this perspective. A one-stop shop is more than a collection of links. It is a separate website served by special searching engines and proprietary technologies of integrating the IT back office systems of the various departments presented online.
3. *“newsletters and other useful documents can be downloaded ...”* ‘Download’ is a very general word. A web page is basically downloaded from the original server to the

user's computer every time, when a user views that page. In this case even a simple web page, primitively edited will be downloaded. I would say here that the presence of specially prepared downloads – pdf, words, zip files, rtf is needed in order to speak about download. This requires a new circuit of information and a thorough implementation of working solutions for the information flow management.

4. “...or ordered online” To order here might mean to give an address and to receive something free. If there is a paying facility the download becomes an interaction involving an order and its fulfillment and this will lead consequently to an enlisting in the stage 4. In this case my opinion is that I would keep it simple, meaning by this function a facility like: “give us your data and we shall send this document to you free of charge”.
5. “*Search features...*” The search is really hard to be done and it supposes already more than an enhanced presence. But this depends on the quality of the search algorithm. Is this referring to searching into distributed databases or just searching for words or meta tags? My approach would be the later. The former is more likely from the 3rd stage on.
6. “...*e-mail...*” I do not see the role of email here. Is this a free email service on an eGov server? I rather doubt it that someone would keep his emails on the server that belongs to government or to governmental agencies. It is impossible in people eyes to grant any privacy on those. And just to put the contact email on the website is the first phase. I would skip this feature.

“Stage 3: Interactive web presence

A country's presence on the Internet expands dramatically with an increase in the number of official websites providing access to a broad range of government institutions and the services they provide. A national government website frequently acts as a portal directly linking users with ministries, departments and agencies. Formal interactions between citizens and service providers take place on a more sophisticated level allowing users to directly access information based on their specific

interests or needs. Users can search specialized databases; download forms and applications or submit them online; make appointments with officials; participate in online town-hall meetings. Secure sites and user passwords begin to emerge.”

1. “*expands dramatically*” how can be “*dramatically*” defined? What is the break-even point for this? This is hard to tell [almost impossible from my point of view]. It is very important the position you start from i.e. the base for defining such an increasing coefficient. If for example, a country merely has 2 governmental websites and in one-year time 8 new sites come up, this is a 400% increase and surely it is a dramatic one. But if those new sites are also barely presentation sites, this means almost nothing in terms of development from one stage to another. I would rather link this dramatic evolution to the starting point i.e. a solid web presence for all the main bodies and a dramatic expansion of all second and third level bodies coming in place as an embodiment of a clear strategy of bringing government online.
2. It is not clear here what are the features that makes the difference between stage II and III. I would say that features such as complicated databases are not anything that makes the difference. Basically, I think that what it counts here is ‘THE DRIVE’ – I mean the general attitude of the officials towards the role of ICT in governance. It is no difference between having an email and not having a clear strategy of approaching your ‘customers’ [CRM] and not having an email at all. When officials start to use Internet communication and are compelled to this by the general evolution of government, when the information flow is digitized, when the requirements for each job within the administration include PC’s and Internet/networking skills, then I think that the eGov enters into its interactive age.
3. Consequently, I will approach this stage rather from the point of view of the general strategy and of the behavior towards Internet within the administration.

“ Stage 4: Transactional web presence

Users will have the ability to conduct complete and secure transactions online like obtaining visas, passports, birth and death records, licenses, permits or specialized government services. A single national government website will allow the user to customize a secure one-stop-shop portal that will enable direct access to most government services. Such portals will allow direct access to services based on a user's specific need or priorities rather than by the functions of a department or agency. Sites will ultimately be secure making it possible for citizens to safely file and pay taxes online, pay parking fines, automobile registration fees, utility bills. Digital signatures will be recognized.”

It seems clear here. Government delivers services over the Internet [and even displace the former offline ones with these new on-line delivered services] and people use these services instead of the offline ones.

What is critical here, compared with the 3rd level is the coming into place of:

1. Authentication and secure connections – for this you need PKI [Public Key Infrastructure and Electronic Signature Law]
2. Total change of back office management techniques.
3. Enough Internet literacy among most of the people – the targeted users of the eGov enterprise.

“Stage 5: Fully integrated web presence

Country provides all services and links through a one-stop-shop portal. By clicking on the national government official site, users will have the ability to instantly access any service made available in a ‘unified package’. Ministerial/departmental/agency lines of demarcation are blurred in cyberspace. Governments will cluster services along common needs through one universal portal. All transactional services offered by government will be available online. “

I have no comments for this last one, as it will be always a goal for a government. No country has achieved yet, such an online level of presence. Many of the most advanced countries have as a target the years 2003 – 2005 for this to happen. But even so, the experience for designing and managing public online services will only be a reality after years of feedback collections on the systems facilities. And as the technological

advancements never stop, so the quest for the fully integrated web presence will not stop either. The next step will be to be on-air [wireless access] not only on-line.

2.2. A classification of eGovernment

I think that the model that ASPA proposes is very appealing at first because of its simplicity. However, it is clear for me that these features and stages, which they try to put together, are borrowed from the model that presents the shift from a ‘brick and mortar’ company to a ‘click and mortar’ one. I question their assumption that the shift to eGovernment should be treated in the same way as the shift to eBusiness. In my opinion even the most sophisticated and very rich private enterprise is a lot simpler than a governmental institution. It is so because the aim for getting more profit that a business pursue determines clearer organizational charts that involve less compromise. On the other hand the representativeness and the compromises found in the public sector make this shift more complex and depending on many more factors.

Based on the eGovernment components presented in the fist chapter I would propose in this chapter my own model of eGovernment classification which I will use latter in the second part of this thesis to assess the eGovernment stage in Romania.

Stage	Sub-stage	G2G		Functional G2E	Functional G2C	Functional G2B	Marginal C2C
		Prerequisite	Functional				
		BO	FO				
1. Informative	1. Simple						
	2. Emerging						
	3. Enhanced						
2. Interactive	1. Simple						
	2. Operational						
	3. Pre-transactional						
3. Transactional	1. Pilot						
	2. Intermediate						
	2. Full level						
4. Integrated							

Areas: In my proposal of classification I took the 5 main areas for eGovernmental actions [G2G, G2E, G2C, G2B and C2C] and I assigned to each one a stage and subsequent sub-stages.

I also divided the G2G area in BO [i.e. Back Office] and FO [i.e. Front Office]. The Back Office G2G represents the level of operational communication between various governmental applications residing in 2 or more different agencies; it is the technical aspect of G2G. The Front Office G2G represents in fact the official relations and changes of information between agencies at an official level; it represents in fact the management aspect of G2G. A G2G FO application is thus one that could also be called as inter-governmental – and it relies more on the management integration than on the technical integration as the G2G BO does.

The other components are fully explained in my eGovernment map at the beginning of this paper and each of them could be broken into other components as for example G2B in eProcurement and eBusiness Center, G2C in ESD [taxes, education, eCommerce etc.], Information and eVoting etc.

Stages: I listed the stages in the natural order of development: from 1 to 4, each one of the four having subsequent sub-stages.

Stage	Sub-stage	Explanation and examples
1. Informative	1. Simple	At this basic stage the government has a limited online presence, consisting in very simple web pages, usually developed through civil society initiatives. [like Soros]
	2. Emerging	More web pages and more complex programmed applications are used. The internal ICT sector weighs more in the governmental organizational charts.
	3. Enhanced	The web pages are created with technologies that interrogate databases within the governmental Intranet. The changes are easier and the volume of information increases. Thus downloads and newsletters become necessities.
2. Interactive	1. Simple	First emails of complaints are posted and handled within the organization. Then internal search engines and forums/chats are implemented.
	2. Operational	The visitors can use at this stage internal applications more easier and the effectiveness of these solutions increases as people use them more and more.
	3. Pre-transactional	User pages, secure passwords, online ordering and incipient online paying and filling of forms emerge at this stage.

3. Transactional	1. Pilot	Authentication is tested first. The delivery of governmental services over the Internet is gradually introduced and advertised.
	2. Intermediate	People start to use the transactional capabilities of the websites, but not at a mass level yet. However, this is the stage when from the feedback collected the system becomes better and useful for its targeted users.
	2. Full level	The main characteristic is the mass use of electronic services delivery and new channels of communication. People know how to take advantage of eGovernment and the aim of the latter is almost attained.
4. Integrated		This is real 24 x 7 availability and full G2G BO integration. At this stage we have a seamless delivery of services through user-friendly interfaces aggregating all governmental facilities linked by secure connections. At this stage we have the real one-stop shop portal in place like eCitizen Center in Singapore or MAXI in Victoria State/Australia.

Attributes: I also defined three categories of general attributes for each of the mentioned areas.

Only one – G2G BO - is prerequisite. The only possible values it can take are transactional and integrated and this will define the maximum the other areas can get too. This means that if G2G BO is in 3.1. Transactional Pilot, then the G2C and G2B applications cannot be in 3.2. or even stage number 4. This is so because the back office integration can by no means be ‘informative’ or ‘interactive’, it should be transactional or fully integrated by its own nature.

The second attribute is functional and defines G2G FO, G2E, G2C and G2B that are mainly independent of each other in implementation.

The third category of attributes – marginal - has also only one assigned area – C2C that is marginal because I consider it to be somehow independent of direct governmental action and indirectly influenced of general eGovernment stage. C2C is more about eDemocracy than about eGovernment, but its place is as one of the eGovernment areas.

At this point, having all the variables and the possible values they can get in place, one can proceed and analyzing each of the 5 components characteristics can decide that the respective component of eGovernment has a certain attribute of implementation.

For example, a country which has the G2G BO in the gray area – which means that it has no G2G back office integration at all, can not have G2E or G2C solutions of stage 3 or 4 implemented because without back office implementation this is impossible.

Basically C2C is an indicator of the general education level of the analyzed county population on Information Society issues. C2C cannot be more that 2.2 that is interactive operational, due to the nature of the communication types involved. But as C2C is an exogenous variable for the eGovernment system analysis, this doesn't mean that C2C 2.2 is a restriction, a maximum or a minimum for the eGovernment stage. On the scale C2C 1 to C2C 2.2 a country can have people who barely have homepages and email accounts to people who actively use discussion fora and chat channels.

For exemplification of the way my model works I will asses with no serious analyzes, but merely personal hints the assessment of a developed country eGovernment stage.

Stage	Sub-stage	G2G		Functional G2E	Functional G2C	Functional G2B	Marginal C2C
		Prerequisite	Functional				
		BO	FO				
1. Informative	1. Simple						
	2. Emerging						
	3. Enhanced						
2. Interactive	1. Simple						
	2. Operational						X
	3. Pre-transactional			X			
3. Transactional	1. Beta Version				X		
	2. Intermediate		X				
	2. Full level	X				X	
4. Integrated							

This means that this country has in place full PKI [Public Key Infrastructure] and integration of both technology and management processes at the G2G level. However, due to some reasons, maybe lack of interest or funding, G2E was left at a

pre-transactional level where government employees could barely modify their profile or apply for various things, but never doing serious things like such as online health plan because of the lack of secure authentication. In the same analyzes we notice that G2G FO manages to implement inter-governmental duties online. And while G2C is merely in its infancy citizens being able to pay some categories of taxes online the G2B has really taken off the ground to the intense business lobby that made eProcurement already a flourishing industry. As for the state of C2C we see a maximum level which indicates us that the general ICT education is very good and probably the Internet penetration rate is quite high.

This is the eGovernment classification that I propose. Unlike the ASPA model my model is more specific and tries to evaluate the specific stage of development for each of the main eGovernment components. One cannot get with my classification to an overall aggregated level of eGovernment because the 5 areas are not given a specific percentage out of 100 with the final outcome a moderated average [as they did in the ASPA/UN survey]. It is not so, because I believe it's quite impossible to decide which area gets which of the total level of eGovernment. The best thing it would be to assess each of the 5 components and to draw the conclusion without saying that a country is on the whole on some stage of development but to determine for each of its components the subsequent stage of development. I refuse to do otherwise because I consider eGovernment assessments improper documented and insufficiently developed yet for getting final conclusions, as it would be this one.

Consequently, I ended this second chapter of the first part with a model for an eGovernment classification divided both by components and stages of development. I will use this classification in the second part of my thesis for making an assessment of the Romanian eGovernment both at the online and the offline central and local levels.

Part 2. An assessment of Romanian eGovernment initiatives: drawbacks and opportunities

Chapter 1. Analysis of ICT indicators for Romania

In this chapter I will analyze the general state of Information Society in Romania. This analysis would be useful to the purpose of this thesis by outlining the present background for eGovernment and the general causes that determines it to stay at its present level.

In the vast majority of cases the Information Society and eGovernment applications start for someone when that person it turns on a computer. But in Romania the PC's penetration is one of the lowest in the region, around 3.2%, compared with Western Europe where is more than 50%. However, the growth rate is one of the biggest at 51%⁶ and this last fact could mean that Romania is making up.

Total PC number per 100 inh			
	End 1998	End 2000	Growth rate
Albania	0.1	0.1	17%
Bosnia	n.a.	n.a.	n.a.
Bulgaria	3.3	4.4	33%
Czech	9	13	47%
Estonia	n.a.	n.a.	n.a.
Macedonia	n.a.	n.a.	n.a.
Hungary	2.5	3.6	43%
Latvia	7.5	11.3	51%
Lithuania	5.4	8	44%
Poland	12	15.5	30%
Romania	2	3.2	51%
Slovakia	8.6	13.3	54%
Slovenia	21.2	27.3	29%
CEEC Average	7	10	42%

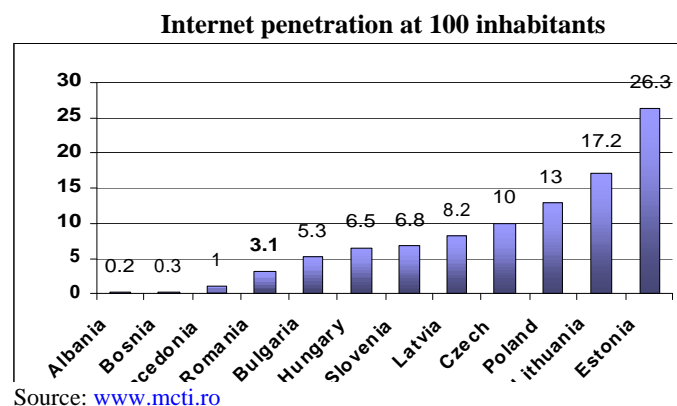
Source: <http://www.ispo.cec.be/esis2>

An article published by StockAccess.com on May 7, 2001 mentions that “according to a Media Controller survey, which involved 1,170 respondents in last April, less than 24% of the residents of Romania's capital Bucharest have computers at home.

The computer penetration is largest for the people within 18-29 and 40-49 years of age (36% and 35%, respectively), while the number for the 30-39 years category is just 26%. Penetration is even lower for the 50-59 years category (19%) and for the over 60 category (7%). “ However, this rate is one of the biggest in the country. According to a Mercury market research, quoted by the same StockAccess.com, “as of mid-2000 the computer penetration was also showing substantial geographical imbalances. At the extremes were Bucharest, where 13% of the families reportedly had their own computers at home, and Romania's southern provinces Muntenia, Oltenia and Dobrodja (4%).” This points out the digital divide in Romania, not only in rural versus urban areas but also in Bucharest versus smaller towns in the country. The digital divide is another matter of serious concern for eGovernment initiatives because these initiatives need support in all social classes all over the country.

It is also true that it is not enough to have a computer, but also an Internet connection for taking advantage of the Information Society advantages. A Media Research analysis, presented by eMarketer in January 2001, mentions that in Romania there are about 1.300.000 Internet users, which makes the country the 4th online market in Eastern Europe. According to the same market report, 60% of the users are located in Bucharest. [www.emarketer.com]

However, in terms of relative penetration there are no more than 3.1 Internet users at 100 inhabitants, that is almost 10 times lower than Estonia and 20 times lower than Finland or US.



⁶ All this analysis was obtained by aggregating different surveys I get from the Internet and by attributing personal interpretations to the data.

Moreover, according to reports [source: www.mcti.ro] the Internet users growth rate in Romania is the last of CEEC, having the value of 10% comparing with 23% in Albania, 103% in Poland and 400% in Czech Republic. It seems that Romanian are willing to make up only in terms of PC use and not in terms of connectivity. This is a bad sign for online initiatives because it shows that the potential user base for the eGovernment initiatives will not get better in significant amounts in the following years.

The most used way to access the Internet seems to be the dial up connection. *“74% of the Internet users in Bucharest use dial-up connection.”* [source: www.mediafax.ro] Moreover, a national analysis shows us that *“Some 35% of the companies in the urban areas that use Romtelecom services (that is 115,000-120,000 companies) also have Internet access. 75% of them use dial-up connections and only 25% have dedicated line connections. However, some 20-25% of the former categories are expected to move upwards to dedicated connections this year.”* [StockAccess.com]

As this connection method is expensive due to the Romtelecom monopoly over fixed line telephony, people prefer to go online at night *“Our servers are fully loaded between 9 p.m. and midnight; in the rest the load averages 15 to 40%, with large region-to-region variation”* says Calin Nistor, associate director of Xnet Internet Services [one of the leading Romanian ISPs, owned by the mobile operator Mobifon] interviewed by StockAccess.com. The fact that the most used Internet connection is the dial up, clearly points out the low bandwidths opportunities people have in Romania. Using a maximum 56 kbps modem will not make possible for citizens to watch web cast of parliaments or other multimedia on the governmental websites. This is why the governments sites should abide the rule “Keep it simple” when they design their websites.

Considering the time spent online, *“only 28% of the Internet users spend more than three hours per week on the Net; 16% spend between two and three hours, 29% between one and two hours and the remaining 27% less than one hour per week. Dial-up*

connection remains by far the most widely used. A multiple-answer poll revealed the importance of the Internet cafes as access gates (36% of respondents); 30% hook up from their offices, 27% from school facilities, 13% from their home computers and the same percentage from relatives and friends.” [source: www.mediafax.ro] This data have really to worry us because we see that the maximum time spent online is 3 hours for the vast majority of Romanians. In this case it would be impossible for a citizen to have time to surf governmental websites especially as many of them download very slow.

The Romania Internet users use especially email – i.e. a cheap communication form with people in other cities or abroad. *“Some 22% of Bucharest's residents have Internet access, but the relative majority (42%) uses the Net primarily for e-mail services. Web surfing comes a distant second (28%), followed by chat services (19%).”* [Mediafax quoted by StockAccess.com] This is also a matter of concern because eGovernment assumes that people are online and browse governmental web sites. It’s difficult if not impossible to handle eGovernment application only through emailing.

Regarding the profile of the users we find out from an article dated April 17, 2001 from StockAccess.com that *“according to a survey conducted by consulting company Ascendo, high school and university students account for 44.7% of the Romanian Internet users. University graduates are the second largest category of Internet users, with 27.2%. Most users go online from Internet cafes, while natural persons and SOHO firms hold the majority of Internet accounts”*⁷

The same study reveals that teenagers (14-17 years old) constitute 19.5% of the Romanian Internet users, with majority (37.9%) representing people 18-24 years of age. The category 25-34 accounts for 25.4%, while people aged 35-44 contribute by 10.3% to the big picture with the remainder coming from people above 45.

⁷. The study, quoted by local news agency Mediafax, is based on Ascendo's own data, but also on data and analyses of Mercury Marketing and Research Consultants, Roland Berger & Partners and Daedalus Consulting Marketing & Research.

The young people are the most politically inactive segment of the society. The fact that they form the majority of Internet users in Romania tell us that also the Internet users will have this characteristic – politically inactive, thus no interested in surfing and using governmental services on the Internet. The governmental services need demand and a user base in order to develop and also need feedback. Nothing happens at the present moment.

From the same sources we find out that the gender imbalance is obvious, 2/3 of Internet users being men and only 1/3 women.

Moreover, the table below shows us that not only Internet use, but also web sites creation is measured in small figures.

**Host count by DNS domains per 1000 inhabitants
in Central and East European countries 1997-1999**

Country	1997	1998	1999
Albania	0.1	0.1	0.1
Bosnia-Herz	1	1	0.9
Bulgaria	6	8	2
Czech	11	16	11
Estonia	3	1	20
Hungary	1	6	8
Latvia	0	3	4
Lithuania	9	5	6
Poland	1	13	37
Romania	1	1	1

Source: <http://www.mcti.ro>

What we basically learn from this table is that theoretically we have 1 website [or a machine connected to Internet] at 1000 inhabitants in Romania, this compared with 20 in Estonia and 8 in Hungary. Thus the lack of content is a consequence but also a determinant of the fact that people do not go online too often. This is definitely a vicious circle.

In order to compare once again the state of Romanian web content benchmarked to developed countries this time, I present the table below:

Worldwide Internet state of fact in 1999

C o u n t r y	H o s t n u m b e r
R o m a n i a	3 1 4 1 0
B u l g a r i a	1 4 8 0 1
R u s s i a	2 4 1 9 2 6
H u n g a r y	1 1 4 4 5 3
S w e d e n	4 5 8 9 0 5
G r e a t B r i t a i n	1 8 1 9 2 1 4
H o l l a n d	7 5 8 2 0 1
I t a l y	4 2 4 3 2 6
F r a n c e	6 3 3 6 6 1
A u s t r i a	2 4 2 2 8 2
S w i t z e r l a n d	3 3 0 5 9 5
C z e c h R e p u b l i c	1 1 0 8 1 9
S p a i n	3 3 4 5 6 6
N o r w a y	3 5 1 3 4 5
G e r m a n y	2 2 3 3 6 0 2

Source: <http://www.mcti.ro>

And, at the end of this short survey of the Information Society and its determinants in Romania, I would like to concentrate on the presence on the Internet of the Romanian public institutions.

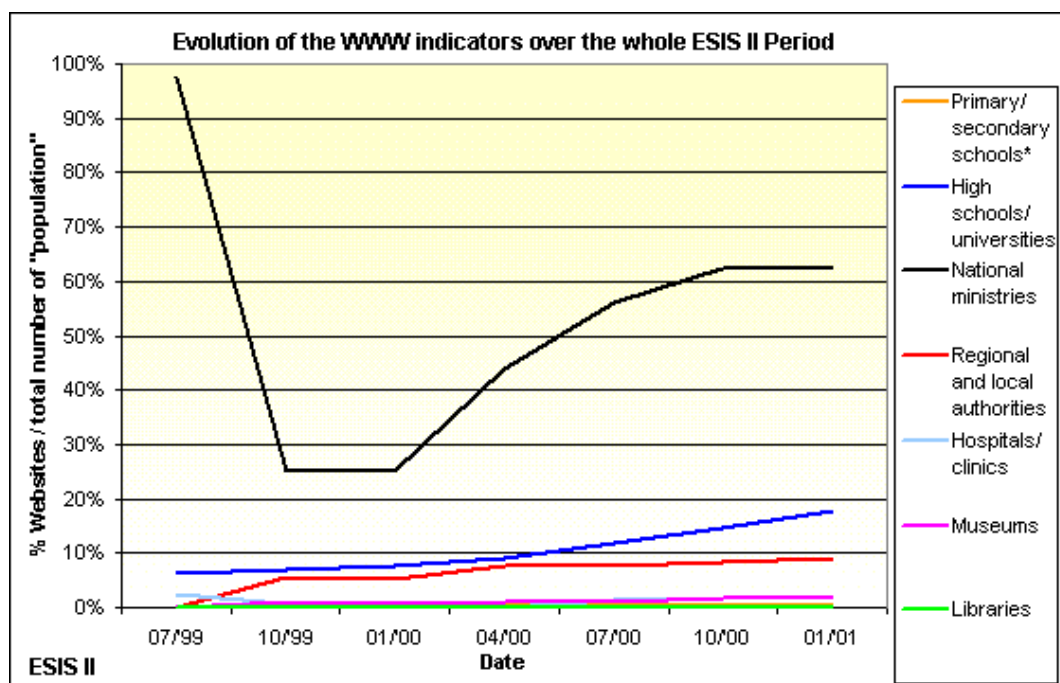
Presence on the Internet of the public institutions in Romania

	% of website / total number of "population"						
	07/99	10/99	01/00	04/00	07/00	10/00	01/01
Primary and secondary schools	0.0	0.2	0.3	0.4	0.4	0.4	0.5
High schools and universities	6.4	7.0	7.6	9.1	11.9	14.7	17.8
National ministries	97.5	25.0	25.0	43.8	56.2	62.5	62.5
Regional and local authorities	0.0	5.7	5.2	7.5	7.8	8.2	9.2
Hospitals/clinics	2.3	0.7	0.8	0.0	1.5	1.6	1.9
Museums	0.0	1.2	0.6	1.2	1.2	1.6	1.8
Libraries	0.0	0.1	0.1	0.0	0.0	0.1	0.1

Source: <http://www.ispo.cec.be/esis2>

As we can see from this table not even all ministries had their own website and the local authorities had under 10%.

Also it is useful for this study to present the dynamics of the public sector websites in the last year and a half in Romania. Data are shown in the figure below.



Source: <http://www.ispo.cec.be/esis2>

In one year and a half that also coincides with the dot-com euphoria in the world and high Internet industry growing rates, the number of websites belonging to ministries crashed [this is also due to the elections that took place in November 2000] and the others grew very little, the highest growing rate being the one for universities and for regional and local authorities at about 100%. It seems thus, that Romania goes against the tide or at least has its own – very personal rate of development.

The same ESIS II report explains, “*Even though the percentage of **universities and high schools** is high, it is expected to increase further as they succeed in connecting to the RoEduNet network. **Regional and local authorities** percentage is expected to increase further as they wish to present their activity and to collect feedback from people. The rather low percentage of www sites related to categories as **primary and secondary schools, hospital/clinics and libraries** is due to the great number of such institutions located in the rural area. Most of the www sites of these categories belong to the main institutions located in big towns. The low percentage*

of *museums with www sites is due to the fact that only few museums form large towns have funding available for an Internet connection.*”

Once again, for making a comparison between Romania and its neighbors in terms of governmental and public presence on the Internet I show the table below. Here we can easily read how poor is the Romanian online presence at absolute all categories.

Public presence on the Internet

	Primary and secondary schools	High schools and universities	National ministries	Regional and local authorities	Hospitals / clinics	Museums	Libraries
Albania	0,03% (1 of 3200)	1% (7 of 506)	59% (13 of 22)	3% (15 of 474)	0% (0 of 2488)	0% (0 of 28)	4% (3 of 70)
Bosnia	11,7% (30 of 256)	100% (64 of 64)	.	84,6% (55 of 65)	40% (40 of 100)	60% (6 of 10)	50% (5 of 10)
Bulgaria
Estonia	37,8% (287 of 706)	75,8% (25 of 33)	100% (12 of 12)	66,8% (175 of 262)	28,2% (22 of 78)	26,8% (48 of 179)	4,3% (30 of 691)
FYR Macedonia	4% (42 of 1048)	28% (2 of 7)	71% (10 of 14)	4% (4 of 124)	18% (7 of 39)	7% (4 of 58)	.
Hungary	28% (1710 of 9219)	100% (30 of 30)	100% (14 of 14)	21,42% (681 of 3178)	52,87% (92 of 174)	19,91% (180 of 904)	9,5% (332 of 3379)
Latvia	14,1% (151 of 1074)	84,8% (28 of 33)	100% (12 of 12)	14,3% (76 of 532)	8% (12 of 150)	77,4% (96 of 124)	2,4% (24 of 980)
Lithuania	11,6% (151 of 1301)	100% (16 of 16)	100% (13 of 13)	16,5% (85 of 515)	22,1% (42 of 190)	93,75% (75 of 80)	17,2% (55 of 320)
Poland	14,5% (4950 of 34086)	90,6% (260 of 287)	100% (16 of 16)	51% (1478 of 2896)	19% (135 of 711)	17,7% (110 of 623)	6,3% (500 of 8000)
Romania	0,5% (70 of 13847)	17,8% (324 of 1825)	62,5% (10 of 16)	9,2% (274 of 2989)	1,9% (17 of 887)	1,8% (9 of 512)	0,1% (14 of 13848)
Slovakia	1,67% (63 of 3770)	100% (23 of 23)	100% (16 of 16)	9% (8 of 87)	11% (31 of 92)	33,7% (31 of 92)	75% (36 of 48)
Slovenia	84,1% (410 of 606)	88,9% (16 of 18)	100% (16 of 16)	70,1% (174 of 248)	53,9% (14 of 26)	45,9% (39 of 85)	96,9% (63 of 65)
Czech Republic	27% (1433 of 5308)	86,9% (172 of 198)	100% (14 of 14)	12,9% (6440 of 6440)	62,2% (199 of 320)	52,1% (441 of 441)	7% (442 of 6286)

Source: <http://www.ispo.cec.be/esis2>

What we can conclude from this short survey of the Romania Information Society indicators is that:

- **the computer penetration in Romania is very low and among the lowest in CEE, but the growing rates are high.** This tells us not only that people are not used to Internet but basically that very few know how to operate a computer and digital information;
- **the Internet penetration is also low, most of the people accessing it from office or Internet cafes, usually at night when prices paid to Romtelecom are lower.** For accessing eGovernment applications one has to connect from home. You cannot be

granted privacy and security when there are other people around, such as the case with I cafés and office;

- **The dynamics of the Internet users are also among the lowest in Eastern Europe** showing us a relative stagnation and low chances that in the future the user base of the eGovernment application will grow significantly;
- **People use Internet on the average less than 3 hours a week and this mostly for emailing and less for surfing.** It is hard in this case to attract visitors if you are a governmental web page in competition with an infotainment website;
- **The majority of Internet users are young people.** This category is often uninterested in politics and looking for entertainment and chat on the web, and definitely not politics;
- **Internet content is also very poor, the Romanian DNS's being among the lowest in Eastern Europe.** This is also one of the reasons why people do not come online;
- **The Internet presence of the public sector is very low,** only ministries and universities having a good enough online coverage. The rates of growing are also slow, almost inertial.

Summarizing the causes of poor eGovernment applications in one sentence I would say that people do not create demand for such services, and this happens because Internet and computing is still expensive and it is only embraced fully by the youngest categories of people, which unfortunately are not looking at this age to interact online with the government. But the Romanian government should be prepared for the time these people will become grown ups and the cost of connecting is lower. This will happen in 10 – 15 years time. On the other hand the government does not deliver any “killer application” and because of this people are not interested to visit their pages.

Chapter 2. Case studies of governmental online presence

I continue the analysis of eGovernment in Romania moving from the general background to the specific implementations – in this case the online presence of governmental institutions in Romania. Thus, this second chapter focuses on the analysis of the governmental online presence both at the central and local level.

We have already seen in the previous chapter that the Internet presence of the public institutions is rather poor in Romania in terms of coverage. Only small percents of the public institutions are covered online.

The following table shows the total number of public sector bodies and also their online coverage out of total.

Public presence on the Internet

	Total number of "population"	Total number of Web sites	% of Web sites / total number of "population"	Source of the Total number of "population"	Source of the Total number of Web sites
Primary and secondary schools	13847	70	0.5	NCS *	IMT
High schools and universities	1825	324	17.8	NCS *	IMT
National ministries	16	10**	62.5	***	***
Regional and local authorities	2989	274	9.2	***	IMT
Hospitals / clinics	887****	17	1.9	NCS *	IMT
Museums	512	9	1.8	NCS *	IMT
Libraries	13848*****	14	0.1	NCS *	IMT
Total	33929	647	1.9	see above	see above

Source: <http://www.ispo.cec.be/esis2>

Notes:

* Romanian Statistical Yearbook 1998 edited by National Commission for Statistics (<http://www.cns.ro>).

** There are 10 ministries with web pages but one of them does not have its own web site.

*** <http://www.guv.ro> is the official WWW site of the Romanian Government.

**** 414 hospitals/clinics and 478 polyclinics, source Romanian College of Physicians

***** 3 national libraries, 78 libraries of higher education institutions, 1265 specialized libraries, 9588 school libraries, 2915 public libraries

As we can notice the ministries sites were pretty good covered and also the regional and local websites had a good growth dynamics in terms of coverage.

I will focus now on the analysis of two central government websites and of one local administration website and I will use in this analysis a framework which I designed

combining different sources [the framework is annexed as Appendix number 1]. I chose the most relevant three web sites and I had also three face-to-face interviews with their webmasters and programmers.

2.1. Central administration

For assessing the government online presence at the central level I chose to analyze two websites, which I consider to be highly relevant for these categories of websites. These sites are the website of the Romanian government – www.guv.ro and the website of the Romanian Parliament – www.cdep.ro. I will analyze them separately, using the framework enclosed as Appendix 1.

2.1.1. Romanian Parliament website, launched in 1996

URL: www.cdep.ro

1. Management issues

According to the interview taken to Mr. Marian BOOCAN – the head of the Parliament IT department, the website is solely developed by the IT department people, with no officer taking care of it as his sole responsibility. The website is used in the organization as an intranet platform and it is for sure considered a part of the organization by its internal users. The site did not start for the visitors, but for the internal need of an intranet interface. Thus, no market research was performed.

We were looking for a solution to build an effective Intranet. One option was to have a client running on each computer and extracting the information from different databases in the server. The problem with this approach was that in the case that we wanted to do an update or an enhancement of the services of this client – our small IT department would have to take each computer in this big building and reinstall everything. This is why we thought that a system of databases available through an HTML interface is the best choice – reliable, cost efficient and time saving. We built the website and we put into it both public information available for everyone interested in the Parliament activity and in-house information – consisting mainly in press reports, different types of news bulletins, statistics of the website usage, in-house databases with legislative papers, internal use and organizational applications such as the availability of the books in the library etc. The access is simple. If you type the address www.cdep.ro from a computer that does not have an accepted IP [from this building or from the Senate computer

system] you view only official information for public use. If you type the same address from a computer having the right IP you can also access the different types of information I mentioned above. [Interview with Marian BOTOCAN, Director of Romanian Parliament IT department]

There is few feedback to users satisfaction. Basically, people are looking for information and they find this. Users did not ask for new areas. No special monitoring or no special strategies for the future are designed.

2. Content issues

The website is hosted internally and all the processes are controlled by the IT department. The responsibility for content lies with the IT team and with the collaborators across the institution. The databases components read in the web site are the responsibilities of the authorized users. All site management tools are available and used by the IT team.

All the minimum homepages requirements are met with some exceptions:

- There is no *FAQ section* [the section with the most frequently asked questions, that serves as a guide for troubleshooting for the users]
- There is no *help facility* or a *site map* [a site map offers the organizational ‘tree’ of the web site, making easier for the user to find a sector of information]
- Also there are no such parts as *Privacy and Security policy statements* [in this section there is usually explained the politics of profiling and using cookies on the website], *Complaints procedure* [if the website’s content infringe some rights the authority for complaints should also be mentioned], *Copyright disclaimer*, *Content disclaimer* [the disclaimer usually let the user know about the responsibility for the materials displayed], *feedback page* [from here the user might share with the persons in charge with the website any suggestions regarding it];

- the *intrasite search engine* [this application allow to users to search the information on the website with some key words]does not work properly

The website general content is comprehensive. The archive of daily documents [such as speeches, daily reports, daily schedule of activities, reports of special activities etc.] is good and downloads fast. The structure of the Parliament is very good organized an explained. There are very good archives and internal search engines in databases applications. Also there are very good and comprehensive files of the MP's. However, no personal contacts are shown for him or her, but only at the party group – which only has email, no telephone or fax. This might be because they changed rooms recently due to national elections.

Unfortunately, there is no accountability for content [No disclaimer, no legitimate expectation etc] and no privacy policies statements. This shows either the disrespect of the institution towards its visitors or its lack of experience with legal questions related to the Internet.

There are only 3 emails: info@cdep.ro, presa@cdep.ro, webmaster@cdep.ro and some personal emails of MP's inside [according to the interview 84 out of 340 MP's have an email @cdep.ro].Pages are also in French and English. This is satisfactory.

3. Design and accessibility issues

The general design is very good: White background, black text. Also, one can have a lot of problems with the fonts as one needs the Romanian character set. The pictures look very nice and are compressed and download fast. There is a general framework for the web pages. The information is well displayed. The printable version works fine. There are no frames, no flash and no shockwave. Unfortunately, there are no ALT tags for pictures. And for other non-text elements. This might make the access harder even impossible for someone that comes with the telnet or on a slow band connection.

Overall, the website looks very good and works very fast on a good connection.

4. Navigation issues

The site is downloading fast. The logo links you always to the homepage. The 3 links rule works well. There is no back page navbar. One can only return to some previous section or to the homepage. However, the website is designed around the homepage with few steps around it.

5. Interactivity and eGov components issues

I might consider G2G among the departments because there is an Intranet. However, there is no external G2G as far as I know. Also, the G2C is purely informative. It is a good informative website but no more than that. There is no interactivity at all with some small exceptions: one can send emails or make some internal searches. There are no G2B or C2C of course.

6. Advertising and linking

There is no commercial advertising. There are links to some other official websites but when following these links there is no bye-bye page i.e. it is not displayed the fact that you are leaving the website www.cdep.ro.

7. Feedback

It is possible only by sending emails. I do not know the average answering time.

8. Standard performance control

Probably it is done because there are few errors on it. However, the download sometimes is very slow and very often the server is down. The Internet provider should be checked seriously and the Internet connection should be a guaranteed traffic one.

9. Traffic analysis

There are logs that permit analyses of the most visited pages, time of visiting, IP and address etc. These statistics are also available for internal users. If they are needed comprehensive reports could be produced from the databases of logs.

“We know exactly who is visiting us and on what purpose. These statistics are available for everyone interested in them who is accessing the website internally. The most visited sections of our website are the ones having the legislative proposals and also the legislative program with all the laws in use right now. Also, there are visited personal pages of the MP’s, of the parliamentary groups etc.” [Interview with Marian BOTOCAN, Director of Romanian Parliament IT department]

10. Subjective points of view

I like this website and I consider the best looking governmental website in Romania. It has a lot of information, which is kept accurate and updated.

Conclusion:

I consider this site to be a G2C on the Interactive enhanced level, because one can use here complex databases searches, email the MP’s, look for searched words etc.

2.1.2. Romanian Government website, launched in 1998

URL: www.guv.ro

1. Management issues

The website was developed internally and hosted at an ISP, thus not on an internal server. For now it is administered by a 24 years old lady – that graduated the Finance Faculty and works with the press office.

“Within the Public Information Ministry – there is a department called the Public Image and Communication Department which has a press office that has among its responsibilities the website maintenance. Thus I am rather new in what I do [since March] and I don’t have special training for this job, but I basically learned by comparison what to do and I even learned now HTML. I have full administration rights. I can work out anything – I can edit even the prime minister information if I want so.” [Interview with Adriana FULGA, Webmaster of www.guv.ro]

Ms. Adriana Fulga acts as a special officer, but also as a Webmaster and half programmer. She has no team that helps her in this work and is temporary on this job.

The website is not used internally as a data base integrator and is mainly used by journalists and Romanians abroad. There is a general good view in the institution towards this website and the site is integrated within the organization.

The site is created considering users preferences and the most visited parts are also the first to be updated.

2. Content issues

The update process has a priority order as described by Ms. Adriana Fulga “I have a priority list in updating:

- I. The government decisions that follow the government meetings.
- II. The decisions of the ministries
- III. Speeches of the prime minister or of government officials
- IV. Weekly newsletters with a local press review and with an interministerial information bulletin [a review of weekly governmental events containing working agenda, news, actions, decisions and press releases etc.]
- V. Then comes the rest, exceptional things, but these are basically pretty rare.”

There are simple site management tools. The texts are introduced in simple HTML in a MySQL database.

All the minimum homepages requirements are met with some exceptions:

- There is no FAQ section and no help facility or a site map
- Also there are no such parts as Privacy and Security policy statements, Complaints procedure, Copyright disclaimer (including Third Party copyright), Content disclaimer, and feedback page. The intrasite search engine works well.

The website general content is updated and accurate. There are a lot of documents, good archives, press notices, diagram of ministers and ministers press notices and other ministerial documents and news. Here it is also edited a weekly newsletter and it is distributed on a mailing list. The contacts of the ministries are accurate.

3. Design and accessibility issues

The site looks neat. White background, black writing, no problems with the fonts – there are also alternatives for a display with Romanian characters or with English ones .

The site has a general pattern, and the information is rightfully displayed. The site does not use frames, flash or shockwave. There are no ALT tags for the pictures.

4. Navigation issues

The websites downloads fast and it is comprehensible and logical structured. It has a navigation bar vertically and the 3 clicks rule works fine. There is no site map and the link on the logo leads to a magnified picture of the logo and not to the homepage.

5. Interactivity and eGov components issues

The site is a pure G2C on the Informative level. It is not very complex but is functional and works well.

6. Advertising and deep linking

The site is very well promoted and rooted in the organization.

“Yes, we promote the official site of the Romanian government – www.guv.ro - on all documents that are leaving this building. Also, at press conference, the government spoke person has on its background the government logo and the web address of our institution <http://www.guv.ro>. We have links to the site in all major Romanian portals and also try to give always up-date information to our regular ‘customers’ – that I’ve already mentioned – in order to keep them happy with this online service and to make them come back on the website and not to give us telephones all the time as they did before.” [interview with Adriana Fulga – webmaster of www.guv.ro]

This is the first governmental page where I have seen on a page a bye-bye message warning the user that he is going to leave guv.ro web site. However, there are a lot of other links that do not work any longer and also there is no “bye-bye” message.

7. Feedback

It is possible not only as emails but also on telephone. A special feature is the Prime Minister green line.

“First of all we have a toll free number – 8080888 – called the prime minister green line – that was setup in August 2000 with the aim of collecting citizens concerns and petitions in a easy manner. We have people that listen to these phone calls, taking notes and then forwarding them to the proper ministries and departments. We also try to see that these problems are answered to one way or another.

Another tool is our email of complaints, where we receive lots of problems and we give them the same treatment as our toll free green line.

It is funny that lately we received a lot of emails against the street dogs’ ‘genocide’ that takes place now in Bucharest.” [Interview with Adriana Fulga – webmaster of www.guv.ro]

8. Standard performance control

There is none at this level. Perhaps there is at the host but I do not know anything of this kind.

9. Traffic analysis

There is a counter displaying 623898 visitors since March 19, 1998 and it works [I have checked], but it is not based on unique visitors. There are also statistics:

“I am afraid I cannot answer to this question, as it is confidential. Basically, I can tell you that the most visited part is the one with the government decisions and press releases. In fact my priority order in editing the websites information follows the interest curve. Thus the most second visited are the ministries decisions and so on. About our visitors I can tell you that the first to read us are the journalists. A funny thing about this is that once a government meeting ended at 3 am in the morning and that I went home without putting online the results of that meeting. At 8 am the phones were ringing the journalists asking us why the information is not online. Among the users we have Romanians from abroad that have magazines with Romanian information or they are just following what happens, press agencies both in and outside Romania etc. “

10. Subjective points of view

The sites looks nice and works well and fast I find it useful and well designed.

Conclusion:

The site is less complex than the website of the Parliament. However it is neat and useful and it is well updated and also promoted. I would rate it as a classical Informative Enhanced G2C.

2.2. Local administration websites

I chose to analyze at this level the site of Bucharest City Hall that is one of the best among the 9.2% online presences of the local administration in Romania.

2.2.1. Bucharest City Hall website, launched in 1996

URL: www.pmb.ro

1. Management issues

The website is designed by the IT department. It is not updated with news or reports. But there are application that read from databases. Consequently, the website functions on its own, and has no officer to supervise it. The history of the website is long and initially started as a Soros foundation financed project. The website also functions as an intranet gatekeeper and it is known by the people working within the City Hall and integrated in the institution presence. However, the website was not created having in view its final customers and it is not promoted and used by the people of Bucharest. The website is not strategically designed to represent the institution and is merely a gateway for its employees or for people from outside who know already that they might find something in the databases.

2. Content issues

From a technical point of view the site does not miss anything.

The homepage misses a lot. There is a poorly displayed logo, which has no link and no ALT tag. There are no such things as:

- Organisation statement of purpose
- Organisation structure, including business units, directorates etc
- Search facility
- FAQ
- Help facility
- What's New section

It has contact addresses of all employees starting with the mayor, but it has no:

- Privacy and Security policy statements
- Complaints procedure
- Copyright disclaimer (including Third Party copyright)

- Content disclaimer (if for a specific purpose one is required. See para 3.4.1.1 below on disclaimers.)
- Feedback page

The website content is rather poor, with no accountability and poor contacts on the technical part. There is no privacy either.

However it has some archives of documents organized in a database.

3. Design and accessibility issues

The site looks awful even if it is functional. It has few content and information and needs to be better designed. It displays also “*Tested With Netscape Navigator, Internet Explorer; Use Image Maps, Javascript, Applets, No Cookies*” This shows some interests in accessibility and in privacy policy. But this is all. There is no flash, frames or shockwave. The site needs serious redesigning and this is in fact underway in a beta version that looks nicer.

4. Navigation issues

Poor navigation, no navbar, no logo, no 3-click rule etc. The websites does not have too much information anyway.

5. Interactivity and eGov components issues

This is a basic G2C on the Interactive emerging stage.

6. Advertising and deep linking

Not too much.

“It is not advertised at all on the stationery of the City Hall. I do not know why. But we – the IT department have put the website in the search motors even since 1997.” [Interview with Sorin CIUCA Director of the Computer Center of Bucharest City Hall in charge with the City Hall website www.pmb.ro]

7. Feedback

It is the list of emails of all people in the City Hall and also an email for complaints.

“Yes we have now and the most targeted subjects were the ones against the street dogs treatment.

Any emails we have we forward to the respective City Hall department.” [Interview with Sorin

CIUCA Director of the Computer Center of Bucharest City Hall in charge with the City Hall website www.pmb.ro]

8. Standard performance control

Yes, performed by the IT department.

9. Traffic analysis

Limited.

“Well, we have a journal of logs. On the last 3 months we had 700 accesses on the Intranet part and more than 1000 on the Internet. Basically, 1350 people visit our site both at internal and external level. People are interested in the information we offer, but the content is a limitation for us.” [Interview with Sorin CIUCA Director of the Computer Center of Bucharest City Hall in charge with the City Hall website www.pmb.ro]

10. Subjective points of view

This site looks poor and with no information. No wonder that does not have too many visitors.

Conclusion:

This website is a G2C at the Informative emerging stage.

The hypothesis I relied on in this chapter was that the websites that I analyzed belong to very different institutions with different budgets and different visions and they are highly representative for the online presence of Romanian governmental institutions. Consequently, they, as the rest of the public websites in Romania, are G2C on a stage between Informative simple to Interactive emerging/enhanced. None is transactional yet; there is no G2G, and also no G2B.

Still, I consider that analyzing the online presence is not enough in order to get the big picture of eGovernment in Romania. This is why in the following chapter I analyze the answers from email-interviews that I had with 10 heads of IT departments in counties across Romania. I try to point out from these interviews both the drawbacks and the opportunities of electronic governance implementation in Romania.

Chapter 3. Interviews with IT professionals from local government units

I interviewed by email 10 heads or advisors of IT departments in counties⁸ all over the country. The use of this chapter is that it will map both the problems and the opportunities at the local level. In this way it will be presented not only the on-line face of public IT systems, but also its offline face. This chapter will be followed by the fourth and last chapter which will try to assess the same things but at the central level.

First, there is a tremendous lack of human resources in the IT departments. These departments have up to 5 people and even 2 or 3 in some cases, but they have to serve institutions with over 100 people.

The hardware and software acquisitions are at a medium to well level [they appreciate that the machines are good enough for what they need and that the level is satisfactory as compared with the needs that exist]. I do not have any data about the level of IT endowment of the schools or of the business sector for making any comparisons.

The lack of training is really a big problem. This is rarely done and sometimes one needs big lobby to get one. Subscriptions to IT magazines are possible, but only to Romanian ones. Still, some people participated to interesting training such as Digital City, Electronic Signature, Electronic Voting and Metropolitan communication. [Gabriela Rogoz from Brasov City Hall]

There is a lack of professional exchanges for learning from the experience of those who already implemented and used eGovernment applications. But here are some exceptions such as Gabor Miklos from Harghita County Council that was in US with USAID and also in Belgium, Hungary and Slovak Republic and Gabriela Rogoz from Brasov that was at Vienna in a professional exchange regarding GIS [Geographical Information System].

⁸ A county is a territorial unit – a subdivision of the country. Romania has 40 counties, each of them having a city where there is the prefecture – the representing unit of the government in the territory.

The majority of them came to work in the public sector before the revolution and after this they stayed because they got attached to the job and wanted to make something that counted. But many of them would leave the job now because the wages are between 30 and 50% as compared with the jobs of IT professionals in the private sector. Also, they would leave because they are not listened by the political leaders of their institutions.

“I wanted to do something to help the administration to get out of this bad stage. I will leave if the inertia pervades and if the wages stay so low” Gabor Miklos from Harghita County Hall IT department told me.

The majority of their institutions have a website since 1998, internally developed, not too well integrated within the institutions and created because of the efforts of the IT departments to promote them. *“We have a website at: <http://consjudbn.8m.com> and I have to say that I did it myself”* says Radu Aldrofan from County Council of Bistrita Nasaud IT department.

In all cases, the website is not promoted on the institution stationery and in most of the cases it is not dynamic. Basically, it is barely a G2C at the informative simple or enhanced level. The traffic is not analyzed, but usually there are fewer than 100 visitors monthly, with some exceptions for the tourist counties like Harghita [800-1200 visitors monthly]. The most visited parts are legislation and information about the county.

“They come to visit especially the legislative part” says Sevil Sumanariu, head of IT department at Constanta County Council, and also president of the National Association of IT professional from local administration – ANIAP [www.aniap.ro]

There are no databases applications available yet over the Internet, thus the websites cannot be interactive.

In the same time the websites of smaller cities and villages are not integrated and are programmed by local enthusiasts.

The Internet is welcomed and most of the institutions’ employees use it for emailing. It is seen as a great enabler. *“ I am very much concerned to let the employees of the City*

Hall to be helped by the technology in order to solve citizens' problems better” confesses to me Mugural Predescu, head of IT department at Targu Jiu City Hall.

There has been no eGovernment applications implemented yet, with some exceptions: GIS in Brasov County, extranet funded by Phare in Cluj and intranet applications in other counties.

The funds granted by the central government are poor and when they come they are spent unwisely - examples with GIS.

“The lack of interest at the central level led to parallel developments and incompatibilities. There is no population record, the statistical data are incompatible. There are no land management records. At GIS systems they spent money and time to create the basic maps that should come from the Office for Land Management.” says Miklos Gabor from Harghita County Council IT department.

Also, *“money are spent on hardware and less on the people and on solutions”* Sevil Sumanariu remarks. *“For avoiding these problems, consultancy from foreign institutions that already use eGov is badly needed”* says Gabriele Rogoz.

The opinion about the minister responsible with ICT - MCTI is generally bad. No leadership is seen at the central level whatsoever.

As a conclusion of this subchapter, I will shortly map the major problems and opportunities that come out of these 9 interviews.

The major problems are:

1. The lack of leadership and IT education from the political local leaders. Thus, it lacks a management of IT systems by educated persons;
2. The lack of human resources and trainings in IT dept;
3. The lack of money [for solutions and for IT professionals wages, but not for hardware];

4. The lack of central coordination and standardization [MCTI activity seen as being close to zero];
5. The lack of advertising and web site audit. In many cases the website development it is just a hobby for the IT department and not backed at all. The existence of the website did not changed the back office processes at all;
6. Few eGov initiatives were implemented till now, and what was created is redundant and not standardized. There is no much use for future integration;
7. The lack of recognition of IT professionals work and a general hostility towards them from the employees and leaders of their institutions.

The most significant opportunities are fewer than the problems:

1. The most important one is that the IT people in local administration care. They even set up last year their national association – ANIAP – and they tried to make their voice heard, *“as it is the case in other neighboring countries too”* how Miklos Gabor tells me.
2. The general staff uses email and learns how they can benefit of electronic communication tools and this is also the beginning of a grassroots self-education process.
3. There are average even good quality ICT equipments, and this is a sector where have been done serious investments.
4. There were done some professional exchanges and some knowledge of what is abroad has been accumulated.

These opportunities are in fact beginnings in many directions. What all the interviewees spotted the need to get all these together and to come up with a clear national strategy and leadership in eGovernment area. We shall analyze the way the government responds to this need in the next chapter.

Chapter 4. Strategic plans envisioned by the government for engineering the shifts towards the Information Society

The general survey of the Information Society indicators, the analysis of the governmental online presence, the survey of the local administration IT professional would not complete the picture without coming to the heart of the problem as identified in the previous chapter – and this is: central government lack of leadership.

I tried unsuccessfully to reach someone at MCTI, a secretary of State that would have helped me to understand the ministry vision. Unfortunately, when asking if he had time for an interview, a secretary of state told me that he was too busy for this. I tried to attend then a panel on eGovernment at the major IT expo in Romania – CERF 2001 [held in mid May] – a panel that was supposed to be delivered by another secretary of state at MCTI. Due to the low number of participants they canceled the seminar and advised us to go to the Minister web page www.mcti.ro. All that was left for me to do were to check their press releases, which I will comment in this subchapter.

The situation at the central level is that the National ICT strategy from 1998 remained history, it was never implemented. The big taxes in the ICT sector prevent the local business sector from developing and coming with efficient solutions for administration use. There are not enough computers in schools and definitely too few are connected to Internet. Romanian programmers left the country for higher wages and the IT education generally decreased in quality due to low wages in higher education.

In this bleak environment, what happens at the central level in terms of eGovernment initiatives? I will try to answer this question in the lines below.

First I have to say that the authority invested with the coordination and implementation of ICT policies in Romania is the Minister for Communications and Information Technology – abbreviated in Romanian as MCTI.

Their mission is “*to create the sustainable basis for the shift to Information Society in Romania*”. And this is one of the strategic aims of the Romanian Government Program for 2001 – 2004.

Moreover, there are stated the directions of development for this shift that has to be engineered by the entire society under MCTI coordination: “*This shift will happen in administration (e-government), in business (electronic commerce), in education (distance education), in culture (multimedia centers and virtual libraries) and in the way of work (teleworking). At the base of these developments is the usage of Internet.*” [according to the MCTI vision found at www.mcti.ro]

On April 27, 2001 it was set up an even higher authority than MCTI for coordinating the shift – the Group for the Writing of the Strategy of shifting to the New Economy and to the Information Society in Romania [GPTI] GPTI is organized under the high patronage of the Romanian Prime Minister and of the President of Romania and has in his structure officials from MCTI, MP’s etc.

This group approved on May 25, 2001 – the first list of 24 projects aimed at digitalizing Romania. [www.mediafax.ro] The total budget for these projects is at about 500 millions USD. Minister Dan Nica said that some of these would be finalized till the end of 2001.

“*Some projects, as for example the ones that need the change of the TV and radio transmitters can not be finalized in a single year but we hope that the USD 500 millions financing will be available till the end of 2001*” said minister Dan Nica to Mediafax correspondent quoted by Stockaccess.com.

The Romanian government and some financial institutions such as the World Bank and the European Bank projects for Reconstruction and Development [EBRD] will jointly finance these bold initiatives. However, the total sum that will come from these institutions is not known yet because the negotiations are still underway.

Moreover, it is known that the World Bank will offer 300,000 USD for finalizing the Romania Gateway portal and that is also interested in developing the government eProcurement system. [www.romania-gateway.ro]

It is said by MCTI officials that for all these projects approved by GPTI there is a “*big interest*” from private companies and this might lead to serious investments also from the private sector. [www.zf.ro]

All these developments will lead to serious cuts of the public sector staff. “*It was scheduled for long time to cut off by 30% staff of all ministries. As far as I know two months ago these cuts were already of 26%*” says minister Dan Nica from MCTI to Ziarul Financiar [www.zf.ro]

What is new in these projects is that the government will try this time not to buy hardware any longer but “*integrated solutions*” [Dan Nica, www.zf.ro].

Also, till the end of the year MCTI says that Info-Kiosks will be implemented – allowing in this way easier access to information to all citizens and also lay offs of the public relations staff and general bureaucracy. Also, for the general education and access of population to Internet Multimedia Centers are envisioned in the IC strategy: “*the access to the Internet will be accomplished through the creation of the Multimedia Centers in all communities with more than 5000 inhabitants.*”

Another promise is that till June 30, 2001 will be finalized the first phase of Romania Gateway portal.

Another plan is to build a technological park outside Bucharest. This project called the Cyber Center will try to bring together companies, universities and the state sector.

Even more ambitious are the plans to connect all public bodies in Romania through web cast systems, which are estimated to cost about 200 – 300 millions ROL in each county [approximate 10.000 USD].

The role of the industry increased and it is believed that it will play a major role in the shift towards the Information Society in Romania.

The IT Ministry's projects enjoy support of major IT companies with operations in Romania, such as Cisco Systems, Compaq, Intel and Microsoft. "There is certain frustration about these projects, in the sense that there has been a lot of talk and little action so far," said Dan Garlasu, country manager of Cisco, in an exclusive interview with StockAccess. "However, I don't think this is a reason for skepticism. We had a very intense and fruitful dialogue with the government, which in itself is a big leap forward when compared with the previous situation. The government now needs to set its priorities; as for ourselves, we are prepared to go ahead very quickly," Dan Garlasu added. Compaq Romania's general manager Mihai Pascadi confirmed: "It is indeed for the first time that the industry is regularly and extensively consulted on policies, strategies and governmental projects that are likely to shape our market for years to come." [StockAccess.com, May 22, 2001]

Looking at the specific objectives proposed for the period 2001 – 2004 strategy of MCTI we see that almost all of these objectives were discussed and the subsequent implementation plans were approved on May 25, 2001.

In the specific area of eGovernment the plans are also ambitious as it is noticed by reading the strategy:

“The quickening of the digital reform process of the Romanian government for the shift to eGovernment: defining nation registries, redefining the administrative flows and the interministerial flows, the implementation of the voice-data infrastructure, the development and implementation of the applications specific to all ministers”

Another key development is that the Electronic Signature Law finally passed the Parliament in mid May and will be in force in 3 months from now on. This means that now it starts the process of construction of the PKI – the Public Key Infrastructure – that is a vital component – and a requirement for getting from the Interactive stage to the transactional one in the eGovernment application. This development is a corner stone that makes possible now the implementation of transactional features of the Romanian eGovernment components, but this development depends on the political will and on the funds available at every ministry and public body.

It is worth to be taken into consideration the harmonization of these processes with the eEurope Plan. In fact, all these developments have to be benchmarked to the

eEurope+, a plan that is still in draft phase and is worked out by the candidates to EU accession after the European Ministerial Conference held in Warsaw on 11-12 May 2000, after the Lisbon Summit that in March 2000 approved the eEurope Action Plan.

Analyzing all these developments I can conclude by saying that it was a big inertia in the last couple of years in the Romanian ICT sector. The political leaders watched helpless how Romanian programmers leave the country, how the Internet access was too expensive for citizens to use on a large scale and how children did not have Internet and computers in schools.

Now it seems that there are a lot of plans, good plans and the deadlines are seen as serious things.

However, one cannot know whether these developments will take place or if they are just demagogy.

As I said previously in my thesis it is not that important to know what to do as it is to implement it successfully. The Romanian government seems now very committed to engineer the shift to Information Society in Romania. But will this happen in due time?

When I went to see Mr. Varujan Pambuccian – head of IT Commission of the Romanian Parliament and one of the most important figures of the ICT in Romania – and I asked him what he thought about the future of eGovernment in Romania his answer was straightforward.

“In Romania there are no clear policies towards this whatsoever and this is also because of the poor budget that the MCTI has. For the moment all the money go to finance our entry into NATO. But from 2003 the first major shift will happen. IT integration of the customs system, the finance ministry automation, clear policies and proper funding will be developed. Till then I strongly believe that there will be no breakthrough.”

I cannot comment more than this. The future will show what will happen. The international comparisons with more developed countries reveal us a major gap between Romania and them. Singapore has already a truly integrated eGovernment structure. Countries such as US and UK have in place real G2G back office integration and strive to bring all government services online. [www.firstgov.gov and www.ukonline.uk]. Even the countries in Eastern and Central Europe are far more advanced. Countries like Estonia and Slovenia have already state of the art ICT infrastructure and high IT educated population. Countries like Hungary and Czech Republic already spent a lot of funds for integrating their ITC systems [www.carnation.hu]. And Romania is going only now to really starts its ITC odyssey towards the Information Society.

With this last 4th chapter I finished my Romanian eGovernment assessment. I got through the analysis of the Information Society general indicators, through the online presence of Romanian government assessment, I got the pulse of the IT professionals from the local administration in charge with the ICT shift and finally I reviewed the Romanian National ICT strategy both in terms of aims and of achievements.

Conclusion

Much have been told about the Romanian Internet and about the future of eGovernment in Romania. Even if the present government initiatives seems impressive and very focused the gap between what is desired and what actually happens is always very big in Romania.

Moreover at this point the situation of eGovernment is rather bleak. According to ESIS survey presented in the first chapter of the second part of this thesis less that 10% of the local administration is online, the websites of the central government are G2C's in the phase of Interactive enhanced for the most. There are no G2G, G2B and few C2C's. The Romania Internet users manifest apathy in relation to governmental online presence and this might be also due to the fact that most of them are young people not interested in governmental and administrative issues.

Each of the first two chapters of the second part defines a map of problems and opportunities for the shift towards eGovernment in Romania.

The first one shows low figures of Internet penetration, and low interest in online governmental presence. The main causes are the lack of money for Internet connections and the fact that the users are young and not interested in politics. However, the opportunity is that the computer acquisition rates are growing faster and that in 10 – 15 years all these young people online will need and will find suitable to find the government online. These future expectations have to be anticipated and worked upon starting as soon as possible.

The second subchapter shows that the governmental institutions even averagely represented at the central level [62%] and very low at the local level [9.2%] have in general Informative to Interactive G2C websites, with good design, good navigation and excellent possibilities for service enhancement. The first categories of steady users are the journalists, people dealing with administrative legislation and also their own employess

that access the Intranet through the institutional website. Thus even the transactionality is not present on the institutional websites we may say that this was hindered by the lack of legislation and especially by the lack of a suitable PKI. Now that the legislation started to take shape [Electronic Signature Law, Electronic Commerce bill, data Privacy protection bill, Electronic Legal Authentication bill etc.] the perspectives are better and the premises are created to take the next stage, which is transactional.

From the local IT heads of department I found out that not only the money but especially the lack of central national coordination, of leadership and of proper management of IT systems were the biggest problems of all. The lack of know-how, of trainings and of proper human resources management were quoted as big drawbacks. However, people seem concerned in the IT departments of the local administration to solve these problems and to stay put. They are dedicated and even founded a national association that would count in the process of decision taking. This incipient form of lobby shows us that the people who were former seen as executants want now to be also seen as advisors and as IT managers – and to have their role in shaping the Romanian eGovernment policies.

And when it comes to analyze the central government, one finds out that much was spoken and nothing was done in the last couple of years. Still, the new government [in his first 6 months of governance and after 4 years in opposition] began by writing a very comprehensive national strategy for ICT development. They seem committed to do all the changes required and they seem to know where from to get the money and what to do with them.

As a conclusion of my research I have drawn the map below presenting the Romanian eGovernment drawbacks and opportunities in my own limited understanding and experience.

**Table of drawbacks and opportunities
in the shift towards eGovernment in Romania**

Type of drawback	Drawbacks	Opportunity
General Drawbacks	Low computer penetration rate both into households and generally in society	Growing rate of the computer penetration among the highest in CEE region
	Low penetration rate of Internet	Highest number of IT professionals at 1000 inhabitants than for example in India
	The growing rate of computer penetration among the smallest in the CEE region	
	High cost of Internet connections mainly due to telecom monopoly combined with the dial-up majority of connections	
	The time spent online on the average is very low [3 hours for the most]	
	Internet users mostly use email and they surf less	
	The majority of Internet users are young people	
	Internet content in Romanian is poor and this does not attract users to surf the Romanian websites bringing thus competition to the web sites sector	
	Very poor presence of the public sector, mainly ministries and universities being most online.	
Online presence of public authorities	Poor management	General design fairly good
	Lack of audit and traffic analysis	No advanced formats such as shockwave or flash, frames etc.
	Lack of advertising	Presence of navibars
	Lack of content and of enough interactivity	Downloading fast
	No site-maps, help, FAQ sections to help users to navigate	
	No concern for privacy or for copyright	
	No concern for accessibility [lack of ALT tags etc]	
	Few interactivity, no transactionability	
	Few standard performance control	
Local administration	Lack of education of local political leaders	People from IT departments care and try to do their best with the available resources
	Lack of proper management of IT systems	
	Lack of human resources and trainings in the IT departments	Some opportunities of trainings and exchanges through international organizations
	Lack of money for wages and for solution	Enough money for hardware
	Lack of central coordination	
	Lack of national standardized solutions	
	Lack of integrated strategies for the online presence at the local level	
	Few eGov initiatives implemented till now. Some were redundant and not standardized.	
	Lack of IT professionals recognition and general hostility towards them from the employees of their institutions	The staff began to use extensively email and this is a grassroots self-education process
Central administration	Lack of leadership	A general sense of leadership takes shape
	Lack of a coherent ICT strategy till 2001	A new ICT strategy has been drawn
	The MCTI staff is small and their budget also	

	very small	
	The big taxes in the IT sectors prevents the development of the private sector that may partner the government in implementing ICT structures and eGovernment applications	The taxes will be soon decreased
	On the political level the industry wasn't heard	The voice of the industry is heard now
	General lack of funds for the shift towards eGovernment	500 millions USD available for 24 national ICT projects
		Partnership and cross-financing from major world financial institutions.
	Lack of standardization and mostly hardware acquisitions	The need for integrated solutions as been understood and now pursued
	Lack of proper ICT legislation	eSignature Law approved, other major e-laws are underway
		Harmonization with EU through eEurope+ action plan for CEEC's

I also had the big chance to discuss at a conference in Koln in early April 2001 with a man that was at the electronic frontier since the very beginning – Mr. Peter Barlow founder chairman of the Electronic Frontier Foundation. When I asked him about the Internet potential in Romania for empowering citizens he said to me *“It is great indeed. This is because for you it was a leap frog over the industrial age directly into the digital age. In this way humans in this area did not learned to be machines and they can be reconstructed easily with the help of Internet in more socially responsible persons. They can communicate easier”*

He also said *“You don't need money for making eGovernment work. All you need is desire. Nothing more than that. You can make a lot of things with few money and nothing at all with plenty of money. I had a friend back in California that was frustrated because the government did not put some kind of forms online. He got angry, scanned them and put them online. His server was very much visited and finally the government came up and offered this service to the people. You have to make a distinction between government and governance. The Internet can help us - the common people and not the politicians to govern ourselves better. It is about direct democracy, you know.”*

Unfortunately not everyone is that optimistic about our chances as Mr. Barlow is. They all say that it is about the money, but Mr. Barlow says it is about the desire to make

things work. And looking at the IT professionals I interviewed I see that there is desire and that there is concern. And the desire seems to be present at the central level. Moreover, the 500 millions USD seem to be coming till the end of the year as Mr. Nica – the MCTI minister said in an interview.

Nothing more can be said further. I will conclude with Mr. Barlow own words that are a remainder of where we are and what can we do:

“There is a lot to be done in Romania. The space is open and you can basically do everything there. You can shape it properly and with less problems than we did”

Appendix 1

Framework for the online governmental presence analysis

This framework was developed by me using the framework proposed by Prof. Miklos Sukosd, PhD – my thesis supervisor, and also the “*Guidelines for the use, management and design of New Zealand public sector websites*” and the “*UK Framework policy and guidelines for the use, management and design of public sector websites*”. This is no original work as a whole. I contributed with my own experience, I structured the information found and finally I created this general framework for analysis. For further inquiries on the materials used please address Prof. Miklos Sukosd and visit the websites: <http://www.govt.nz> and <http://www.envoy.uk>

MANAGEMENT

Human resources

- Does senior management take at least as close an interest in the electronic publication of information and provision of services as in conventional channels?
- Are there separate officers – webmasters - in charge with the website updating? Is there a Site Manager with responsibility for the overall management of the site or sites that together makes up the organization’s online presence?
- Provision of resources, especially staff with the necessary skills, for the website team

Status of the website within the organization

- Is the website seen to exist as an integral part of the organization, rather than outside it?
- Is the staff in the organization able to view the site and aware of its role?

Proactive and Strategic approach [opposite for “blind development”]

- Was the identification of the business needs to be fulfilled by the website performed? Was the identification of the audience for the website, where possible, based on market research or dialogue with client groups performed?
- Is there understanding and responding to users' satisfaction with the site?
- Monitoring the development of the site and its success as a means of meeting organizational objectives
- Creation of the agency's future online strategy and congruence with the overall E-government Strategy

Integration of the website into organizational processes

- Integration of the website with business processes, which might include electronic dealings with the public, publication of information, recruitment and consultation.
 - Integration of the website into the organization’s strategy for open government and freedom of information
 - Integration of the Internet site with the organization’s intranet and other systems
- Strategic approach

CONTENT

Logistics

- Where lies responsibility for providing content for the website?
- Updating information over time;
- Possibility for prompt liaison with server host, updating the site, adding, maintaining and removing material, if necessary at short notice, version control of the material on the site

Site management tools available

- Text Editor to write code in longhand
- HTML Editor to write code more efficiently (many of these now act as Site Management Tools)
- Graphics Editor to produce, manipulate and modify images
- FTP Software to send pages to the server
- Email Software to receive and reply to website-generated email and forms
- link management tools
- web statistics packages.

Homepage minimum content

- A text or graphic link to the official government page
- Organisation name
- Organisation logo
- Email contact
- Links to:
 - Organisation statement of purpose
 - Organisation structure, including business units, directorates etc
 - Search facility
 - FAQ
 - Help facility
 - What's New section
 - Contact addresses (physical, postal and e-mail)
 - Privacy and Security policy statements
 - Complaints procedure
 - Copyright disclaimer (including Third Party copyright)
 - Content disclaimer (if for a specific purpose one is required. See para 3.4.1.1 below on disclaimers.)
 - Feedback page
 - Where appropriate, the organisation's policy on the acceptance of electronic transactions (refer to the Electronic Transactions Bill).

Website general content

- List of Ministers relevant to the agency and their responsibilities
- Organizational aims and objectives
- Legislation or regulations for which the organization has the lead responsibility, or a link to a site which contains the legislation or regulation in full
- Agency purchase agreements and similar defining documents
- Documents specific with the activities of the respective body
- Existence of an archive of older documents
- Organization structure
- Press notices from the organization
- Press notices from the Minister where they set the context for a specific release of information
- Consultation documents
- Membership and terms of reference of advisory groups
- Complaints procedures
- Postal address, fax and telephone number as well as physical location of offices
- Research reports and statistical information
- Responsibilities, aims, and objectives of divisions or branches within an organization
- Forms published by the organization and guidance for their completion
- Names and telephone numbers or e-mail addresses of contacts for further information on specific policies or services (note that these need not be named individuals).
- Recruitment policies, procedures and information

Accountability for content

- Content disclaimers
- Accuracy of information

(i) Simple provision of information

- Accurate, clear and current information provision²
- Terms and conditions must be displayed

(ii) Simple provision of forms to download

- Forms must be accurate, correct and current.
- Forms must be printable on standard black and white printers and fit neatly on an A4 page
- Forms must be economical to print (no background colours)

(iii) Provision of online forms

- Online forms must be accurate, correct and current.
- Online forms must be easily understood and used
- Online help must be available

- Security levels must be adequate to protect customer privacy
- Clear statement about procedures for handling personal data must be available
- It must be clear to the user that the information has been sent successfully
- It must be clear whether or not a response will be sent to the user
- If a response is to be sent to the user it must be stated when the response can be expected
- If the transaction can be tracked by the user, it must be stated how the user can do this (e.g. send

them the URL vis Fedex <http://www.fedex.com/>)

(iv) Electronic commerce

- Security levels must be adequate to protect security to payment data (such as credit card details)

- Legitimate expectation
- Defamation

Contact addresses

- Postmaster (for technical email issues)
- Webmaster (for technical website issues)
- Security (for technical security issues)
- Privacy (for organisational privacy issues)
- Complaints (for organisational complaints)
- Information (for general enquiries)

Privacy Policy Statements

- Access to personal information
- Inappropriate Use

Copyright notices for government web sites

DESIGN AND ACCESIBILITY

- What is the general esthetic of the website? [colors, fonts, backgrounds, pictures etc.]
- What are the colors used. Are there any thematic colors used?
- Is there a general pattern for the website design?
- How is the text displayed? Is it visible? Or does it have a background and a text that makes the reading difficult?
- Are there any printable versions of the pages?
- Is the essential information rightfully displayed?
- Does the design help the information to be easily understood and remembered?
- Pictures used as links have clear labels or embedded text as well as alt tags, so that users are no confused by the design.
- Do they use frames? Is it a dual frames/no frames version?
- Do they use flash or shockwave? Is it a dual flash/no flash version?

- Are there links to download third party add-ins (e.g. Shockwave, Flash, Adobe Acrobat)?
- Are there ALT Tags used with images, even if an alternative text link is present? ·It is recommended that where an important logo is used for the first time (for example on a homepage), that a full and official description is given (such as "X Agency Logo: Coat of Arms featuring..." etc). When the logo is then repeated, it can then be referred to in the ALT text as "X Agency Logo".
- What are the fonts used? Are they usual fonts or special ones, maybe impossible to download by all users?

NAVIGATION

- Download time [ping test]
- Is the website structure logical?
- Is the 3 clicks rule applicable? [i.e. the possibility to get from every part of the website to any other part with a maximum of 3 clicks]
- Is there a navbar with the main sections of the website available on the back of each page?
- Is the logo on the header a link to the homepage?
- Is there any site map easy accessible from each page?
- Is there any intra-site search engine?

INTERACTIVITY AND TRANSACTIONAL [eGovernment components]

G2G

G2E

G2C

Channels of communication [minimum/maximum level of moderation]

1. Bulletin boards
2. Discussion groups
3. Mailing lists
4. Chat rooms
5. Email web forms

eCommerce with the government

ESD [Electronic Service Delivery]

Information

Various resources

G2B

eProcurement

Information

Resources

C2C

ADVERTISING AND DEEP LINKING

- Is the website promoted on the institutions stationery and in mass media?
- Is there any commercial advertising on the website [there should be any]
- Are there links to other official/unofficial web pages? If so, is it stated clearly on an eventually separated “bye-bye” page that the user is going to leave the institution website?

FEEDBACK

- Feedback possibility [Y/N]
- Form of feedback – email, web form, phone etc.
- How soon are the feedbacks answered?
- Is there a track feedbacks application in place?
- Are the most common feedbacks aggregated into a FAQ section
- Is there other help feature on the website?

STANDARD OF PERFORMANCE CONTROL

- Standards of performance over a typical modem connection 14.4 kbps (rural) / 33.6 (urban) kbps over an open line and via a typical domestic ISP. This is in order to replicate the access experience of a large number of users
- Checking using different browsers and screen resolutions, and with features such as scripts and images disabled
- Checking using disabled access evaluation tools
- Checking the information is readable when printed, with both color and monochrome printers (including dot matrix, inkjet and laser printers)
- Link checking. Broken links should be fixed within one working day of discovery.
- Monitoring error messages

TRAFFIC ANALYSIS

- Traffic analysis, focusing on peak times (to assess bandwidth requirements) and dead times (should essential maintenance require the site being down for a short time).
- Server statistics archiving and monitoring

- Server log file analysis this way:
 - Page impressions (which is the number of times a page is requested, including all the graphics which might be used to make up that page. Measuring "hits" alone does not give a meaningful analysis of usage e.g. a page with 5 graphic elements will register as 6 hits but only one page impression)
 - Unique visits (calculated from unique IP addresses and time between requests)
 - Successful requests
 - Unsuccessful requests (worthwhile to see what percentage of files are showing a problem or do not exist)
 - Most frequently visited pages (can show where internal marketing efforts would work best)
 - Least frequently visited pages (use for evaluating worth of continued upkeep on some pages)
 - Top entry pages (shows how users come to the site e.g. do they avoid your top-level page?)
 - Top referring sites (See whether users are coming to your site from a search engine or industry site)
 - Search terms used to identify how users are looking for items (this will help especially with improving metadata)

SUBJECTIVE POINTS OF VIEW

- Is there an authoritative look and feel for government sites
- Personal impression oh the way it looks on works
- Satisfaction after using it

Appendix 2

Interviewees files

A. CENTRAL ADMINISTRATION:

Institution: ROMANIAN PARLIAMENT

Interviewee: Varujan Pambuccian

Responsibility: MP, Head of ICT Commission

Email: pambuccian@cdep.ro

Institution: GOVERNMENT OF ROMANIA

Interviewee: Adriana Fulga

Responsibility: Webmaster www.guv.ro

Email: ada@gov.ro

Institution: ROMANIAN PARLIAMENT

Interviewee: Marian Botocan

Responsibility: Head of IT department – www.cdep.ro

Email: mbotocan@cdep.ro

B. LOCAL ADMINISTRATION:

1. COUNTY COUNCILS

Institution: CONSILIUL JUDETEAN HARGHITA [County Council of Harghita]

Address: P-ta Libertatii nr.5 ; Miercurea Ciuc - 4100

Interviewee: Miklos Pal Gabor

Responsibility: Head of Computer Department

Telephone/Fax: 066 171 013/066 171 569

Email: gmiklos@cchr.ro

Institution: CONSILIUL JUDETEAN CONSTANTA [County Council of Constanta]

Address: Bd.Tomis nr.51 ; C-ta - 8700

Interviewee: Sevil Sumanariu

Responsibility: Head of Computer Department

Telephone/Fax: 041 611 507 041 612 854

Email: sevil@cjc.ro

Institution: CONSILIUL JUDETEAN BISTRITA NASAUD [County Council of Bistrita Nasaud]

Address: Piata Petru Rares nr.1 ; Bistrita - 4400

Interviewee: Radu Aldrofan

Responsibility: Head of Computer Department

Telephone/Fax: 063 230 743/063 214 750

Email: radu@karma.ro

Institution: CONSILIUL JUDETEAN CLUJ [County Council of Cluj]

Address: Bd.1 Decembrie 1989, nr.58 ; Cluj - 3400

Interviewee: Fitai Donald Carol

Responsibility: Counsellor

Telephone/Fax: 064-431 607/064 196 726

Email: carol@cjcluj.ro

Institution: CONSILIUL JUDETEAN BOTOSANI [County Council of Botosani]

Interviewee: Dan Artimon

Responsibility: Head of IT department

Email: dana@cjbotosani.ro

2. CITY HALLS

Institution: BUCHAREST CITY HALL

Interviewee: Sorin Ciuca

Responsibility: Head of Computer Center – www.pmb.ro

Email: dccmb@pmb.ro

Institution: PRIMARIA MUNICIPIULUI MANGALIA [Mangalia City Hall]

Interviewee: Badea Gabriel

Responsibility: Head of Computer Department

Telephone: 041 751060

Email: gabi@mangalia.ro

Institution: PRIMARIA MUNICIPIULUI BRASOV [Brasov City Hall]

Address: Str. Eroilor nr.8 ; Brasov - 2200

Interviewee: Rogoz Gabriela

Responsibility: Head of GIS department

Telephone: 068 472486

Email: rogoz@primbv.rdsbv.ro

Institution: PRIMARIA MUNICIPIULUI TÂRGU JIU [Targu Jiu City Hall]

Address: Str.Constantin Brâncusi , nr.19 , Târgu Jiu - 1400

Interviewee: Predescu Mugurel

Responsibility: Head of IT department

Telephone/Fax: 053 212299 / 053 218928

Email: ptj@tgjiu.intersys.ro

3. PREFECTURES

Institution: BOTOSANI PREFECTURE

Interviewee: Lucian Urugiuc

Responsibility: Head of International Relations

Email: lucica@petar.ro

C. INTERNATIONAL INTERVIEWS

Institution: ELECTRONIC FRONTIER FOUNDATION

Interviewee: Peter Barlow

Responsibility: Cognitive Dissident and Co-founder

Email: barlow@eff.org

Interviewee: Edward Luttwak

Responsibility: International Affairs Consultant, author of the book “Turbo Capitalism: Winners and Losers in the Global Economy”

Location: Washington DC

Appendix 3

Questionnaire for the local administration IT heads interviews

I. Questions about the IT department

1. How many people working within it vs. how many people working within the whole institution?
2. What are the responsibilities assigned within the IT department?
3. How is the IT legacy of your institution? Are you upgrading often your systems? Are your systems overloaded or unused?
4. Are you trained? Do you have subscriptions to IT magazines in Romania and from abroad?
5. Have you participated to professional exchanges? Are you familiar with the experience in the eGov field of developed countries or neighboring countries?
6. Why have you chosen to work in the public administration and not with a private company or abroad?
7. Can you estimate how much do you win comparatively with the wages in the private IT sector or in bank?
8. Why would you stay to work here? Why would you choose to leave?

II. Questions about your institution Internet presence

1. Do you have a website? Since when?
2. Is your website internally developed or is it outsourced?
3. Do you advertise your website? Do you put the URL on your stationery?
4. Do you make an audit of your website? How many visitors, where from and on what do they use your website? Which is the most visited part?
5. Do you have dynamic applications reading from databases on your website?
6. How was the information flow modified internally because of the website existence?
7. What special trainings in eGov for local administration have you taken part?
8. What about the websites belonging to some villages or small towns in your county? Do you plan to help them to develop websites?
9. What is the general feeling toward Internet in your institution? Are your colleagues willing to use the new communications techniques?
10. Personally do you see the Internet as a facilitator or as a threat for the activity of your institution? What aspects interest you most? [security, user-friendly character, scalability, the cost etc.]
11. Have you developed eGov projects till now?

12. Did you have eGov initiatives that were oppose by your leaders?
13. What do you think about the funds granted for the development of IT within local administration? Is this the big problem or the problem is the lack of ICT education of the political players within public administration?
14. What do you think about the future of eGov in Romania? Where lie the biggest threats and opportunities?

III. Questions about the central administration coordination role

1. What do you think about the legislative framework in Romania right now and about the activity of the Minister for Communication and Information Technology?
2. In what consists the involvement from the central level in the local administration IT sector?
3. Do you agree the statement “the government and the minister for the local public administration should have a leadership role in implementing eGov solutions and in defining operating standards” Can you comment?
4. What would you do if you had been appointed as the leader of a group for coordination of a national eGov group? What would be the first actions you would undertake?

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