**Univerzita Hradec Králové**
**Fakulta informatiky a managementu**

# The assessment and evaluation of E-government systems, the case of Republic of Kosovo

# Master thesis

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**Hradec Kralove,**                                               **April, 2015**

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# DEDICATION

In the name of GOD, the Most Gracious, the Most Merciful,

To my Mother and Family who believed and supported me

# ACKNOWLEDGEMENTS

# DECLARATION

This dissertation is the result of my own work and includes nothing, which is the outcome of work done in collaboration except where specifically indicated in the text. It has not been previously submitted, in part or whole, to any university of institution for any degree, diploma, or other qualification.

Signed:_____

Date:_____

# ABBREVIATIONS

| Acronym | Definition | Page |
|---|---|---|
| ACM | Association for Computing Machinery | 12 |
| AFIS | Automated Fingerprint Identification System | 36 |
| AIS | Agency of Information Society | 31 |
| ALEPH | Automated Library Expandable Program | 68 |
| APIEGS | Action Plan for Implementation of Electronic Government Strategy | 22 |
| ASP | Active Server Pages | 32 |
| ASYCUDA | Automated System for Customs Data | 38 |
| BDMS | Baseline Database Management System | 47 |
| BERT | Ballistic Evidence Recovery and Tracing system | 43 |
| DIP | Division of Industrial Property | 40 |
| DMS | Document Management System | 47 |
| EGS | Electronic Government Strategy | 4 |
| EMIS | Employment Management Information System | 35 |
| ERP | Enterprise resource planning | 43 |
| GIS | Geographic Information System | 43 |
| GMBH | German : Gesellschaft mit beschränkter Haftung<br>English:    Company with limited liability (LLC) | 39 |
| ICT | Information and Communications Technology | 2 |
| IDS | Intrusion Detection System | 47 |
| IPIS | Industrial Policy Information System | 40 |
| ISA | Internet Security and Acceleration | 47 |
| ITD | Name for Asset Management System | 47 |
| KAS | Kosovo Agency of Statistics | 34 |
| KBRA | Kosovo Business Registration Agency | 40 |
| KCA | Kosovo Cadastral Agency | 34 |
| KCLIS | Kosovo Cadaster Land Information System | 34 |
| KOPOS | Kosovo Positional Service | 34 |
| KTA | Kosovo Tax Administration | 37 |
| MBA | Master of Business Administration | 1 |
| MEST | Ministry of Education, Science and Technology | 39 |
| MIIS | Multi-level Integrated Information Structures | 66 |
| MIT | Massachusetts Institute of Technology | 66 |
| MLSW | Ministry of Labor and Social Welfare | 35 |
| MPA | Ministry of Public Administration | 24 |
| MTI | Ministry of Trade and Industry | 40 |
| NII | National Information Infrastructure | 12 |
| NLK | National Library of Kosovo | 42 |
| OCDE | Organización para la Cooperación y Desarrollo Económicos | 19 |
| OECD | Organization for Economic Co-operation and Development | 19 |
| OSCE | Organization for Security and Co-operation in Europe | 25 |
| PES | Public Employment Service | 35 |
| PID | Personal Identification Data | 36 |
| PIP | Public Investments Program | 47 |
| PISG | Provisional Institutions of Self-Government | 25 |
| PKI | Public Key Infrastructure | 36 |
| PPRC | Public Procurement Regulatory Commission | 35 |
| PUK | Personal unblocking code (PUC), also known as a PIN unlock key | 32 |
| RKS | Republic of Kosovo | 31 |

| SACONS | Small Arms Control System | 43 |
|--------|---------------------------|-----|
| SEC | Securities and exchange commission | 15 |
| SIGTAS | Standard Integrated Government Tax Administration System | 47 |
| SQL | Structured Query Language | 37 |
| STIKK | Shoqata për Teknologji të Informacionit dhe të Komunikimit të Kosovës (Kosovo Association of Information and Communication Technology) | 48 |
| TIMS | Trade Information Management System | 38 |
| UNCTAD | United Nations Conference on Trade and Development | 38 |
| UN/DESA | United Nations Department of Economic and Social Affairs | 21 |
| UNESCO | United Nations Educational, Scientific and Cultural Organization | 16 |
| UNMIK | United Nations Interim Administration Mission in Kosovo | 25 |
| UNPAN | United Nations Public Administration Network | 17 |
| UNSC | United Nations Security Council | 25 |
| USA | United States of America | 69 |
| UWV | Dutch : Uitvoeringsinstituut Werknemersverzekeringen English : Institute for Employee Benefit Schemes | 10 |
| VPN | Virtual Private Network | 46 |
| WPF | Windows Presentation Foundation | 39 |
| WTO | World Trade Organization | 39 |
| XML | Extensible Markup Language | 32 |

# ABSTRACT

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# The assessment and evaluation of E-government systems, the case of Republic of Kosovo
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The aim of this thesis is to answer the main research question of Republic of Kosovo has managed to build a proper E-government. To collect secondary data Literature review was performed, while the collection of primary data was done through an online survey with the limited Kosovo internet population. The use of secondary data resulted with a thorough Situation analysis on Interoperability, Electronic services, Network, Hardware and Software and Security of the E-government in Kosovo. The collection of the primary data which was done through the online survey gave for the first time a glimpse of the E-government efficiency in Kosovo. Moreover, using the same design of the questionnaires as were used in the similar survey for the EU 27+ countries, enabled the easy comparison of the results between two surveys.

After collection and processing of both primary and secondary data, the conclusion answered the main research question if Kosovo have a proper E-government. An initiative that was transformed into real strategy while being advertised with pomposity from the Kosovo Government in 2008, until know fell short in implementation and enabling its citizens to interact with the public agencies and its officials.

# 1. Introduction

Good and effective governance was and remains the most challenging task for any level of Government. Although the benefits from a good governance practices might be down to subjectivity, the outcome from bad governance practices is always universally condemned. The bad governance practices does not only create useless bureaucratic procedures, but they can also affect directly the life of the people. Delays on processing requests might create anxiety, but not having a proper databases in hospital might put the patient life on risk by administering wrong medications. To avoid these situations, a good governance practices have to be put on place. One of the best ways to do so, is to use Information and Communication Technology (ICT) tools.

Today the internet based application and services are being developed in the scale never witnessed before. The information became the highest value in the market. Companies that have databases of millions of users are being evaluated more than companies that have factories and produce physical products. According to Financial Times Global 500 list, from the top 5 public corporations by market capitalization 3 of them are from Information Technology sector, including the top spot (Apple Inc).

This level of development in ICT sector creates opportunities for the government to services that can be used online from the citizens and businesses. Citizen electronically can pay taxes, apply for documents, file a request or complain in matter of minutes. This way of communication, Electronic Government (e-gov), between government and citizens or businesses will faster the procedures, lower the cost, minimize workload for public agencies, open the government to the citizens and perform transparent governing practices.

Today a large number of counties are issuing also electronic documents or eID, were each citizen has its basic informations saved on the chip embedded in the ID card. These informations are not only used for anti-forgery policies but also for electronic identification and signature. With eID a citizen can access a certain governmental electronic service or sign a document electronically. All this is done in a very secure way by using Public Key Infrastructure encryption.

Furthermore, we are witnessing the real benefits from e-government all over the world. In Netherlands with less budget, fewer personnel and fewer physical local offices, the services for the unemployed are nowadays mainly organized through the one integrated Internet portal called werk.nl. The use of electronic services for job seekers is mandatory. Authentication is through use of the national eID (DigiD). The government of Netherland had by the end of 2012 achieved a cost reduction of over EUR 300 million EUR 100+ million from the job mediation/reintegration budget, EUR 200+ million from the UWV operating budget).

Following the example of Netherland, Denmark wants to significantly reduce the use of expensive service delivery channels such as "face-to-face" meetings, communication by physical letters, and e-mails, and make the digital service delivery channel the default channel for citizens and businesses to use. This allows the public sector to provide better and more individualized services of higher quality and relevance to citizens and businesses on the one hand, and save 46 to 70 percent of the costs per public service delivered on the other. (European Commission, eGovernment, Benchmark 2012).

The cases of good practices are all over the world, this is why also the Republic of Kosovo, one of the newest states in the world (from 2008) has adopted the same approach. After its official independence, wanted to preserve and improve the good practices of using ICT tools which inherited from the time that was under UN Protectorate. This is why the Government of Kosovo passed a strategy called "Electronic Government Strategy 2009-2015" (EGS '09- '15), followed by an Action Plan. This strategy would envision a Public Administration that provide more than 23 electronic services to the citizens and businesses. With more than 171 activities planned and with a cost of more 180 million euros, this strategy would be fully implemented by end of 2015.

While we are entering the final year of the planned implementation schedule, this Master thesis will try to assess and evaluate what was planned and what was done.

# 2. Literature Review

## 2.1.    E-government scope and concepts

According to Brueckner (2005), e-Government is the consolidated service of conventional government practices on using data and communication technology (ICT) to spread, recover and store data or services. He highlights the benefits that internet offers to day from a simplicity of connecting people to purchasing things with one simple click. While McClure, (2000) concludes that Electronic government refers to government's use of technology, particularly web-based Internet applications to enhance the access to and delivery of government information and service to citizens, business partners, employees, other agencies, and government entities. It has the potential to help build better relationships between government and the public by making interaction with citizens smoother, easier, and more efficient.  Is also perceived to promise increase effectiveness among public authorities, improve decision making and service delivery (Fountain, 2007)

The e-Government concept dates back from late 1990s, when the utilization if ICTs began to be perceived as a policy strategy for increasing the effectiveness of governments' operations and service delivery (see Bretschneider, 2003). Weingarten (1994) while discussing the need for a National Information Infrastructure (NII) stated the prospective that this new infrastructure would have for "dissemination of government information and delivery of government services". Afterwards also Milward and Snyder (1996) explained how the technology could be used to link citizens to government organizations. Perritt (1996) furthermore explored the potential of the policies and related practices needed for the "'electronic government' of the future". In 1998 Schorr and Stolfo (1998) in their article published in Communications of the ACM call for collaborative applied research on electronic government (digital government)

The increased independency which came as a result of process of decentralization in the last decades, in the local level of the government created the need for increase in the government effectiveness and their service delivery. (Montin, 2000). The new level of independent responsibilities made the local governance a complex environment: they were facing new demands to coordinate and manage new types of processes and increasing amounts of information, while still having to cope with a compartmental structure and rather slow decision making processes (Mayer-Schönberger and Lazer 2007).  As a result, e-Government concept was hugely embraced by local authorities (Ilshammar, 2006).

Until now all levels of government have lunched e-Government with the aim to provide electronic information and services to its citizens and businesses. (Torres, Pina, & Acerete, 2005). This because many of the government are aware of the importance of using ICT for efficient and transparent government.(Prattipati, 2003).

This is why governmental institutions all over the world have embraced the digital revolution and have published online publication, databases and actual governmental services (West, 2002). The construction and management of eGovernment systems are becoming an essential element of modern public administration (Torres et al., 2005).

Ilshammar, (2006) argues that failures in implementation and usage of e-Government can be attributed to the decision makers' simplistic assumption that using ICTs in government structures automatically will facilitate for improved effectiveness, better decision making and service delivery. Therefore, decision makers should treat e-Government as something that requires organizational changes and adjustments, not only rigorous technological solutions (Mayer-Schönberger and Lazer 2007).

## 2.2.    E-government framework

There are three general types of eGovernment systems and services: government to government (G2G), government to citizen (G2C), and government to business (G2B) (Wang&Liao, 2007), and C2G (Citizens to Governments) (Jeong Chun Hai, 2007). Beside the traditional classification, Belenger & Hiller (2006) proposed an Electronic Government framework which propose new categorization of the e-government types:

- *Government with individuals* – delivering services (GwIS). The government establishes or maintains a direct relationship with citizens to deliver a service or benefit. This can evolve two-way communications as individuals request information about benefits, and government may need and information in order to process benefits
- *Government with individuals* – political process (GwIP). This is the relationship between the government and its citizens as part of the democratic process. It is perhaps the most essential relationship between a government and any entity. Examples include voting online, and participating in requests for comments online during the regulatory process.
- *Government with business as a citizen* (GwBC). Although businesses will not vote and thus the relationship between businesses and government will not looks exactly like GwIP, there are still opportunities for businesses to relate to the government in a citizen-like capacity.
- *Government with businesses in the marketplace* (GwBMKT). While businesses can receive many online services from government, a major portion of online transactions between government and businesses involve procurement, or the hiring of contractors or acquisitions of goods and services by the government.
- *Government with employees* (GwE). Online Relationships between government agencies and their employees face the same requirements as that of the relationships between businesses and their employees. For example, an intranet can be used to provide information to employees, or online

transactions with their employees can be performed with a the proper technological architecture.

- *Government with Government* (GwG). Government agencies must often collaborate and/or provide services to another. There are substantial gains from conducting some of these transactions online, between federal, state and local agencies.

In table 1, we can observe the five stages of the Belenger & Hiller (2006) model framework for E-government with examples.

I. *Information*. Information distribution is the simplest form of e-government where governments post information on web sites for constituents.

II. *Two-way communication*. In this stage, government sites allow citizens to communicate with the government and make simple requests and changes. Several of these sites are based on e-mail exchanges, and there are thousands of those as well. Agencies allowing online requests provide sites with fill-in forms but the information is not returned immediately online. It is sent by regular mail or e-mail.

III. *Transaction*. At this stage, governments have sites available for actual transactions with citizens. Individuals interact and conduct transactions with the government completely online, whereas these web-based self-services used to be performed by public servants. Actual online transacting is the most sophisticated level of e-government currently widely available.

IV. *Integration*. In this stage, all government services are integrated. This can be accomplished with a single portal that constituents can use to access services they need no matter which agencies or departments offer them. One of the biggest obstacles to more online transactions between the government and its constituents is the lack of integration of all online and back-office systems. Government agencies spend expensive and time-consuming resources to have face-to-face interactions with individuals.

V. *Participation.* These are government sites that provide voting online, registration online, or posting comments online. Although this could be seen as a subset of the two-way communication stage, it is so significant as to warrant a separate category. It is helpful to view this as distinct because of the unique sensitivity of providing this online feature.

| | Stages of E-government | | | | |
|---|---|---|---|---|---|
| | Stage 1 | Stage 2 | Stage 3 | Stage 4 | Stage 5 |
| **Type of Government** | Information | Two-way Communication | Transaction | Integration | Political Participation |
| ***Government with individuals – delivering services (GwIS)*** | Description of medical benefits | Request & Receive individual benefit information | Pay taxes online | All services and entitlements | N/A |
| ***Government with individuals – political process (GwIP)*** | Dates of elections | Receive election forms | Receive election funds & disbursements | Register to vote – federal, state & local (file) | Voting Online |
| ***Government with business as a citizen (GwBC)*** | Regulations online | SEC filings | - Pay taxes online<br>- Apply for and receive program funds<br>- Agricultural allotments | All regulatory information on one site | Filling comments online |
| ***Government with businesses in the marketplace (GwBMKT)*** | Posting RFPs | Requesting clarifications or specs | Online vouchers & payments | Marketplace for vendors | N/A |
| ***Government with employees (GwE)*** | Pay dates and holiday informations | Request for employment benefits statements | Electronic Paycheck | One stop shop for info on job, retirement, vaction, etc | N/A |
| ***Government with Government (GwG)*** | Agency filling requirements | Request from local governments | Electronic funds transfers | | N/A |

Table 1. Electronic Government Framework with examples Belenger & Hiller (2006)

## 2.2.1.    E-governance

Dawes (2008, page S36) defines it as "E-governance comprises the use of information and communication technologies (ICTs) to support public services, government administration, democratic processes, and relationships among citizens, civil society, the private sector, and the state".  There are real differences between e-government and e-governance that transcend academic nuances, while there are always factors that raise this confusion (Bannister, F. and R. Connolly, 2012).

Bannister and Connolly (2012) from a selected sample of definitions of e-Governance (Table 2), derive the definitions of e-governance such as:

- The use of ICT to support (inter alia) public services, democracy, the private sector
- Technology mediated services;
- Something that includes e-government;
- A model of government;
- A commitment to technology;
- Functions that empower citizens;
- Internally focused use of ICT by government;
- About networks and relationships;
- Use of ICT to improve the quality services and governance;
- Something that enhances e-democracy;
- A technology-mediated relationship between citizen and state.

| Source | Definition |
|---|---|
| Oakley (2010) | A technology mediated service that facilitates a transformation in the relationship between government and citizen |
| Pina eí/í/(2006) | Suggests that e-governance includes e-government (c.f UNESCO 2011) |
| Saxena (2003) following Bedietal. (2001), Holmes (2001) and Newman (2004) | An information age model of governance. |
| Riley (2001) cited by Saxena(2003) | The commitment to utilize appropriate technology for a variety of ends including greater democracy and fair and efficient services. |
| Palvia and Sharma (2007) | Propose a framework for differentiating between e-government and e-governance. In their model, e-governance is concerned with internally focused use of ICT to manage organizational resources and administer policies and procedures; e-government is outward and citizen directed. |
| Sheridan and Riley (2010) | " . . . deals with the whole spectrum of the relationship and networks within government regarding the usage and application of ICTs." |
| Chen and Hsish (2009) | The use of ICT to improve the quality of services and governance (cf UNESCO) |
| Kolsaker and Lee-Kelley (2008), drawing on Heeks (2001) and Lenihan (2002) | As an aspect of, if not actually synonymous with, e-democracy (see below). |
| Marche and McNiven (2003, p73): | " . .. a technology-mediated relationship between citizens and their governments from the perspective of potential electronic deliberation over civic communication, over policy evolution and in democratic expressions of citizen will |

| | |
|---|---|
| **Prabhu (2004)** | A form of e-business in governance comprising of process and structures involved in deliverance of electronic service to the public, viz. citizens |
| **Kettl (2002)** | The impact [from e-government interactions] on government, public service and citizens throughout the political process, policy development, program design and service delivery |
| **UNPAN (2011)** | E-governance can be defined as the application of ICT tools in (1) the interaction between government and citizens and businesses, and (2) in internal government operations to simplify and improve democratic governance |
| **UNESCO (2011)** | The public sector's use of Information and Communication Technologies with the aim of improving information and service delivery, encouraging citizen participation in the decision-making process and making government more accountable, transparent and effective. |

**Table 2. Selected Sample of Definitions of e-Governance (Banninster & Connolly, 2012)**

To avoid the problems in the above set of definitions, Bannister and Connolly (2012) propose this e-governance definition:

I.   Alter governance structures or processes in ways that are not feasible without ICT and/or

II.  Create new governance structures or processes that were heretofore not possible without ICT and/or

III. Reify heretofore theoretical ideas or issues in normative governance.

## 2.2.2.    E-government 2.0

In the last decade we are witnessing the development of web-based application in an unprecedented scale. As a result E-government initiatives have shifted towards web-enabled government. With the new development there is a clear path towards e-government 2.0, where government operations will be transformed and enhanced using a variety of currently nascent technologies referred to collectively as the Web 2.0. (Dixon, 2010).

With the purpose of providing better services, governmental institutions should transform themselves into more adaptive organizations with the ability to respond changing environments and exploring better ways to fulfill their goals. Web 2.0 development is a crucial factor for rise of the E-government 2.0.

The E-government 2.0 goes from the old approach of technology driven development to a more citizen centric without boundaries, promoting openness, transparency and user participation (Sun, Ku & Shih, 2014).

Furthermore Sun, Ku & Shih (2014) propose a E-government 2.0 framework which consists of Process integration, Resource Integration, Back-office integration and front office integration (see Figure 1).

*Process Integration,* Sun, Ku & Shih (2014) argue that automation of the current processes should be the only concern, but also creation of new processes and new relationship between governments and citizens. One way to achieve this is to analyze governments' transactional processes, identify redundancies to reduce development efforts and make the best use of valuable resources, money and time.

*Resource Integration,* Sun, Ku & Shih (2014) see as a necessity for the government should strengthen the freedom of information by creating different levels or rights to access the information such as rights to freely reuse, republish, repurpose and add value to government information,

*Back-Office Integration,* here Sun, Ku & Shih (2014) argue that a distinction between front and back office should be made, because "the interaction between citizens and civil servants occurs in the front office, while in the back office, the assessment of inquiries and the supporting registration activities take place".

*Front-Office Integration* use internet or other digital means for online service delivery for citizens and business. These online services are integral part of a strategy to engage citizens (Sun, Ku & Shih, 2014).
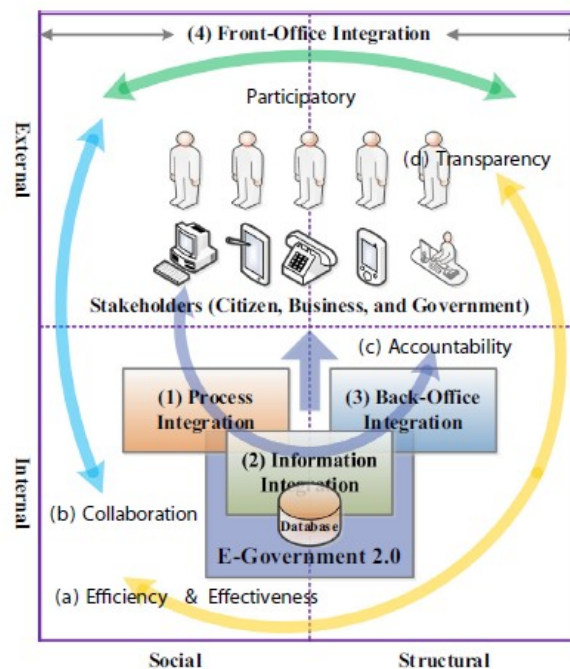


Figure 1. Overview of the proposed E-Government 2.0 framework. Sun, Ku & Shih (2014)

To transition to the e-Government 2.0 framework there are 10 main challenges which Sun, Ku & Shih, 2014 list as below:

I.   *E-Literacy and digital divide,* includes skills and understanding of rich IT environments

II.  *Sustainability and cost structures,* a cost-benefit analysis or a business model should be developed for the e-governmental projects

III. *Privacy, security, and trust,* the vast amount of personal information that Governments are in possession through everyday transaction, should be used effectively and safely while protecting the privacy of the stakeholder's personal information.

IV.  *Permanent availability and preservation,* ICT should be used for the compact and convenient storage of the data beside its inexpensive distribution.

V.   *Education, marketing and workforce issues,* the electronic services are useful only to the people that know about them, thus education and training will be needed.

VI.  *Benchmarking, law and public policy,* Governments should always assess the progress and effectiveness of their e-government projects. (OECD/OCDE, 2007). Moreover, legal or policy barriers are always a possibility thus legislative bodies should update they laws accordingly to the new electronic documents and transaction.

VII. *Transparency and accessibility*, the lack of transparency prevents the stakeholders to engage in government, while governments should give access to all its citizens equally.

VIII. *Content management (CM),* a framework for CM is necessary to make sense of the data available and react to social or economic developments.

IX.  *Interoperability,* incompatible records online complicates and overloads the citizens and government officials.

X.   *Infrastructure development,* many of the developing countries have struggled and don't have the necessary infrastructure to implement E-government 2.0 services, despite their will (OECD, 2007).

## 2.3.   E-government assessment

As governments develop systems to deliver these services, there is a need for evaluation efforts that, among other things, assess the effectiveness of their eGovernment systems. Such evaluation efforts can enable government agencies to ascertain whether they are capable of doing the required task and delivering services as expected (Gupta & Jana, 2003). For Web based applications to be effective in the

eGovernment environment, there is a need to develop and better understand the factors which best measure the success of eGovernment systems.

This has also created an increased need for dependable ways to measure the success of an eGovernment system. However, eGovernment systems success is a complex concept, and its measurement is expected to be multi-dimensional in nature (Wang&Liao, 2007).

DeLone and McLean (1992) comprehensively reviewed the different Information System success measures and proposed a six-factor IS success model (Figure 1) as a taxonomy and framework for measuring the complex-dependent variables in Information System research.
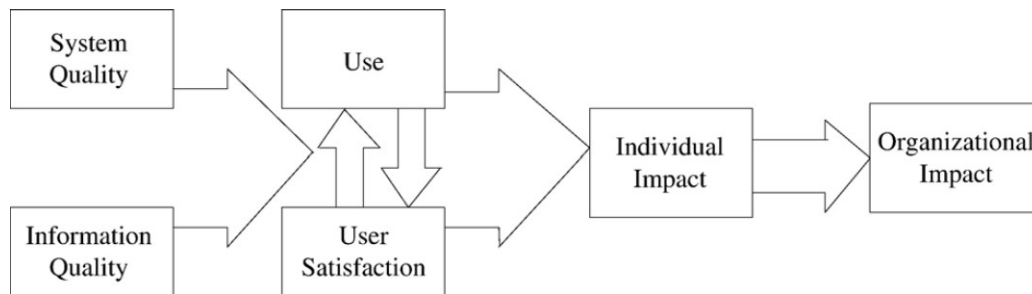


Figure 2. DeLone and McLean's (1992) IS success model

DeLone and McLean (2003) propose an updated IS success model (see Fig. 2) and evaluate its usefulness in light of the dramatic changes in IS practice, especially the advent and explosive growth of eCommerce. The updated model depicts the relationship between system quality, information quality, service quality, use, user satisfaction, and net benefit.
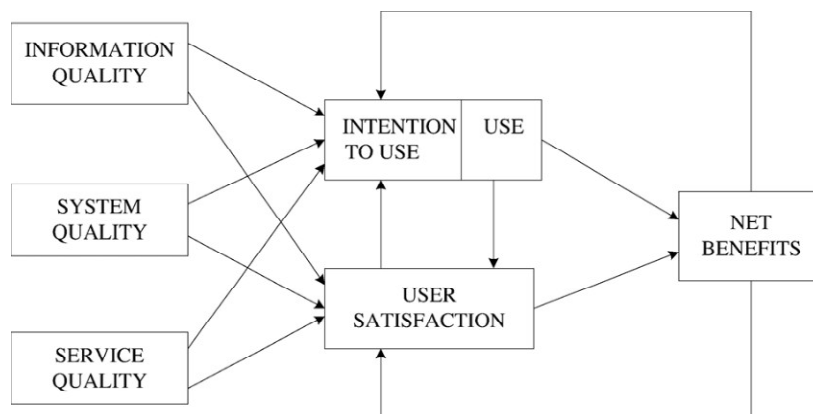


Figure 3. DeLone and McLean's (2003) updated IS success model

Although some researchers claim that service quality is merely a subset of the model's systems quality, the changes in the role of IS over the last decade argue for a separate

variable called the "service quality" dimension (DeLone & McLean, 2003). Furthermore DeLone & McLeans (2003) updated IS success model grouped all of the impact measures into a single net benefits variable, to avoid complicating the model with more success measures.

## 2.4.    Summary

During the literature review we have encounter tens of definitions about Electronic Government but all of them are very similar in their core.  But broadly, e-government can be referred to as the use and application of information technologies in public administration to streamline and integrate workflows and processes, to effectively manage data and information, enhance public service delivery, as well as expand communication channels for engagement and empowerment of people (UN/DESA 2014).

The traditional classification see four types of e-government: government to government (G2G), government to citizen (G2C), and government to business (G2B) (Wang&Liao, 2007), and C2G (Citizens to Governments) (Jeong Chun Hai, 2007). Buth Belenger & Hiller (2006) went further and proposed a more complex Electronic Government framework which classify E-government as: *Government with individuals* – delivering services (GwIS), *Government with individuals* – political process (GwIP), *Government with business as a citizen* (GwBC), *Government with businesses in the marketplace* (GwBMKT), *Government with employees* (GwE), *Government with Government* (GwG).   This E-government frameworks develops in five stages: *Information*, *Two-way communication*, *Transaction*, *Integration*, *and Participation.*

There is a debate beyond academic questions about the differences of e-government and e-governance. Bannister and Connolly (2012 to avoid confusion proposed the following definition of e-governance:

   I.   Alter governance structures or processes in ways that are not feasible without ICT and/or
  II.   Create new governance structures or processes that were heretofore not possible without ICT and/or
 III.   Reify heretofore theoretical ideas or issues in normative governance.

The development of Web 2.0 created the environment for transition into E-government 2.0. To implement this transition Sun, Ku & Shih (2014) proposed an E-government 2.0 framework which consists of Process integration, Resource Integration, Back-office integration and front office integration. Also they foresee that this transition will have also main challenges such as E-Literacy, Sustainability and cost structures, Privacy, security, and trust, Permanent availability and preservation, Education, marketing and workforce issues, Benchmarking, law and public policy,

Transparency and accessibility, Content management (CM), Interoperability and Infrastructure development

To assess e-Government we go to DeLone & McLean IS success model of 1992 and their updated model of 2002. Their first model of 1992 has six factor of IS success: System Quality, Information Quality, Use, User satisfaction, individual impact and organizational impact. Meanwhile, their updated model preserve the first four factors such as System Quality, Information Quality, Use (Intention to use), User satisfaction, while the Individual and Organizational Impact are grouped in Net Benefits.

# 3. Research Methodology

## 3.1.     Research background

This research is performed as part of the Master Thesis project at Faculty of Informatics and Management, University of Hradec Kralove. The research topic is assessing and evaluating E-government systems in the Republic of Kosovo, a country with 2 million population in South-east of Europe. Kosovo has a very difficult history, where there are only few short periods of time its ancient and modern history where its people witnessed any type of self-governing systems. In the modern history, from 1999 Kosovo started finally to create stable self-governing systems, which culminated with Independence Declaration in February 17th, 2008.

Although it's a newly created Republic from 2008, Kosovo had a heavy international presence from 1999, mainly due the fact that Kosovo was under UN protectorate from 1999 – 2008).This gave Kosovo an opportunity to be some sort of a pioneer in the region to adopt ICT for governmental activities. This allowed the new institutions after the war which had to be built from scratch, to use and be exposed to the latest ICT tools available. This experience created an overall awareness in Governmental Institutions about the benefits of using ICT tools for day to day governance. Thus, Government of Kosovo after the official Declaration of Independence in 2008 approved "Electronic Governance Strategy 2009-2015"( from here on EGS '09-'15), while this Strategy was also followed by "Action Plan for Implementation of Electronic Government Strategy 2009-2015" (from here on APIEGS '09-'15). This strategy outlays the situation that existed in 2008 in Governmental Institutions regarding ICT, followed by a strategy to develop 24 electronic services, investments in ICT infrastructure, interoperability strategy, human resource development etc.  While the EGS '09-'15 lays down the strategy , the Action Plan details the projects and the cost for needed projects to achieve the strategy goals.

The aim of this research is to assess and evaluate the overall E-government system that were planned and realized before and after the Electronic Governance Strategy 2009-2015.  More than 6 years after the start of implementation, the EGS '09-'15 and its

Action Plan faced lack of commitment, cancellations, delays, and inappropriate planning and implementations. To explore more and create an overall assessment and evaluation, this research will focus more on what is planned and what is implemented based on the EGS '19-'15 document and its Action Plan.

The lack of data made was the main challenge of this research. While we enter in the final year of the targeted deadline for implementation, there is a lack of a document comprehensive or not which would report and present that overall status of the EGS '19-'15 implementation. Beside some annual short reports from individual institutions there is no other information about the current status of E-government Systems.

To collect secondary data also "follow the money" approach was implemented. Kosovo Central Budget tables were used to identify what is implemented and what was transferred to the next year's budget. Furthermore, website and documents of individual Ministries were explored and all the data related to E-government strategy or activities were extracted and processed.

## 3.2. Research Objectives

To execute the research successfully the following objectives will be met:

   I.   To analyze strategies, frameworks and other related documents of E-government systems in general and its implementation in Republic of Kosovo.

  II.   To analyze and understand the current situation of E-government systems of Kosovo

 III.   To compare some of the Kosovo governmental electronic services and user experience with other benchmark Governmental Electronic Services.

 IV.   Provide recommendations for the direction which Kosovo e-government should take to offer its citizens a comprehensive and reliable electronic services.

## 3.3. Research Question

Based on the Research objective the Main question of the research is as following:

*Does Republic of Kosovo have proper Electronic Government?*

For a more thorough answer the following sub questions will be tend to answer:

1. *How E-Government is designed and implemented in Kosovo?*

2. *How effective E-government is in Kosovo?*

The sub-questions are formulated to answer the main question in two smaller parts. This will give a more comprehensive answer to the main question and also will allow the research to be very practical.

The first research sub-question tends to investigate what is done until know in terms of Infrastructure, Technology and Electronic Services in the Republic of Kosovo. Answering this sub-question will result in a thorough Situational Analysis of the current state of E-government of Kosovo.

The second sub-question looks into the process and experience of citizens in Kosovo with E-government and if they were been able to communicate or interact with any Governmental Institution through any electronics service. Here the e-government will be evaluated as a product and the quality of its usage. This will be done through a short survey online and it will allow to compare the results with similar studies in EU27.

## 3.4.    Research Strategy

The research will use primary and secondary data to answer the main question and its sub questions.

Literature review will be performed to build a theoretical framework which will be the main guide of the research. To find the right literature online libraries will be used such as Ebscohost, Proquest, Mendeley, EU online Library and Google Scholar. These online libraries will allow access to relevant secondary data such as articles, papers, textbooks etc., which will help to answer the main question of the research. Beside the online libraries, the Kosovo Governmental portal and portals of individual Ministries and agencies will be used to search for official documents, annual reports or any relevant document that can be relevant to the research .

Through use of secondary data, a Situation Analysis of the Kosovo E-government strategy, action plan, technology implementation and its current outcomes will be perform to answer the first research sub-question. Taking in consideration that there is no report comprehensively create a picture of E-government in Kosovo, this Situational Analysis will tend to provide just that. Also we have to take in consideration that the cooperation with the Governmental Institutions, especially with Ministry of Public Administration (MPA) as a leading institutions in E-government strategy and implementation, was impossible. Through official channels MPA responded negatively or didn't respond at all to the inquiries to provide any report, documents or any kind of information about E-government. To have as much as information as possible also unofficial information were exploited to have a better understanding of the nature and the technology behind electronic government. In the end the Situational Analysis will provide a comprehensive analysis of Interoperability, Electronic Services, Infrastructure and Security of E-government in Kosovo.

To gather the primary data and also answer the research sub-question number two, an online survey will be performed with random Kosovo citizens. This survey which will have 20 questions, will be conducted only online through an online survey platform (freeonlinesurveys.com). To achieve this the same Sample Questionnaire used in an online survey from European Commission (EUROPEAN COMMISSION, 2013. Public Services Online) will be used for survey, but this time performed online with Kosovo citizens. The sample size of quantitative research is n= 41.   The focus will be on citizen's personal experiences with use of E-government in Kosovo. These interviews will tend to gain some insight if E-government in Kosovo enabled its citizen to communicate or interact with Governmental Institutions. Moreover, using the same Questionnaire will facilitate the comparison of the outcomes. Beside the quantitative research, a semi structured interviews will be performed through the same online survey service with IT staff in Public Administration about their involvement and experiences with designing and building electronic services.

# 4. Situational Analysis

Governance in Kosovo was always challenging task. In the last 60 years, Kosovo had 5 different governance systems. The first was under Yugoslavia (1945-1974) with very limited governance rights, second (1974-1991) as Autonomous Region inside Yugoslavia, third as occupied region from Serbia (1991-1999) it created parallel institutions as resistance but had no real governing competencies, fourth was as UN Protectorate (1999-2008) with limited competencies and fifth and current governance system as Independent Country after 2008. All these Government systems we can categorize in two groups, the first one from 1945-2008 where Kosovo had little or no competencies at all to govern itself and the second group after 2008, when Kosovo declared its independence and gain full governing competencies. This research will focus on the second group, but to understand the overall nature of the current systems we will go back a little.

On June 10th 1999, UN Security Council passed Resolution 1244 which authorized an international civil and military presence in Kosovo. The UN established the United Nations Interim Administration in Kosovo (hereafter UNMIK) which had a civilian staff of more than 10,000 people. The main goal of UNMIK was to establish a sort of Government body which had four pillars, Police and justice (UN Led), Civil Administration (UN-Led), Democratization and institution building (led by the OSCE) and Reconstruction and economic development (EU-led). Their responsibilities were perform basic civilian administrative functions, promote the establishment of substantial autonomy and self-government in Kosovo etc. (UNSC,S/RES/1244, 1999) In 2001, UNMIK promulgated Constitutional Framework for Kosovo that established the Provisional Institutions of Self-Government (PISG) which later were transformed in Government of Kosovo.

UNMIK from the first days installed the latest technology available at the time for its administrative needs. This was mainly due its complex chain of decision making since they were communicating with UN HQ in New York on daily basis, while in other hand war practically destroyed or disabled any administrative infrastructure that were before war. In 2000, they created a then called Kosovo Consolidated Budget later transformed in Kosovo Central Budget. From 2001, when we have the first official data about expenditures in Information Technology by the Governmental institutions in Kosovo, until 2008 the investments in ICT topped 15 Million euros.

After the Declaration of Independence in February 17th 2008, Kosovo Governmental institutions aspired to follow the example of Estonia, were their usage of ICT was a crucial tool to transform the country from a communist era to a modern environment and were internet was considered a utility. In 2008 Kosovo Government introduced "Electronic Governance Strategy 2009-2015".

This strategy states the actual situation in 2008, vision, legislation, interoperability and challenges that will follow during the implementation period. Through an Action Plan, Kosovo Government planned investments of more than 180 Million € through a 7 year period. An overall 171 activities were planned, where 151 of them are focused on Infrastructure, Systems and electronic Services and Interoperability while 20 are related to Policy making and Legislation.



| | Policy and Legislation | Infrastructure |
|---|---|---|
| Completed | 13 | 28 |
| Not Completed | 4 | 7 |
| On Progress | 3 | 15 |
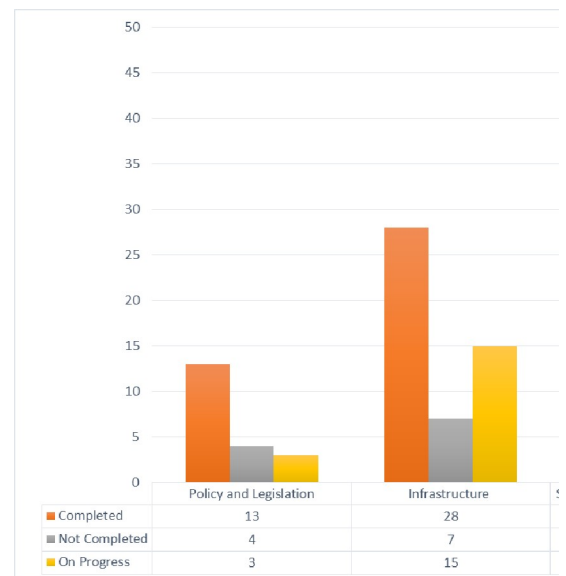
**Figure 4, Status of Planned Activities of Action Plan for EGS '09-'15**
**Source: Annual Report, Ministry of Public Administration, 2013**



Planned activities of Action Plan for Electronic Government Strategy '09-'15

53% Completed
18% Not Completed
29% On Progress

As we can observe from Figure 4, the highest activities focus is on
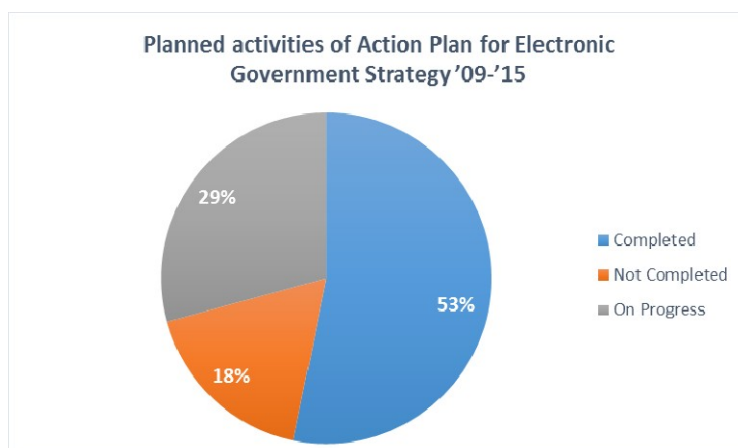
Systems and Electronic Services followed by Infrastructure. Until end of 2013 where the latest status of E-government was reported by Ministry of Public Administration, only Policy and Legislation activities have a better level of implementation, other categories look not so good. Based on the Kosovo Central Budget tables, the overall dynamic of investments fell in E-government, while it was mainly focused on infrastructure, hardware and software, while also projects for e-cadaster, e-customs, e-school. Taking into account the dynamic of project implementation regarding e-government, most of 2014 projects are still on progress.

**Figure 5, Overall status of Planned Activities of Action Plan for EGS '09-'15**
**Source: Annual Report, Ministry of Public Administration, 2013**

As we entered in the final year of Action Plan targeted deadline, we can see (Figure 5) that the overall status of planned activities is little more than half. Taking in consideration also the procured or engaged activities in 2014, we can presume that these figures are higher but not by significant margin. Furthermore, the Kosovo Central Budget for 2015 passed in Kosovo Assembly, doesn't include any related projects to IT or E-government, thus the successful completion of planned activities of Action Plan for Electronic Government Strategy 2009-2015 at best it will be partial.

## 4.1.    Interoperability in the Kosovo Governmental ICT infrastructure.

Interoperability in the Kosovo Government ICT infrastructure is based and regulated by Interoperability Framework of the Republic of Kosovo, Law on Information Society Services (no. 2011/04-L-094). This frameworks consist of all elements and activities that institutions should undertake to achieve the overall interoperability. To achieve this Interoperability Framework states 12 principles, a Conceptual Model of Public Services, Levels of Interoperability and Service Infrastructure.

### 4.1.1. Principles of Interoperability Kosovo Governmental ICT

There are 13 principles which derive from Interoperability Framework of the Republic of Kosovo (MPA, 2011).

1. **Subsidiarity and Proportionality** – Maximum Local, Minimum Central. As part of European Treaty, Institutional decision should be closer to the citizen.
2. **User in the center** – Public services exist to serve citizens and businesses. Their needs define which public services should be provided to them and in which way.
3. **Inclusion and Access** – Usage of ICT should result in equal possibilities for all citizens and businesses, providing open services, inclusive which can be easy accessed and without discrimination
4. **Security and Privacy** - Citizens and Businesses should be provided with secure environment during their interaction with Public Administration where their privacy will be protected and their data will be confidential.
5. **Multilingualism** – During the designing and building public services, the multilingualism should be implemented based on official languages of Kosovo. This will allow the citizens and businesses to interact in their preferred language.
6. **Administrative simplification** – Building services requires removal of the unnecessary informations and reorganization of Back Office of Public Administration. This will allow to remove administrative barriers and procedures for citizens and businesses.
7. **Transparency** – Citizens and Businesses should be able to understand administrative processes. They should be able to track the administrative procedures where they are involved and should be included in the decision making where it affects them.
8. **Data Storage** – Documentation of procedures and decisions, administrative notes electronic or not should be stored. The goal is to retain the legitimacy, admissibility, integrity and should be accessible in accordance to Security and Privacy policies.
9. **Openness** – To increase efficacy and performance the system have allow knowledge to be accessed and shared through different governmental organizations.
10. **Reusing** – When Public Administration officials are facing a problem or an issue, they have to be able to access solutions implemented from other officials previously.
11. **Neutrality and Technological Compatibility** – Public Administration should focus on functional needs and avoid decisions that impose specific technology or product. They should provide access on public services, despite the technology or the products.
12. **Effectiveness and Efficacy** – Public Administration have to make sure that their solutions should serve to citizens and businesses with effectiveness and efficacy.

## 4.1.2.    Conceptual Model for Public Services

The Conceptual Model for Public Services, tend to achieve the reuse of information, concepts, methods, solutions and standards in the Republic of Kosovo. This Model, accepts that Public Services should be based on the informations from different sources and from different levels of administration and should combine basic services developed independently from different institutions of Public Administration (Interoperability Framework of the Republic of Kosovo, MPA, 2011).
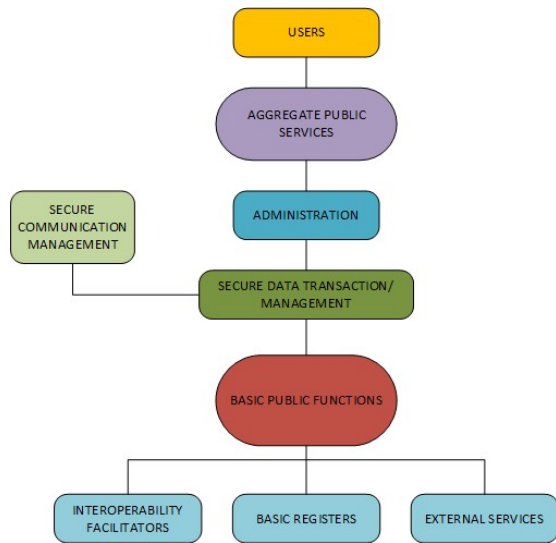


**Figure 6, Conceptual Model for Public Services. Source: Interoperability Framework of the Republic of Kosovo, Ministry of Public Administration 2011**

## 4.1.3.    Levels of Interoperability

According to Interoperability Framework of the Republic of Kosovo (MPA, 2011), there should be four levels of Interoperability such as legal, organizational, semantic and technical.

- **Legal Interoperability**, regulatory initiatives and filling legal gaps are crucial for finding acceptable solutions.
- **Organizational interoperability,** different governmental organizations should work together for finalizing or completing the public services. They have to achieve this by reducing or eliminating unnecessary processes and to create the conditions for new processes.
- **Semantic Interoperability**, allows governmental institutions to understand the content and process that content from the external sources. The first step toward this is the establishment of asset data structures and sectorial common elements that can be considered as part of semantic interoperability. Then, institutions for cooperation, have to agree on the meaning of information to be exchanged.
- **Technical interoperability**, should be ensured through establishing standards from the recognized standardization organizations, or through technical specifications made by industrial consortium or standardization forums.

## 4.1.4.    Services Infrastructure

According to the Interoperability Framework (MPA, 2011) all the Republic of Kosovo Institutions should be connected to Governmental Network endpoints (see Figure 7) Building the Data National Center, created the possibility for all Institutions in Republic of Kosovo to create backup of their databases and electronic registers. Ministry of Public Administration built a System Center to offer qualitative services for Public Administration such as official email communication, internet access, domain and subdomain availability, IT security, VoIP communication and videoconferences, hosting for official website etc.
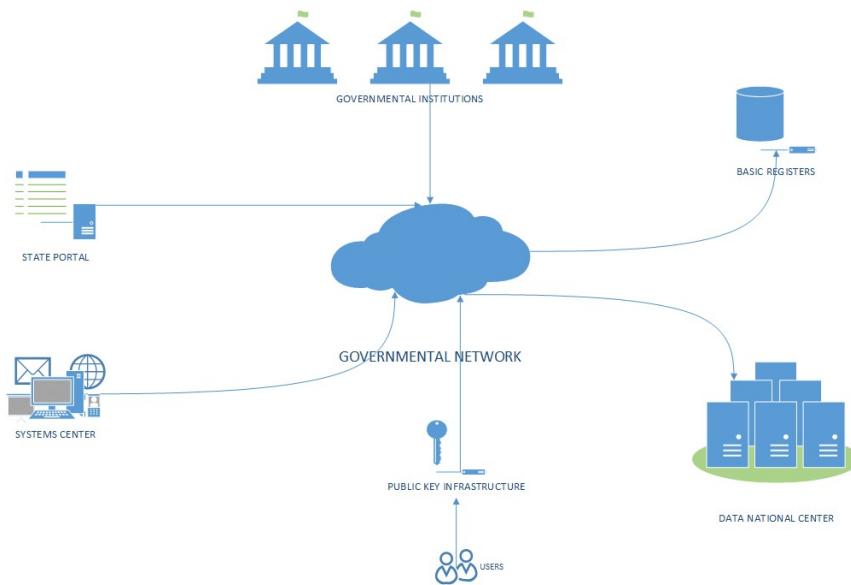


**Figure 7, Services Infrastructure Source: Interoperability Framework of the Republic of Kosovo, Ministry of Public Administration 2011**

The main governmental portal is the state portal www.rks-gov.net which contain important informations and services for citizens, businesses, public administration and interested guests. The access in the portal will be based on Civil Registration data, which will enable also the use of eID-s. The electronic Registers and other information, should be credible sources for people, businesses, vehicles, licenses, buildings, locations, streets etc. These electronic registers should be stored properly to preserve their accessibility, reliability and integrity. To allow citizens and businesses to safely access the Registers and other electronic Services, the Public Key Infrastructure should be fully implemented.

## 4.2.    Electronic services

The Electronic Government Strategy (EGS) planned to digitalize most of the governmental services through some specific projects that will include mainly the Central level institutions. According to EGS '09-'15 (2008) for fast economic

advancement of Republic of Kosovo, a significant impact would have the creation and implementation of a strategy that would allow to have more electronic services for citizens and businesses in Kosovo. Building these electronic services would allow quick improvement for citizens, businesses and government institutions.
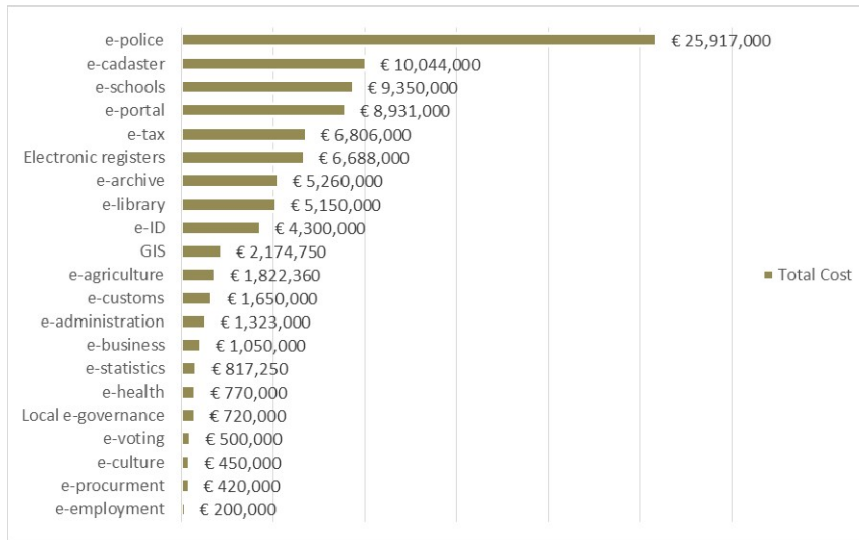


**Figure 8. Future Electronic Services Source: Action Plan for Electronic Government Strategy '09-'15, Ministry of Public Administration 2011**

As seen in Figure 5, in Action Plan for Electronic Government Strategy '09-'15 projects have be planned projects and budget for 21 electronic services, which if implemented will also enable e-files, e-transaction and m-services. High investment budget allocation is done for services like e-police, e-cadaster, e-schools and e-portal while less budget goes for e-employment, e-procurement and e-culture.(Electronic Governance Strategy '09-'15, 2008)   All the projects will have to go through or managed by AIS-Ministry of Public Administration (Former called Ministry of Public Services) together with the corresponding institution where these electronic services will be implement. The total cost of projects planned for future electronic services from 2009-2015 is 94,133,360 €.

Based on Budgetary Tables published from Ministry of Finance (MoF/RKS) for 2009 - 2015, until now, not even half of the planned projects didn't even start to implement. Continuous delays, lack of budget allocation or policy changes are some of the reasons that makes impossible for Electronic Services to be implemented as planned until end of 2015. As the things stands after more than 6 years, the best case scenario would see not more than 50% of Electronic Services to be implemented. But, this is an optimistic predictions, since based on 2015 Kosovo Central Budget published by MoF/RKS (2015) there is no planned IT investments this year and all the projects from previous years, including all EGS '09-'15 (2008) are postponed for 2016.

## 4.2.1. State e-portal

As the main hub for all the e-government services, the state e-portal ([www.rks-gov.net)](www.rks-gov.net) is developed for and maintained by Agency of Information Society which is part of Ministry of Public Administration (AIS-MPA/RKS). The state e-portal uses Microsoft SharePoint as its web application framework, initially in SharePoint 2007 version, then upgraded to SharePoint 2010.

Based on the EGS '09-'15 (2008), the state e-portal will be the front end for most part of the Electronic Services and which will be linked with Electronic Registers. The electronic registers will contain information for public institutions, citizens and businesses, will have payment system, centralized document management systems, databases for live events and so on. Furthermore, for data protection the eID infrastructure is planned to be used for access in e-portal.

But the current state of development of the State e-portal is everything but satisfactory. Most of the portal is static and it only informatory while only few electronic services are offered. The access is done through user and password which will be defined during a simple form of registration, while a PUK is requested which is given when the new eID is issued.

In the section for Citizens (G2C), information about certificates, documents are any related procedures are given, while there is no option to send any requests. As for Businesses (G2B), the State e-portal forwards you to another subportal ([http://e-bizneset.rks-gov.net](http://e-bizneset.rks-gov.net)) which offers modules like Business Registration procedures, Licenses, Suppression, Mortgages and etc.  As for Government to Government section, the situation is little better since here we have some electronic services such as:

- **e-pasuria** , a system for Asset management for both Central and Local Governmental level. Development Technology:    ASP.NET,         C#, SQL2005, XML, Crystalreport, Java Script
- **e-arkiva**, is an electronic archive system which enabled the Central Electronic   Archive for all the institutions. Development Technology:         ASP.NET, C#, SQL2005, XML, Crystalreport, Java Script
- **e-business,** is the same system as in section of G2B. Not functional, just basic informations Development Technology:         ASP.NET,         C#, SQL2005, XML, Crystalreport, Java Script
- **e-shkolla,** is a system that allows access and manages the study curriculum for elementary to high school level education. Development Technology:   ASP.NET, C#, SQL2005, XML, Crystalreport, Java Script

- **Driving license,** a system where officials from Ministry of Internal Affairs should access to put requests for new driving licenses or any other procedures related to it.
- **Communication with Office Communicator,** the Government of Kosovo uses the Office Communicator 2007/2010 for communication between its employees through text, audio and video who can access state network.
- **Document Management System,** a system that centralized the document management of Kosovo Government and its institutions.
- **System for Human Resources Management,** the system is unavailable online.

## 4.2.2. Electronic registers

The importance that Electronic registers have in the overall e-government strategy is critical. The lack of electronics registers makes everything else useless, thus EGS '09-'15 (2008) planned to expand the actual Electronic registers and integrate them in e-portal or in other management systems. According to the Action Plan of EGS '09-'15 (2008), a total of 11 new Electronic Registers will be created with advanced system. Some of them include information about Civil State, Vehicle Registration, Registration of Personal Data, registration of licensed weapons, Property registry, Population registry etc. Until now most of these Electronic Registers are implemented and are functional, although they are not linked our integrated to the state –portal as planned.

## 4.2.3. e-Administration

The Government performance is a reflection of its Public Administration, thus giving the Public Administration appropriate tools can improve their performance immensely. From 1999 the infrastructure of Public Administration in Kosovo was always a step ahead from other Public Administrations in the region, but several steps behind from those in EU. The heavy international presence in Kosovo after 1999 enabled the public services to use some of the latest ICT tools.

The same concept was followed with EGS '09-'15 (2008) which planned to invest further to advance the Public Administration core system, its governmental network and raise the level of security so all the governmental institutions in all levels would have the opportunity to access the electronic services from everywhere. Action Plan of EGS '09-'15 (2008) planned to invest 1,3 Million euro through projects like using VoIP as telephonic government system, Consolidation of Government and IT Systems, Implementation of system for data monitoring and security and Implementation of

monitoring and network security system. Until now, it's a rare case until now that a goal is fulfilled as planned. As we speak the public administration use VoIP is the main telephonic governmental system, significant improvement in the Consolidation of IT systems, have put in place a system for data monitoring and security and have implemented the monitoring and network security system. In general, we can conclude that e-administration is a service which has a certain level of success, although the usability and effectiveness are features we it's impossible to measure from outside.

### 4.2.4.　　e-Cadaster

More than 10 million euros were planned to be invested through 13 different projects based on Action Plan for EGS '09-'15 (2008). These projects intend to provide the citizens with information about what they own and the exact location of their land from all possible angles. Furthermore, the Cadaster office would also have an easy tool to search the location, size, quality, the ownership and other services.

From the introduction of EGS '09-'15 (2008) a significant improvement were made in digitalization of cadaster. With the financial supports of donors a lot of projects were made possible to implement without much delays. The major improvements include complete digitalization of cadaster documents, development of Geo Portal, Development and improvement of KCLIS (Kosovo Cadaster Land Information System), Kosovo Positional Service (KOPOS), Kosovo Cadaster Agency's web portal and physical reconstruction of KCA buildings. All these projects make e-cadaster one of the most implemented electronic services to date, although there is still work to be done to integrate all these other governmental electronic services such state e-portal and the access with eID.

### 4.2.5.　　e-Statistics

EGS '09-'15 (2008) sees e-statistics as an electronic services where citizens, businesses and institutions can access and utilize the data about demography, economy, social and environmental aspects. These data will be mined by several other registers and will allow to generate reports through e-state portal or any other website designated for this purpose. The Action Plan of EGS '09-'15 (2008) though several projects planned new Systems and integration of the actual ones into Governmental Portal with a main goal to have a unified electronic registers and single point of access and search, which would e-portal.

As the things stands, makes this electronic service hugely complicated, because it doesn't have a single point of search nor can generate any reports by State e-portal. This is as a result of the lack of unification of electronic registers and their databases. For example, the 2011 Census made possible to have an overall picture of demographic and social aspects that were not available since 1989. The results of these census are

available for public but only in Kosovo Agency of Statistics' (KAS) website and they are not connected with any other electronic service or portal online. Furthermore, only limited reports for 2011 Census can be generated online, but only through KAS website.

### 4.2.6.    e-Employment

Although there are already some online platforms to search for job vacancies in Kosovo, the EGS '09-'15 (2008) wanted to create an governmental module for job searching thorough e-portal with the option to create also statistical data report on data on employment or unemployment, experiences, workplaces, personal data,  data on health, social assistance etc.

To date, Public Employment Service (PES) of the Ministry of Labor and Social Welfare (MLSW) developed an application called EMIS - Employment Management Information System. EMIS Appdec (2015) is a management tool used for the registration of job seekers and employment management. The system serves as a tool for the PES to manage the data of unemployed, jobseekers, employers and training providers. This system is only used and accessed by PES/MLSW employees while the goal to allow any citizen to upload their request and qualifications online is yet to become available. Beside this system there is no other service or module that enable any activity related to e-employment.

### 4.2.7.    E-Procurement

Procurement was and still remains the main node which lack transparency, mostly due corrupted activities. According to the Law on Public Procurement in Republic of Kosovo No. 04/L-042 (2011), all the Procurement Activities are prepared by Procurement bodies of individual institutions, but all of them had to be published through Public Procurement Regulatory Commission (PPRC). The PPRC will publish all the procurement activities from all the institutions only through its website, including the awarded contracts. EGS '09-'15 (2008) sees e-procurement management system as an electronic service that would enable savings both in technical and financial aspects. The sides involved in the procurement activities would have access to the service by utilizing an electronic identification such as e-ID. Each category would have separate access control based on the defined roles by the Law on Public Procurement in Republic of Kosovo No. 04/L-042 (2011).

Although the EGS '09-'15 (2008) states the above goal, in their Action Plan there was only 210,000 euro allocated to a project only called E-Procurement and until now

nothing of what is planned didn't even started to implement. We have same e-procurement electronic service as on 2009, with minor changes on their database.

## 4.2.8.    e-ID

One of the key enablers for electronic governance is electronic ID (eID). This identification card with chip embedded that stores Personal Identification Data (PID) could allow any citizens or institution to access electronic services through state e-portal. EGS '09-'15 (2008) plans to unify all the access through a single point of electronic identification or eID.

To achieve this, in 2013 Kosovo Government started issuing the first e-ID cards and new infrastructure was installed in the Production site of Ministry of Internal Affairs. According to the Tender Dossier  - Supply with electronic ID cards and systems (software and hardware etc) for personalization of electronic ID cards, Ministry of Internal Affairs (2013), the eID chip contain highest level of security and contain applications such as e-ID, e-Pass and e-Sign.
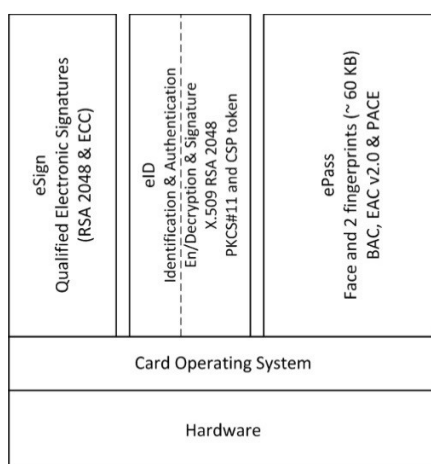


**Figure 9, Applications in Kosovo e-ID**

The project included new civil Automated Fingerprint Identification System (AFIS) and the data integration from the old one. Also a new Enrollment system for Processing of applications online was deployed. Furthermore, a new PKI solution was implemented and it was integrated with the existing PKI infrastructure that was used for Biometric Passports. Although all the project is completed with high standards by the German company Giesecke & Devrient, the e-ID is not yet the key enablers for electronic governance. Until now the eID is just a normal ID card with no additional use.

## 4.2.9.    e-Tax

According to EGS '09-'15 (2008) the online payments due will by a very important process, while its security will be in maximum and the identification and authorization will be through eID. In the recent years there was significant development in digitalizing the tax services, although it's still long way for calling the e-tax a solid service.

Based on Law no. 03/L-222 - On Tax Administration and Procedures, Assembly of Republic of Kosovo, (2013), the only body to calculate, collect and manage the tax payment is Kosovo Tax Administration that is part of Ministry of Finance (KTA/MoF). As a results, also the main body for offering and managing any e-tax service is also KTA/MoF. Until now through their portal (www.atk-ks.org) they provide the following electronic services:

- **E-filling**- Fill you tax payment which can also be paid through bank systems. This service is built on ASP.NET platform and use Oracle as its database platform.
- **E-verification** – Verification of your status towards Kosovo Tax Administration obligations which are used for Governmental Projects or visa applications. The application use ASP.NET platform and its database runs on Microsoft SQL
- **E-purchases**- Declaration of purchases above 500 euros that are subject to taxation system. This application also is built in ASP.NET and its database runs on Microsoft SQL
- **Fiscal Cash Registers** – Fiscal Cash Registers registration to the system. The application is from Integrify with its database running on ORACLE.
- **E-pay -** This services is used from banks to make payments for its clients who generate their tax payments documents from Electronic Declaration System through E-filling service.  It is also build on ASP.NET with Microsoft SQL database platform.

The above electronic services which facilitate the tax payment processes for the citizens and businesses, these only can be accessed through KTA/MoF website and with user/password generated through a registration processes. Until now there is no connection or integration of any sort with e-portal, e-customs or accessing the tax payment services with eID.

## 4.2.10.   e-Commerce

Despite the extreme development of e-Commerce in the most of the developed world, this service in Kosovo, is still in the first steps. Although banks in Kosovo issues Visa and Mastercard, there are only few online platforms in Kosovo where you can use them to make any online transaction inside Kosovo. All payments with and from all levels of Governmental and Public institutions are done electronically through banking system. Very few selected fees are paid in cash mostly in local level of government and it less than 20 euros.  EGS '09-'15 (2008) envision the existence of e-contracts, e-agreements, e-memorandums and payment transaction through state e-portal, until now there is no indication that any of this will be possible at least until the end of 2016.

## 4.2.11.   e-Customs

As with some other services also customs have a good background in using ICT tools because of international presence after 1999. To advance the customs infrastructure and to create e-custom services, EGS '09-'15 (2008) planned to create databases with customs related data, digital data entry by customs and for customs, exits in all border crossing, application to exercise any other tax regimes, passenger and vehicle identification etc. This will allow other electronic services like e-police and e-justice to access easy any information related to their activities to enforce the law and security. The main body for tax collection

Kosovo Customs, part of Ministry of Finance (KC/MoF) is the only authority which performs customs functions or any other matter related to the customs activities, (Law on Customs and Excise Code in Kosovo no. 03-L-109, 2011). This also include any electronic services related to customs activities. Until 2012, Kosovo Customs used a system called Trade Information Management System – TIMS (Crown Agents) which managed most their activities electronically. But from 2013, Kosovo Customs implemented successfully the project to install and utilize Automated System for Custom Data, world version – ASYCUDAworld (AW), a system developed from United Nations Conference on Trade and Development – UNCTAD. ASYCUDA "is a computerized customs management system which covers most foreign trade procedures. The system handles manifests and customs declarations, accounting procedures, transit and suspense procedures" (ASYCUDA.org 2015). Furthermore, the status of implementation of the ASYCUDAworld project for Kosovo Custom is as follows:

- KC AW covers all Customs regimes and procedures, including simplified procedures and real-time control & monitoring of transit operations;
- Electronic Payments & reconciliation are ready for use;

- Risk-management, including real-time alerts & notifications, automatic allocations of Customs officers for inspection (a strong anti-corruption measure), complete Audit Trail etc, are in current use;
- KC AW built-in Valuation Control (WTO) is operational;  (ASYCUDA.org 2015)

As for integration of the ASYCUDA with other institutions especially with Police and Judicial System, is was not possible to understand or to have more information due the lack of transparency. While the access for ASYCUDA business modules can be done only through the Customs portal (dogana.rks-gov.net). Furthermore, Kosovo Customs allows online registration for Customs Agency (Customs Brokers).

## 4.2.12.    e-School

There are several services planned for utilization of e-school, starting from e-register, e-grade notebook, e-student notebook, e-certificate, e-diploma etc. (Electronic Government Strategy '09-'15, MPA/AIS, G.o.K 2008). Although in the State e-portal there is a section of e-curriculum where teachers can access the curriculum for all levels of education system, there is no other online electronic service until now.

This situation soon will start to change, with the implementation of the project called "Modernization of Kosovo Education System through e-Education". This project has a budget of total 4.9 Million euros and is being implemented by Bit Media e-Learning Solution GMBH and with financial support from Unicredit Bank Austria which is providing a loan to Kosovo government with very low interest.  (Law No. 04/L-271 On ratification of export Credit Agreement between the Republic of Kosovo and Unicredit Bank Austria AG to finance the project "Modernization of Education System in Kosovo through E- Education"). This project will result with a Central Education System, Software for Trainings in IT, Business capabilities and electronic State Exam for High Schools. Despite the project offers new e-school services, we have to wait for another couple of years for the project to complete to see if it will the a student can have his/her grades online, have an electronic notebook, gain a e-certificate or have any other related documents online.

Moreover, Ministry of Education, Science and Technology (MEST) created a School Registry System. This software system can be used for registration, update and detailed reporting of education institutions for entire Kosova. With this system, MEST can have a clear picture of all details of the education institutions of Kosova. The system co-acts with ArcGIS, respectively with ArcMPA, which gives access to the locating of every educating object directly from the evidence of schools system, on the Kosova's MPA, respectively on the ArcMPA system. The system is modern, developed on the latest Microsoft technology, respectively on WPF and .NET Framework 3.5 & 4, and database on Microsoft SQL Server. (APPDEC, Projects 2010-2014)

## 4.2.13.    e-Business

In the State e-portal you can find a service called e-business (e-bizneset.rks-gov.net) with the purpose to create possibilities for online business registration and minimize the bureaucratic procedures of opening new businesses and enabling licensees they require. (Electronic Government Strategy '09-'15, MPA/AIS, G.o.K 2008).

This e-business' functionality is very disappointing. Beside some basic informations about procedures of opening businesses and legislation following these procedures, there is no much you can find or do in this sub portal. For example you can register as a new user, after which you supposedly can register or make some request online. But this not possible, because in the registration form you can register with a username "test", with an email "test@gmail.com", give any number for your personal ID number or any other false information. All this will allow you to create a user "test". From here on everything you do after registration is null, since no database or electronic register is associated with this sub portal. The technology behind e-business is ASP.NET, C#, XML, Java Script, database is built with SQL2005, while the reports are generated with Crystalreport. (DataPrognet, Projects, 2010)

Although there is no online service for Businesses to use, Ministry of Trade and Industry (MTI) digitalized most of their internal services. One of them is Industrial Policy Information System (IPIS) provides industrial policy officials and analysts with an efficient tool for developing and monitoring indicators related to industrial sectors to be utilized by the Ministry of Trade and Industry (MTI). IPIS receives information systematically and automatically on a wide range of indicators from Kosovo Tax Administration (KTA), Kosovo Customs (KC), Kosovo Agency of Statistics (KAS), Kosovo Business Registration Agency (KBRA) and Division of Industrial Policy (DIP) within MTI. (APPDEC, Projects 2010- 2014)

## 4.2.14.    e-Health

The idea behind electronic health service is to create a central database and an electronic register or medical history for all the citizens which were accepted to any hospital in Kosovo. This systems would also include electronic registers of health insurance, birth data, computerized system for managing pharmaceutical processes, etc. (Electronic Government Strategy '09-'15, MPA/AIS, G.o.K 2008). These goals on e-health were only partly addressed.

The main focus and investments was given to the Health Information System, (2.7 Million euro investment in the last 5 years) which contains for main modules: The module for Patient Treatment (Health Registers, Electronic Health Files), Pharmaceutical Management Module, Health Care portal and Hospital Information System. Although this is a huge step forward, still e-Health will need more investments

and improvement. For example, these registers are not integrated with Data Birth or Civil Register, allowing the patient to give any name or information about him while there is no mechanism to assess if these informations are valid or not.

## 4.2.15.   e-Archive

E-archive implementation should enable scanning and processing any file into electronic databases. After this process is successfully done, a barcode number would be generated to identify the corresponding scanned file. (Electronic Government Strategy '09-'15, MPA/AIS, G.o.K 2008).

To achieve this goal a e-archive service was developed which consist of three main parts:

> • Hardware devices (Digital Scanner / Sender, Barcode Printer, Barcode Scanner)
> • Web Application
> • Database

The Development technology used for web application is ASP.NET, C#, XML, Java Script, database is built with SQL2005, while the reports are generated with Crystalreport. This system allow various documents to be scanned by Digital Scanner/Sender which is related to the applications. The application will process the scanned documents and store them into the database. Furthermore the application generates a barcode which will be printed and attached to the scanned files. This application supports the storage of text, images, video and audio and other data formats. (DataPrognet, Projects, 2010)

## 4.2.16.   e-Agriculture

E-Agriculture is seen as service which will integrate e-farms, e-greenhouses and e-agriculture laboratories. Moreover, the main goal is to build databases for livestock, farming land, grains, pastures and forests, waters and fishes, fruit plantations, vegetables etc. (Electronic Government Strategy '09-'15, MPA/AIS, G.o.K 2008).

To achieve the above goal several registers were developed with the financial support of the donors. Electronic Farm register (eFR), Simplified Land Parcel Identification Software (sLPIS) and its mobile version for field usage, Payment Management Software and Indicators Software. All these registers and software applications allow e-agriculture to achieve most of its goals and create easy real time reporting. (Annual Report of Agency for Agricultural Development. Prishtinë, Republic of Kosovo 2013)

## 4.2.17.    e-Transactions

The goal of the Government is through bank cards or even through eID to allow payments for taxes online, administrative fees are other transactions, (Electronic Government Strategy '09-'15, MPA/AIS, G.o.K 2008), but until now this is far from being implemented.

Although we live in times were purchasing or making payments online is a click of button away, but in Kosovo this is not the case. Due inappropriate rule of law, crippled judicial system and lack of trust that exists in banking sector in Kosovo, online payments almost inexistent. The majority of online payments inside Kosovo are done through e-banking system and from bank accounts. The most used electronic payment system is Kos-Giro, which is a payment electronic system built by Kosovo Central Bank in 2005 and uses bank accounts instead of cash to make payments. (The Kos-GIRO: An Introductory Guide For Collectors, Kosovo Central Bank 2005) Kos-GIRO is used mainly by Governmental or Public Institutions to allow payments of utilities though bank accounts, while it doesn't allow payments from credit or debit cards or any other bank card.

## 4.2.18.    e-Library

Although the National Library of Kosovo (NLK) has an electronic system of management, the idea is to create electronic libraries of NLK and other libraries that are managed by other institutions. Although a lengthy process, the digitalization of the books will allow access to knowledge and advance the learning methods for students, individuals or any other interested institutions. (Electronic Government Strategy '09-'15, MPA/AIS, G.o.K 2008).

In 2004, NLK choose Aleph 500 Integrated Library System from Exlibris as their main system to manage all their activities. (Biblioletra No2, 2004). After this the process of book digitalization followed. Although the project is underway, the lack of professional scanner to digitalize the books stalled the process, because all the digitalization until now is done through a simple document scanner which has low quality and is a very slow process. (Zeri, Library Digitalization, is 2014).

## 4.2.19.  e-Police

Today modern police is facing crimes that didn't exist three decades ago, like cybercrime, identity theft or abuse, and also it's facing new techniques that are used to commit crimes. This expansion of criminal activity cannot be fought only with traditional police practices only, but also with electronic tools and technology. To achieve this, Kosovo Government gave huge importance to e-police, which also has the biggest budget allocation in all electronic services planned. Building registers for Vehicles and Drivers and interaction with system like system of information management in justice (e-files), system of information management of accidents (e-health), system of information management of customs and border crossing points (e-customs), system of information management or road network (GIS) and other systems, is crucial in rapid response to any criminal activities (Electronic Government Strategy '09-'15, MPA/AIS, G.o.K 2008).

Ministry of Internal Affairs of Kosovo/Civil Registration Agency created a new electronic registers for Vehicles and Driver licenses, since the old systems which were inherited from UNMIK administration were with outdate technology. Furthermore, police cars are getting equipped with mini laptops and specific software, which allows a police officer in real time to check the validity of identification documents or vehicle plates and their history. But to fight crime is not enough only to have and access registers for drivers and vehicles in real time, but also the overall management related to policing is very important. For example, Ministry of Internal Affairs of Kosovo (MIAoK) have implemented Resource Information Management System which has Enterprise resource planning (ERP) processes and contains modules like Document Management System, Notification Center and Business Intelligence (Ministry of Internal Affairs, Monthly Bulletin, 2014). This allows MIAoK to develop faster and better registers that can be used by Kosovo Police or Justice Systems.

Meanwhile, Kosovo Police have also several systems they use in their daily activities. For example, Kosovo Police use systems like BERT (Ballistic Evidence Recovery and Tracing system) allows police to register, manage and identify all evidence recovered all over the country by the Crime Scene Investigators and that are recorded in evidence rooms, or SACONS (Small Arms Control System) which allows Registration of Firearms and Management of Weapon Stockpiles. (APPDEC, Projects 2010-2014). All these systems together with Forensics equipment and tools, Business Intelligence tools, infrastructure, data security etc., until now have passed 14 Million of euros in investments, and there are more planned project in the following years making e-police a very solid electronic service.

## 4.2.20.    e-Elections

Electronic elections are a necessity in a country were all its election processes were highly overshadowed with vote theft and abuse. This is why the Government of Kosovo planned to build e-Elections. Ironically when the Electronic Government Strategy 2009-2015 was passed, the ruling political party just won elections in some electoral zones even up to 120% of the possible voters. Although some of these electoral zones were canceled, most of them were valid and crucial to the final order in the power of political parties. The reason why we mention this, is that e-Election would exist only if there is political will, since the technology behind is not complex. Taking in consideration that each election cost up to 10 million euro, digitalizing the overall process would make this process also cheaper, faster and reliable.

The aim of the Government of Kosovo was to create electronic cubicles (e-cubicles), electronic participation in political and non-political processes (e-participation), realization of direct electronic debates (videoconferences), electronic voting of citizens in elections in both levels (e-elections), electronic voting in the assembly and system of management of parliamentary process (e-parliament) (Electronic Government Strategy 2009-2015, MPA/AIS, Government of Kosovo 2008). Until now, only the e-parliament service was implemented (Kosovo Central Budget, Ministry of Finance, 2011-2013), where all the voting unless decided otherwise, is done electronically while all other processes related to parliamentary activities are highly digitalized. Furthermore the e-participation is achieved only partially through Local Municipalities portals were some feature allows public engagement in political process, but it's very limited in usability and functionality.

While in electronic voting, there was a significant upgrade in hardware and software infrastructure in the Count and Results Center. (Kosovo Central Budget, Ministry of Finance, 2011,2012,2013). In the last elections citizens were able to follow online the counting and the preliminary results in real time (www.kqz-ks.org). Beside this, there no other project implemented or planned that includes advancement and proper development of e-election for at least the end of year 2015.

## 4.3.    Local E-Governance

Local E-governance in Kosovo is in better situation than the central E-governance. Based on the Interoperability Framework of the Republic of Kosovo Law on Information Society Services (no. 2011/04-L-094) MPA, all the Local Municipalities have uniform domains and portals. All Local Municipal web portals are part of the domain rks-gov.net respectively attached to subdomain of kk.rks-gov.net. Each Municipality has its own address for example, https://kk.rks-gov.net/prishtina, https://kk.rks-gov.net/gjakove, and so own. To better evaluate the level of Local E-governance we used the Quirks model (Quirk, 2000) for scoring the web portals for top 15 Municipalities in Kosovo

based on population. Based on Quirk's model, the assessment of the level of maturity of various Kosovo's Local Municipalities websites is based on five spaces:

1. **e-Management:**     improved management of people.
2. **e-Service:**     interface with customers.
3. **e-Commerce:**     cash transactions.
4. **e-Decision-making:**     better informed public interest decisions.
5. **e-Democracy:**     political dialogue citizen and community.

To evaluate the web portals, a content matrix was developed and used to examine the presence of a number of features (ABDELSALAM H., E. H., GAMAL S. 2011). Each feature is given a score of: '1' if it is fully implemented; a reduced score of '0.5' if the feature is partly implemented; or '0' if the feature does not exist. Then, the score for each space equals the total scores of its features divided by the total number of features – in this specific space – and multiplied by 100 to give a percentage. Using this matrix we will be able to create an overall evaluation of Local Municipalities' web portals based on five spaces of Quirk's model.
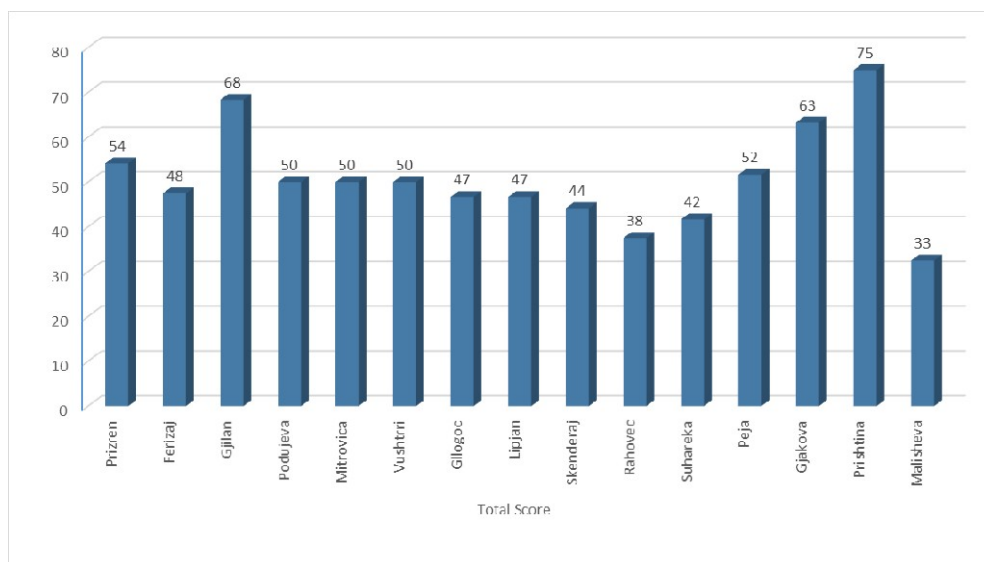


Figure 10, Scoring web Local Portals using Quirks model (Quirk, 2000)

Based on the results we can see the majority of the of top 15 Municipalities scored more than half in overall scoring, with Prishtina (capital), Gjilan, Gjakova, Peja and Prizren having the highest score. The same evaluation was done by the author before the last Local Elections of 2013 in Kosovo which overall scoring was in reverse order. Prizren had the same scoring, while Prishtina, Gjakova, Gjilan and Peja scored the lowest. The change in the overall scoring is correlated with the change in Municipalities management, since beside Prizren, most of the Municipalities have new Mayors, most of them from different political parties. We have to take in consideration that this matrix has its limitations, since it evaluate the existence of a feature if it's partially or fully functional, but it can't evaluate the usability, functionality or if its user friendly.

## 4.4. Networks

From 2009 under the supervision of Ministry of Public Administration/AIS there were around 3 million euros in investments to upgrade and increase network capacity of Governmental networks. (Electronic Government Strategy '09-'15, MPA/AIS, G.o.K 2008). The Government institutions are connected in the State Network through fiber optic cable (more than 400km) and microwave network (170 connections). 35 from 38 of Local Municipalities are connected through the State Network, while only 23 of them are connected through fiber optic, the rest use still microwave network. More than 500 locations in Prishtina and other Municipalities are managed by more than 200 servers with TB capacity. More than 95% of Civil Registration Centers are included in State Network to date. Through VPN connection all the Government institutions local or central, including Kosovo's embassies are able to access State Network and use the State IT System resources. All the institutions use VoIP to communicate between them. Sponsored by World Bank, the first stage for building a National Data Center was completed in 2013.This Data Center will store and backup all the Governmental data. (Ministry of Public Administration, Bulletin no 1, 2013)



**Figure 11, Governmental Network in Kosovo**
**Source: Bulletin Dec 2010, Ministry of Public Administration**

## 4.5.    Hardware and Software

Governmental institutions by procurement law are obliged to accept lowest price for the requested hardware while it's forbidden to have specific brand preferences only if spare or consuming parts. But this don't stop the Government Institutions to request hardware by requiring discretely hardware with specific features that only some or one brand has it. This is why in the institutions you can find hardware from different brands, but HP, IBM, DELL, and CISCO are the dominating brands. As for software solutions, Microsoft is the main provider. From desktops Windows 7/8 and Microsoft Office packages, up to servers Microsoft Server 2003/2008, SQL Server 2003/2005/2008, Microsoft ISA Server, Visual Studio.Net, Exchange Servers, 2003/2007, SharePoint Server 2003/2008. Moreover Microsoft Essentials together with Sophos are the main antivirus solutions. Databases platforms are built in Microsoft SQL Server 2003/2008, Oracle 9/10, MySQL, and Microsoft Access (Microsoft Software List allowed to Government of Kosovo/MPA) .Furthermore, some of Information Management Systems used in Government institutions include also Document Management System (DMS), Electronic voting in Kosovo assembly,  BDMS, PIP, Property tax software (DTP), Free Balance, SIGTAS, Payment Management System, Personnel Management system, Asset Management System (ITD), Vehicle Registration System etc.

Until the end of 2015, according to Electronic Government Strategy '09-'15 Action Plan there are more than 30 projects planned to be implemented to upgrade, update or replace the existing infrastructure. The total budget for these is more than 51 Million euro, but taking in consideration that actual rhythm of implementation the best case scenario would be to fulfill only 50% of this target, while the other projects will continue to be delayed for the next financial year.


## 4.6.    Security

Up to 2009 the Department of Information Technology (now called Agency of Information Society) implemented Intrusion Detection System (IDS) as part of network external security. Meanwhile, they use antivirus solution for their internal security. (Electronic Government Strategy '09-'15, MPA/AIS, G.o.K 2008). In 2010 and 2011, further significant investments were implemented through projects such as Monitoring and Data Security Systems, the overall raise of IT security, Data Security Project etc. Due to Security policies, it's very hard to find more information about the security infrastructure in Kosovo Government. (Kosovo Central Budget, Ministry of Finance, G.o.K 2010)

# 5. User-centric eGovernment performance in Kosovo

## 5.1. Methodology and Sampling

Survey data collection was performed using the quantitative research approach. This survey targeted the Internet population of Kosovo with a 2 million habitants. Excluding the population under 10 years old, Kosovo has a population for research purpose of 1,4 Million or 77.6% based on the last Census in 2011 (Kosovo Agency of Statistics, 2011). The internet penetration in Kosovo is at least 76.62%, where 94.21% use it from home (STIKK, Internet Penetration and Usage in Kosovo, 2013).

The survey was an end-user web aided survey with a sample was relatively small, n=41 with the Confidence Level is 95%, while confidence interval is +15/-15. Due to low amount of research sample, the confidence interval is high, but not enough to impact the overall goal of the survey, which is to assess approximate trends and compare them with those in EU27+. The survey was done during the period of time from 20 - 24 of April 2015.

The survey examined respondents through questionnaire of 20 questions which covered (EC, 2013. Assessing User Centric eGovernment performance in Europe):

- **User profiles and target groups**: categorization of eGovernment users/non-users (demographics, Internet use, levels of trust in using the Internet, contacts with Government,)
- **Usage of eGovernment services during the last 12 months**, including channel use and preferences, and likelihood of future use
- **User satisfaction**: satisfaction in comparison to other explanatory factors such as satisfaction with nongovernment eServices, user expectations and achievement of objectives

To measure the "Effective Government" indicators we have to evaluate the quality of eGovernment and looking into at User Satisfaction, Fulfilment of expectations, Likelihood of re-use and Perceived benefits. (EC, 2013. Assessing User Centric eGovernment performance in Europe).
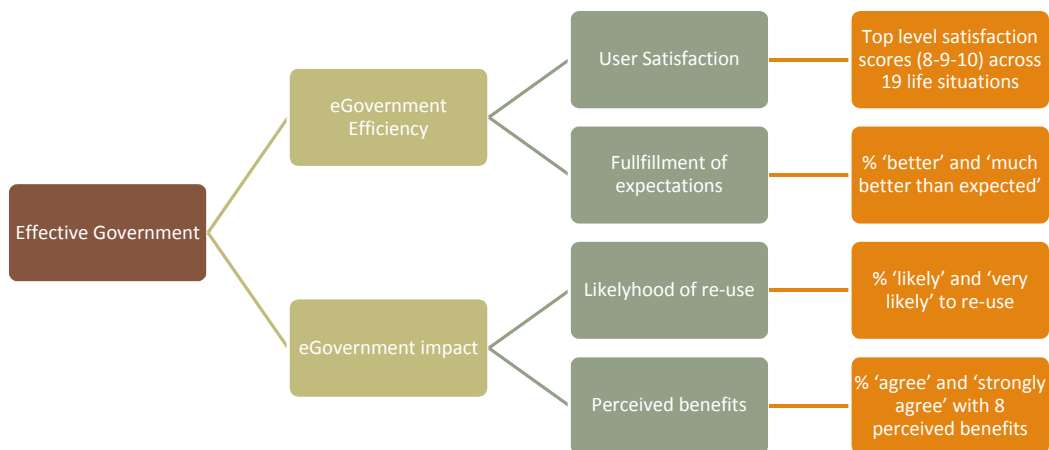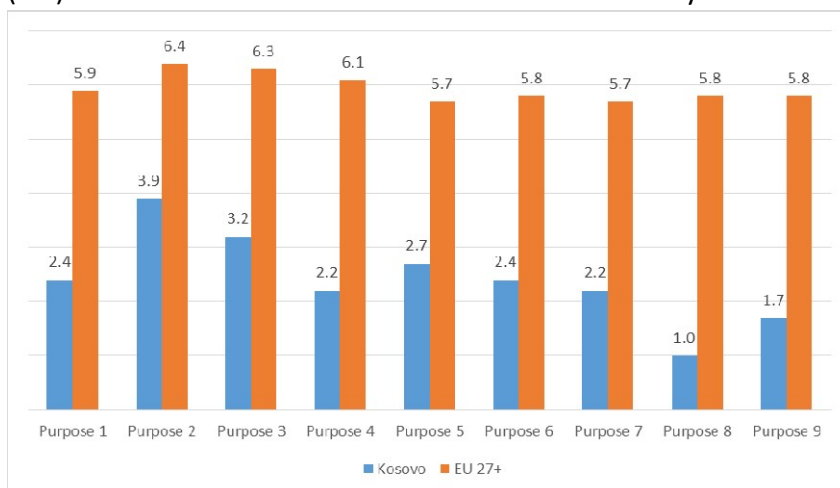
**Figure 12. Indicators building the Effective Government Benchmark**
**Source: (EC, 2013. Assessing User Centric eGovernment performance in Europe).**

## 5.2. e-Government efficiency measurement

### 5.2.1. Satisfaction with e-government

To measure e-Government efficiency we start by measuring User satisfaction in General Public Internet applications in Kosovo. As seen on Figure 13, for 9 purposes of use, the general satisfaction is very low on Public Internet application, more than half that in EU27+ countries. The highest satisfaction respondents have when they want to obtain information from public administrations' websites (3.9) and download official forms that are necessary to obtain a public service (3.2). While the lowest satisfaction is exist when they want to participate in interactive discussions about local, regional, national or European policy issues (1.0) and to participate in collaborative platforms (1.7). Cross-referencing the results with those in EU27+, we can see similarity in satisfaction levels for the 9 purposes but in different value. For example even in EU27+ the highest satisfaction to obtain information from public administrations' websites (6.4) and download official forms that are necessary to obtain a public service (6.3) while the rest of purposes have similar levels of satisfactions.



**Figure 13. Comparison of Satisfaction with general public Internet applications**

*Purpose 1: To contact public administrations by e-mail (for example: to ask a question, formulate a complaint)*

*Purpose 2: To obtain information from public administrations' websites (for example: via search engines such as Google, via government portals or via websites of public agencies)*

*Purpose 3: To download official forms that are necessary to obtain a public service (for example: to obtain a certificate, permit or subsidy)*

*Purpose 4: To send (upload) completed web forms that are necessary to obtain a public service (for example: to obtain a certificate, permit or subsidy)*

*Purpose 5: To contact political representatives of local, regional, national or European government by e-mail*

*Purpose 6: To consult policy documents or decisions on local, regional, national or European government websites*

*Purpose 7: To participate in online consultations on policy issues organized by local, regional, national or European government (for example: via polls or panels)*

*Purpose 8: To participate in interactive discussions about local, regional, national or European policy issues (for example: via online discussion forums)*

*Purpose 9: To participate in collaborative platforms (e.g. to alert the administration about service malfunctioning etc.)*

**Figure 14. Comparison of Satisfaction with consultation of national, regional and local portals between Kosovo and EU27+ (Scale 0-10)**
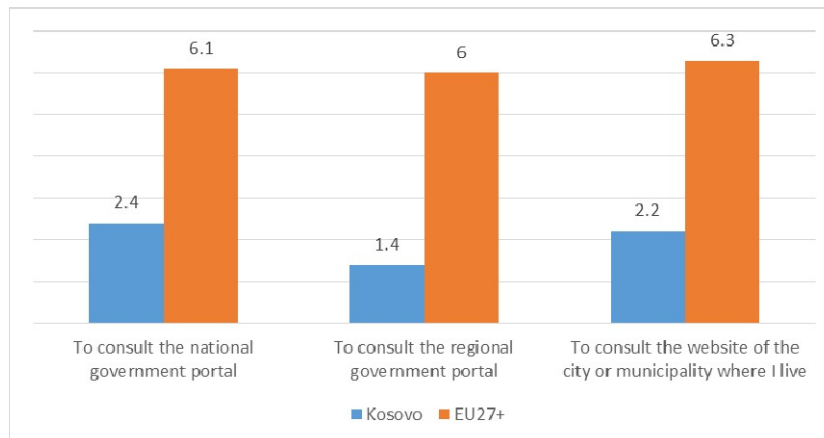
Respondents were asked about their satisfaction when visiting government websites across tiers of government. The results as seen in figure 14, are in line with the satisfaction levels for public Internet applications. The highest satisfaction is when respondents used to consult the national governmental portal (2.4), followed by the website of the city or municipality where they live (2.2) while there is very low satisfaction when they consulted regional governmental portal (1.4). All these satisfaction levels are up to three times lower than those in EU27+ countries where local websites (6.3) are more appreciated than national (6.1) or regional (6) ones.

Besides satisfaction (and use) of general private and public applications and portals, the main part of the user survey involves a basket of 19 citizen services/Life Events. The next table shows for each of these services:

- How many people came into contact with public administrations for a service
- How many people that came into contact for a specific services used the
- How many of these people will use the eChannel next time for that specific

By observing the results in column 2, we can see that correspondents in the last 12 months in Kosovo had contact with public administration mostly to Look for a Job (54%), Enrolling in higher education and/or applying for a study grant (49%), Declaring income taxes (46%) or Making appointment for a doctor (44%). These activities are also more present in EU27+ (Average 21%) countries but with lower levels of contacts than in Kosovo (Average 29%). In the second column we can see that eChannel use in case of contact with public administrations for life events in the past 12 months have higher levels in Kosovo than in EU27+. Respondents in Kosovo have an average e-channel use in case of contact with public administration of 73% (of all Life Events), while EU27+ stands at 47% (of all Life Events). Furthermore the same trend exists also in the last column where respondents in Kosovo would use again eChannel in average 62% (of all Life Events) for the next contact with public administration while only 50% (of all Life Events) of the respondents in EU27+ would choose eChannel again for the next contact with Public Administration.

| Life Events (Kosovo vs EU27+) | Contact with public administrations for life events in the past 12 months (Q13) in % of total sample | | eChannel use in case of contact with public administrations for life events in the past 12 months (Q14) in % of total contacts | | eChannel preference in case of next contact with public administrations for life events in the past 12 months (Q17) in % of total contacts | |
|---|---|---|---|---|---|---|
| | KOSOVO | EU27+ | KOSOVO | EU27+ | KOSOVO | EU27+ |
| Enrolling in higher education and/or applying for a study grant | 49% | 25% | 65% | 60% | 64% | 56% |
| Starting a procedure for a disability allowance | 17% | 13% | 80% | 40% | 71% | 42% |
| Looking for a job | 54% | 39% | 81% | 73% | 63% | 58% |
| Becoming unemployed | 22% | 20% | 91% | 47% | 78% | 46% |
| Retiring | 7% | 14% | 77% | 51% | 61% | 47% |
| Applying for a driver's license (or renewing an existing one) | 34% | 19% | 58% | 39% | 66% | 51% |
| Registering a car | 29% | 22% | 50% | 36% | 56% | 52% |
| Buying, building or renovating a house | 24% | 18% | 70% | 53% | 63% | 48% |
| Moving and changing address within one country | 29% | 18% | 72% | 49% | 56% | 57% |
| Moving or preparing to move to another country | 27% | 11% | 76% | 56% | 51% | 54% |
| Needing a passport to travel to another country | 39% | 21% | 42% | 37% | 59% | 49% |
| Declaring the birth of a child and/or applying for a birth grant | 24% | 12% | 70% | 41% | 56% | 48% |
| Marrying or changing marital status | 17% | 12% | 88% | 40% | 44% | 47% |
| Death of a close relative and/or starting an inheritance procedure | 15% | 13% | 86% | 39% | 66% | 43% |
| Starting a new job | 27% | 20% | 84% | 46% | 63% | 41% |
| Making a doctor's appointment in a hospital | 44% | 37% | 67% | 35% | 61% | 45% |
| Reporting a crime (smaller offences, e.g. theft, burglary etc.) | 15% | 15% | 91% | 36% | 54% | 41% |
| Declaring income taxes | 46% | 43% | 63% | 68% | 61% | 73% |
| Making use of the public library. | 29% | 30% | 69% | 54% | 78% | 50% |

**Figure 15. Life Events Comparison between Kosovo and EU 27+**

## 5.2.2.  Fulfilment of expectations

When it comes to user expectations, respondents were asked about how did the contact with public agencies or officials by e-mail, via Internet websites and/or via tablet/ smartphone apps compare with what you had expected. To the majority of the respondents felt neither better nor worse (51%) in fulfillment of their expectations, while 36% of them had better or much better experience while only 10% of them had below expected experience.  The same level of exactions were also at the respondents in EU 27+, where more than half of them had neither better nor worse experience than expected (51%), while the rest of them had better (32%) or much better (9%) experience than expected and only small fraction had worse (6%) or much worse experience (2%). In overall we can conclude that respondents almost everywhere are aware what at least to expect from public administration, thus they don't get surprised for better or worse. One third of them were pessimistic thus they found better services, while only a little fraction didn't met their expectations. This of course doesn't determine the quality of the service itself, but only give an overview of citizen's expectations.
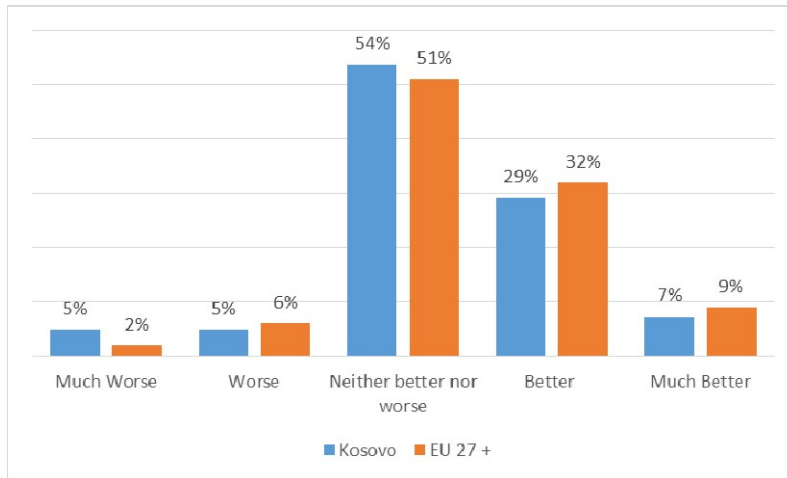
**Figure 16. Looking back, how did the contact with public agencies or officials by e-mail, via Internet websites and/or via tablet / smartphone apps compare with what you had expected?**

After the assessment of their expectations the respondents were asked if they in the end got what they wanted or needed. More than two third of the responded got totally what they needed or wanted in the end (20%) or partially (59%), while the rest didn't received the service they requested (15%) or they are still on the process (7%). In correlation with the previous question we can conclude that since respondents know at least what to expect they also prepare themselves to reach the ultimate goal, this is why there is a high level of partially or totally fulfillment of the goal. While it needs to be noticed that the high level of partially goal accomplishment might be correlated with the level of service quality. If we compare these outcomes with those in EU 27+ countries, we can see that residents on those countries gets totally the things they want (47%) or at least partially (46%), while only small amount didn't reach their goal (5%) or they are in process (2%). In comparison with Kosovo, citizens in EU 27+ face better service quality and lower level of delays in procedures.
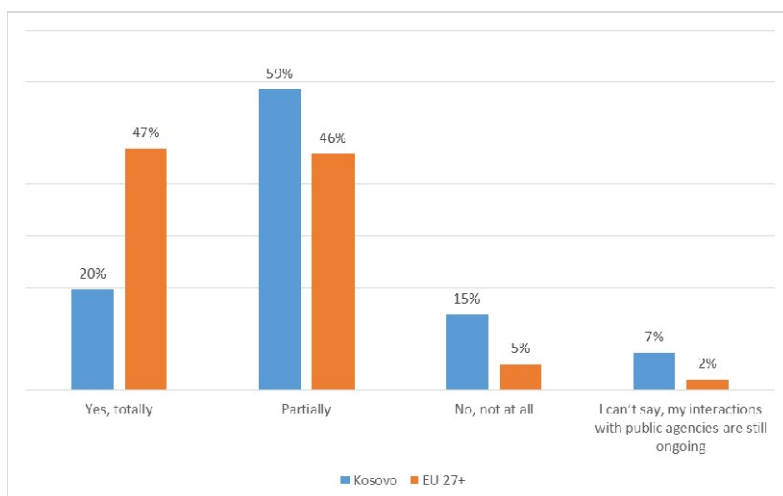


**Figure 17. In the end, did you get what you wanted or needed?**

## 5.3.    e-Government impact measurement

### 5.3.1.    Likelihood of reuse

To assess the usage of e-Government we used the 19 Life events list (EC, 2013. Assessing User Centric eGovernment performance in Europe) which will depict the picture of usage of E-government when these life events occur. As we can see in Figure 9, respondents only used 37% of E-government services when it comes to Enrolling in higher education and/or applying for a study grant (LE1), while the rest 63% choose not to use the E-government services when they came to contact with a public agency or official.

The respondents used online services mostly while looking for a job (51%), starting a new job (39%), Moving and changing address within one country (32%), Moving or preparing to move to another country (32%), while they used online services less for registering e car (12%) and needing a passport to travel to another country (12%). The average use of E-government services through 19 life services in Kosovo is 25% which almost twice lower than in EU 27 + which is 47.4%. (EC, 2013. Assessing User Centric eGovernment performance in Europe).
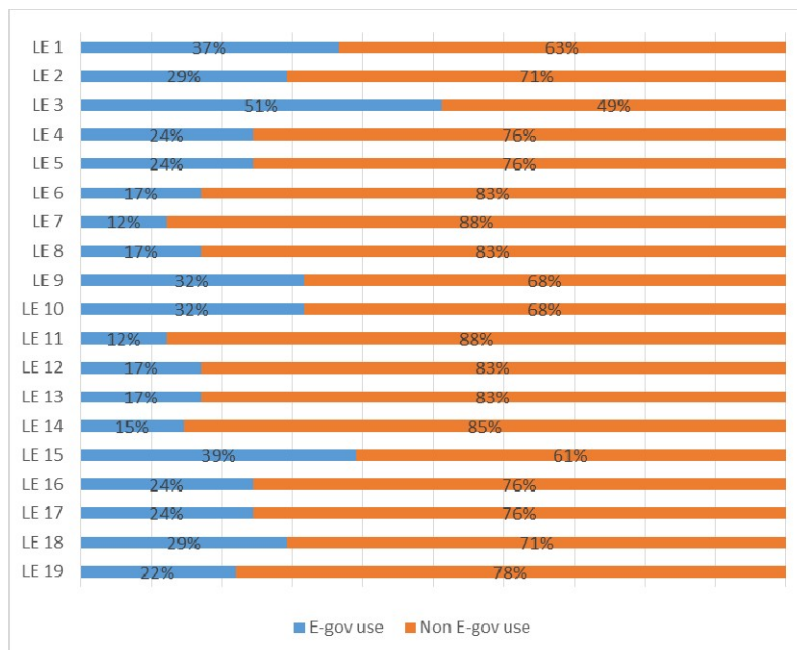


**Figure 18. When you, in the previous 12 months, came into contact with public agencies or officials as a result of these events, by what means did you interact? (Q14)- in % of total contacts.**

*LE1: Enrolling in higher education and/or applying for a study grant*

*LE2: Starting a procedure for a disability allowance*

*LE3: Looking for a job*

*LE4: Becoming unemployed*

*LE5: Retiring*

*LE6: Applying for a driver's license (or renewing an existing one)*

*LE7: Registering a car*

*LE8: Buying, building or renovating a house*

*LE9: Moving and changing address within one country*

*LE10: Moving or preparing to move to another country (ex. To study, work, retire…)*

*LE11: Needing a passport to travel to another country*

*LE12: Declaring the birth of a child and/or applying for a birth grant*

*LE13: Marrying or changing marital status*

*LE14: Death of a close relative and/or starting an inheritance procedure*

*LE15: Starting a new job*

*LE16: Making a doctor's appointment in a hospital*

*LE17: Reporting a crime (smaller offences, e.g. theft, burglary etc.)*

*LE18: Declaring income taxes*

*LE19: Making use of the public library.*

To understand the low level of usage of E-government services, we can observe the respondent's responses when they were asked about the reason about not using E-government services in their contact with public administration officials or agencies.

As Figure 19, depicts the main reasons according to respondents why they didn't choose e-government services are related to mistrust on electronic services, unavailability of the information or services online, unawareness of the existence of the online services or that electronic services anyway require personal face to face visits or submissions. While 15% of respondents had other reasons not listed that made them not to choose E-government services to handle their communication or procedures with public administration.
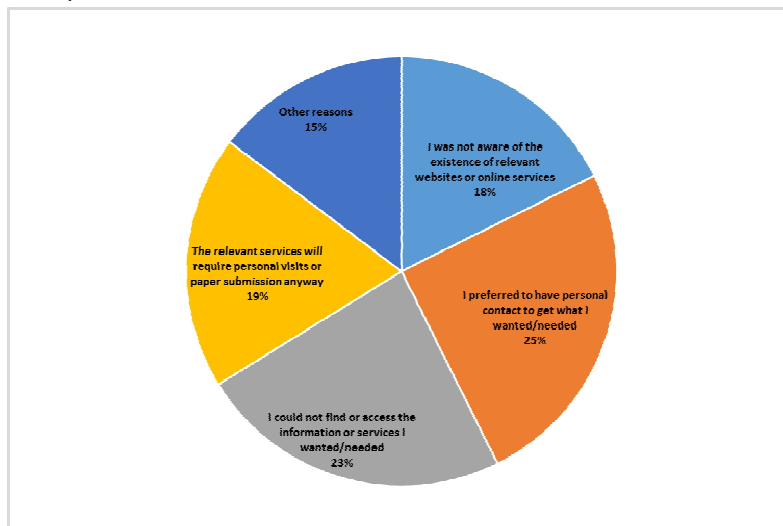


**Figure 19. What are the reasons for not having used e-mail, Internet websites or tablet/ smartphone apps to come into contact with public agencies or officials? (Q16) - Main Reasons**

Respondents were asked based on their initial experience, which is the communication channel electronic or not, that they would use in case they were will be in contact with the public officials again. Respondents had the to choose between In-person, face-to face, Mail, posted letter, fax, E-mail, Internet Website and Tablet / smartphone apps.

As we can see from the Figure 11, the majority of the respondents choose Internet Website as the preferred channel in the next visit, followed by In-person, face to face and tablet/smartphone apps, email and Mail, posted letter or fax.

On average 62% (average of 19 life events) of the overall respondents would choose an eChannel communication in their next interaction with a public administration officer or agency during one or more of 19 Life Events. Becoming unemployed (78%) and making use of Public Library (78%) are the Life events which have the highest eChannel preferences in the next contact with the public agencies or officials, while Moving or preparing to move to another country (51%) and Marrying or changing marital status (44%) have the lowest eChannel preferences.
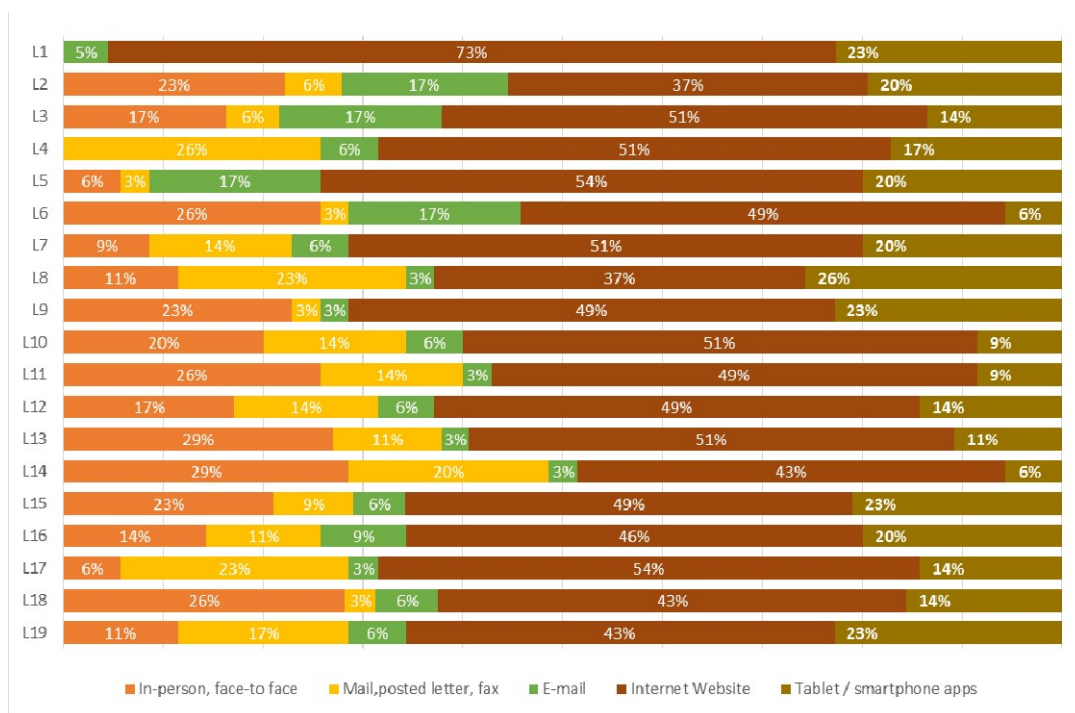


**Figure 20. If you were to come into contact again with public agencies or officials as a result of these events, by which of the following means would you prefer to interact?**

*LE1: Enrolling in higher education and/or applying for a study grant*

*LE2: Starting a procedure for a disability allowance*

*LE3: Looking for a job*

*LE4: Becoming unemployed*

*LE5: Retiring*

*LE6: Applying for a driver's license (or renewing an existing one)*

*LE7: Registering a car*

*LE8: Buying, building or renovating a house*

*LE9: Moving and changing address within one country*

*LE10: Moving or preparing to move to another country (ex. To study, work, retire…)*

*LE11: Needing a passport to travel to another country*

*LE12: Declaring the birth of a child and/or applying for a birth grant*

*LE13: Marrying or changing marital status*

*LE14: Death of a close relative and/or starting an inheritance procedure*

*LE15: Starting a new job*

*LE16: Making a doctor's appointment in a hospital*

*LE17: Reporting a crime (smaller offences, e.g. theft, burglary etc.)*

*LE18: Declaring income taxes*

*LE19: Making use of the public library.*

## 5.3.2. Perceived benefits

To evaluate the impact of the e-Government we measure the benefits that citizens perceived they gained. Figure 18 depicts the responses of the respondents about the eight statements regarding their contact with public agencies or officials through use of e-mail, Internet websites and/or tablet / smartphone apps. The respondents in Kosovo mostly Agree (35% from total average) or feel neutral (35% from total average) to the statements. There was not present any Strongly Disagree answer for any of the statements, thus we discarded it from the Figure 18. When respondents came into contact with a public agency or official, mostly Agree (49%) or Strongly Agree (22%) that they saved time, saved money (Agree 51%, Strongly Agree 12%), gained flexibility in time and place (Agree 46%, Strongly Agree 24%) and that the process of service delivery was simplified (Agree 37%, Strongly Agree 14%). To the rest of the statements respondents were Neutral or Agreed , with getting e better quality of the service got the highest level of disagreement (17%) and neutrality (56%) while also the lowest level of agreement (5%). This shows that respondents were reserved if the usage of eChannels impacted the level of service quality.
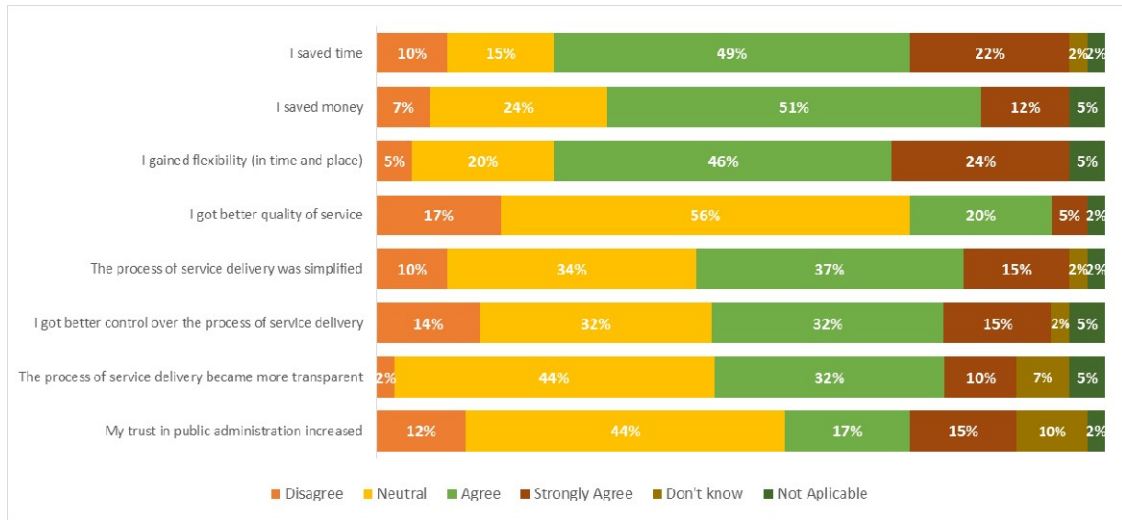
**Figure 21. To what extent do you agree or disagree with the following statements? When compared with other means to come into contact with public agencies or officials (e.g., in-person, by phone or mail), through use of e-mail, Internet websites and/or tablet / smartphone apps**

# 6. Conclusion and Recommendations

## 6.1. Summary

The aim of this Master thesis was to assess and try to evaluate the E-government system in Republic of Kosovo. This challenge was established due the fact that until today there is no study, paper or document that can somehow evaluate the level of E-government in Kosovo. The approach of having strategies and policies in Kosovo, but not proper implementation, made this topic more interesting than ever.

To achieve this goal, a main Research question was laid down:

- Does Republic of Kosovo have proper Electronic Government?

While it was followed by two sub-questions:

- How E-Government is designed and implemented in Kosovo?
- How effective E-government is in Kosovo?

To execute the research successfully the following objectives were established:

I. To analyze strategies, frameworks and other related documents of E-government systems in general and its implementation in Republic of Kosovo.

II. To analyze and understand the current situation of E-government systems of Kosovo

III. To compare some of the Kosovo governmental electronic services and user experience with other benchmark Governmental Electronic Services.

The research used primary and secondary data to answer the main question and its sub questions. Primary data was collected through an online survey with 20 questions. The same sample Questionnaire used in an online survey from European Commission (EUROPEAN COMMISSION, 2013. Public Services Online) was used for the online survey, but this time performed online with random Kosovo citizens. The sample size of quantitative research was n= 41. The use of the same questionnaire created a space for easy comparison between Kosovo and EU 27+ results.

Literature review was performed to build a theoretical framework which became the main guide of the research. Online libraries such as Ebscohost, Proquest, Mendeley, EU online Library and Google Scholar were used to search for relevant secondary data such as articles, papers, textbooks etc., Beside the online libraries, a thorough search of the Kosovo Governmental portal and portals of individual Ministries and agencies allowed to find an collect official documents, annual reports or any relevant document that was relevant to the research.

The Situational Analysis used the Electronic Government Strategy 2009-2015 and its Action Plan as the main guidelines, because all the activities related to e-government after 2009 in Kosovo are derived from these two document. The planned electronic services in EGS '09-2015 were cross-referenced with its Action Plan. To assess their level of completion, in the lack of proper report, Kosovo Central Budget tables from 2009 to 2014 were used to identify which project were completed. By following "the money", we have a general idea of the level of completion of the E-government projects up to know.

To evaluate local portals, Quirk model of assessment was used to assess the level of maturity of the Kosovo's Local Municipalities (Local e-Government). This assessment was done in five areas: e-Management, e-Service, e-Commerce, e-Decision-making and e-Democracy. While the local portals were evaluated using a simple matrix (ABDELSALAM H., E. H., GAMAL S. 2011) each feature is given a score of: '1' if it is fully implemented; a reduced score of '0.5' if the feature is partly implemented; or '0' if the feature does not exist. Although recognizing the limitations of this model, it gave us an overview of the top 10 Local e-government portals in Kosovo and their maturity level.

Furthermore, the online survey was performed from April 14th to April 17th 2015. This 20 question survey had a sample size of 41, which was not predefined but was the total result of the respondents that accessed and filled the survey online. This survey crated a general overview of the E-government efficency and Impact in kosovo and allowed to compare it with similar survey performed in EU 27+ countries under the directive of EU Commision in 2013.

## 6.2.    Main findings

From the survey results we can derive some important conclusions in demographics, user satisfaction, level of fulfillment and likelihood of re-use of public online services and perceived benefits.

### Demographics of the respondents

The participants in the survey were 54% males and 46% females, where two third of them were in between 25-54 years old, while the rest were younger than 24 years. Moreover, 85% of them had Higher education (e.g., university, college, polytechnic) while the rest (15%) had at least an Upper secondary school. Almost one third of the respondents (27%) were students, while the majority (61%) of them were Employed or self-employed while only 10% of them were unemployed. They use every day or almost every day they Laptop or Desktop PC (78%) or their smartphone (88%), while they have low usage of tablets were 39% of them didn't use it at all.

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Two third of them used at least once the internet for the nine purposes stated in the survey, with 30% of having a daily usage where the main purpose (90%) is to visit Social Networks, To check professional e-mail via webmail or a virtual private network (VPN) connection (83%) and To search the web for information for professional purposes (68%).

***User satisfaction with public applications and services:***

The survey showed that barely the half of the respondents in the last 12 months used internet very little to use the public applications (54% in average). Normally they used the internet to interact with public applications weekly (26% in average) for any of the purposes stated. Respondents used the internet mostly To obtain information from public administrations websites (88% in average) and To contact public administrations by e-mail (73% in average), while they used the internet less for To participate in online consultations on policy issues organized by local, regional, national or European government (39% in average) and To participate in collaborative platforms (34%).

The overall satisfaction of using the public applications was gained to obtain information from public administrations websites (3.9/10) and to download official forms that are necessary to obtain a public service (3.2/10). The lowest satisfaction was achieved to participate in interactive discussions about local, regional, national or European policy issues (1.0/10) and to participate in collaborative platforms (1.7/10). The overall satisfaction was at least two times lower than ones achieved in EU 27+ countries.

More than half of the respondents (60% in average) in the last 12 months consulted national government portal (59% in average), regional portal (54% in average) or local portal (68% in average). While doing so the achieved the highest satisfaction from consulting national governmental portal (2.4/10), followed by local portals (2.2/10) and very low level of satisfaction was gained from consulting regional governmental portals (1.4/10). In comparison with the satisfaction measured for the same reason in EU27+, the level of satisfaction in Kosovo is 3 to 4 times lower.

In the last 12 months at least two third of the respondents had the opportunity for one of the 19 Life events stated to come into contact with a public agency or official. For their own or someone else's purposes they mostly were Looking for a job (54%) and Declaring income taxes (46%), while they had less contact with public agencies or officials to Retire (7%), Reporting a crime (15%) and starting an inheritance procedure for a death of a close relative (15%). During this interaction only the quarter of them in average (27%) didn't use e-government while two third of them (73% in average) used e-government channels such as e-mail, internet website and tablet/smartphone apps. From the e-Government services, internet website was the most used electronic

channel (38% in average) which respondents mostly used to To become Unemployed (55% - Internet website) and Looking for a Job (50% - Internet website).

Taking in consideration the high level of unemployment, the use of any tools including e-Government is understandable. When they used e-Government to contact public administration officials or agencies, they searched for information on a government website (31%) or sent or received emails (27%), while some of them (6%) attended or were proposed to a public service to which they were entitled without asking for it.

### *Level of fulfilment when using public online services:*

When it comes to the level of the fulfillment when using public online services, respondents were surprised for better in some cases (37%) but mostly they felt Neither better nor worse (54%). In meanwhile a small number of respondents (10%) felt that their expectations were not met. While this is not an indicator the quality of the services, because usually the governmental services have always lowers level of expectations from its citizens. That expectations have always some solid background can be related to the fact that only small number of the respondents (20%) fully achieved what they sought, 59% did partially or are still on procedure (7%) while 15% didn't get what they wanted or needed it.

### *Likelihood of re-use of public online services and perceived benefits:*

Half of the respondents in Kosovo perceive the impact of eGovernment as high , while the rest feel neutral (34% in average) or disagree with the benefits of e-Government (10% in average). Respondents are motivated by money and time saving and gaining flexibility, but they are discouraged by the fact that their service quality was better or they trust was increased in public administration.  While the likely hood of re using eChannels in the next contact with public administration in case of one or more of 19 life events occur is in average 62%, which is higher than those in EU 27+ (50%).

## 6.3.    Does Republic of Kosovo have proper Electronic Government?

During this journey of exploring all possible ways to find primary and secondary data about the actual level of e-government in Kosovo, instead of finding answers more questions start popping up. To answer all the questions, several channels of communication, both formal and informal with The Agency of Information Society which is in charge of the whole e-Government process were explored. But in the end the question was the answer itself.

There was a good framework strategy and action plan upon which Republic of Kosovo started building E-government services. At the time it was a very up to date strategy and very comprehensive.

Moreover this strategy was followed by political marketing and promises that not only Kosovo will be the next Estonia in term of using E-government, but soon the country will be also the next Silicon Valley. Discarding the level of ignorance in these daily cheap political marketing, it was encouraging the enthusiasm of the Government of Kosovo when it comes at E-government. This enthusiasm was only followed by few governmental institutions. These institutions that pushed to implement the EGS '09-'15, are mainly institutions that collect or manage taxes such as Kosovo Tax Administration and Kosovo Customs. So basically, they had the support and the incentive to push for their projects, so they can collect and manage the taxes better and faster.

The main Governmental portal has decent design and layout, followed by informational content about most areas in Kosovo. Although this is mostly one way communication, since there is no space of citizens or businesses inputs. The local portal have a unified design and functionality and are well structured in the governmental portal's domain. Although they have same functionality (33 portals), most of the Local Municipalities have disabled some of the functionalities, leaving the portals only with some general informations. Moreover a Local Digital Agenda was published in 2013 as an attempt to further develop and unify the local e-services, but to date there is only a written document.

Said the above, taking in consideration the overall concepts of e-government, assessments models of what is successful or proper e-government, analyzing the European benchmark together with the Main findings of the survey for e-Government efficiency measurement, we can conclude that the Republic of Kosovo DOES NOT have proper E-government.

## 6.4.    Significance of the research

At any time, at any hospital you can present yourself with any name you want and they will receive you. You will not have a patient health dossier, no allergies warning, no prior health condition registered. While there are information system put on place and were paid more than 2 million euros, still for some reason they are not functionally.

Couple years ago more than 250 convicted persons by the courts, never went to jail because they were freed during the way. The lack of proper tracking and databases created a space for people to corrupt cops and never go to jail, while no one would

notice or confirm is someone was delivered or not in the jail. Ministry of Justice in Kosovo spent around 1 million euros in the last 5 years in ICT, but they can track if criminals are received in jails or not.

The above examples are only few of the many cases where despite investments made for e-Government, proper assessment and evaluation if they fulfilled their goals or not made these electronic services useless. Hopefully this research is just a significant first step towards a major evaluation that e-Government in Kosovo, which has to happen in the near future. The lack of evaluation creates the environment for devaluation.

## 6.5.     Limitations of the research

The lack of any proper reports published online from any governmental bodies, accompanied with the lack of cooperation from the Ministry of Public Administration in charge for e-government strategy was one of the main obstacles during this research.

Formal and informal channels of communication with the main responsible institutions for e-Government were used to collect secondary data. While here was no response officially, unofficially the made it clear that they really don't have anything respond since there is no report or document about the e-Government status. Without proper insight of the electronic services, their framework and infrastructure it is somehow difficult to proper evaluate the services. E-Government services are only useful if people know about them (Sun, Ku & Shih, 2014) thus the lack of documentation reflects in the service functionality also.

Moreover this research was limited when it comes to collecting primary data. Although the sample questionnaire that was used for the survey was a high level quality, since it was the same used from the EU Commission for similar survey, the small sample of 41 is not enough representation of the population to have results that have high level of confidence and low level of margin of error. Due to logistic limitations and resource consuming process, I had to be content with small sample, at least to have an overview of the thoughts of respondents in Kosovo.

## 6.6.    Recommendations

Following the conclusions the following recommendation can be derived:

- It is imperative for Kosovo Governmental Institutions to stop all their e-Government ongoing E-government projects and putting on hold the planned projects
- An overall assessment of individual electronic services and infrastructure performed by the individual governmental agencies, under the supervision of Agency of Information Society (Ministry of Public Administration)
- An external expertise should be engaged to evaluate the assessment done from the governmental institutions of the E-government projects and give recommendations where to go from there.
- In parallel with the evaluation of E-government project, a survey similar that was performed for this thesis for e-Government efficiency should be performed with proper sample with Kosovo internet population.
- The findings from the external expertise and survey for E-government efficiency should be included in a new strategy for E-government that uses European "e-Government Benchmark" as the main benchmark of the implementation.
- The new strategy should be designed with the inclusion approach of all agencies involved in the e-Governmental projects
- All the procurement procedures involving e-Government should be strictly monitored and managed by only the Agency of Information Society. This will ensure proper strategy implementation and total compatibility of the e-services between them.
- Periodical assessment of e-Government projects and e-Government efficiency should be performed
- Agency of Information Society currently part of Ministry of Public Administration, should be transformed into an Independent Agency. This allow AIS to have direct oversight from the Assembly of Kosovo. Moreover also its Board members would be selected and appointed from Assembly of Kosovo, allowing the AIS to have continuity and less direct political intrusion.

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