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E-Government as a quality improvement tool for citizens' services

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Abstract

The information and communication technology innovations have influenced citizens' behaviour, their information needs and the way how people work and communicate. This progress affects social, cultural, commercial and public structures. The Internet, in particular, has intensified the digital transformation, because it brings the ability to access variety information, new ways of interaction and also supports the knowledge creation and sharing. Digitalisation and globalisation reduce the importance of geographical boundaries, because people and societies are connected at the international level. The contribution is focused on e-Government services, which are available for citizens of the Slovak republic through the central public administration portal. Authors analyse provided e-Government services, create ICTI Business Model and describe current project of e-Health.

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1. Introduction

Currently is society facing the concept of informatisation. The informatisation process means the implementation of information and communication technologies in all areas of citizens' everyday life with the aim of quality improvement. Therefore is the society informatisation one of the main aims of Manifesto of the Government. The Internet has become a driving force of the informatisation. The information and communications technologies has started to be used for communication and services provision in public administration due to the Internet. The informatisation brings transparency as well as simplification of the information retrieval and creation, which leads to

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more efficient communication and the living standards improvement. In practice the government seeks the expansion of the broadband Internet, the public administration services electronisation and the digital content quality.

2. The public administration informatisation

Informatisation is characterised as “a purposeful and systematic implementation of information and communication technologies in all relevant areas of social, political and economic life in order to increase the knowledge base and society potential”. The central area of the knowledge society potential is education and a key institution is a school. The main aim of the society informatisation is to ensure universal access of people to information. Informatisation of society and its level measurement in the Slovak Republic is carried out under the supervision of the Ministry of Finance of the Slovak Republic. Indicators of measurement are: the availability, usefulness and quality of information and information services. [1]

The process of the society informatisation leads to the service electronisation and consequently its part is the e-Government. E-Government ensures the quality digital content development and dissemination of the broadband Internet. At first the use of the information and communication technologies (ICT) has fundamentally changed a game plan of the business sector and consequently of the public sector. The public sector have to adapt to ICT dissemination pressures which have led from the traditional bureaucracy to easily accessible and usable services, to secure e-Government solutions, that enable easy data access and easy communication with citizens, businesses and the public administration institutions. [2,3]

Various definitions of the e-Government can be found in the literature. According to the United Nations Organisation is e-Government “continuing duty of public administration to improve relationships between citizens and the public sector by providing cheap and efficient services, information and knowledge. Practical realisation of what can the public administration offer.” [4]

3. ICTI e-Government Business Model

Business model gives a description of the relevant services, processes and activities of the public administration institutions, characterises how are information, products and services, that create added value for society, created and controlled. The model considers various tools (procedural, strategic, complying with the society requirements), ensuring the creation of sustainable added value for society. ICTI e-Government Business Model consists of four separate models: Information, Communication, Transaction and Integration model. [5]

Information business model focuses on the provision of required and optional information and is used to illustrate the range of provided services. Required information have to be accessible to citizens and businesses, because this kind of information services have to be provided in accordance with applicable laws and regulation. Mandatory provided information includes information on citizenship, civil registers, registration of companies, immigration, tax rates, tax returns etc. Optionally provided information describes the information services, which are not required by law or connected with any mandatory government service. Optionally provided information includes information on the political situation, social information, educational offers, information on arts and culture, tourism etc. The most important aspect of this model is informational added value for the user. It can help to solve the user's problem or increase his comfort by gaining a variety of relevant information through a single e-Government portal. [5]

The basis of **Communication business model** are online communication possibilities of interaction between public administration and users. Services provided in this model are divided into interactive and automated. Interactive services such as telephone, call centres, online chatting, communication via e-mail or social media support the exchange of information between two active participants who influence each other. Interactive communication allows dynamic two-way flow of information. Automated communication offer could represent one directional but also bi-directional flow of information, while this flow is dynamic (e.g. the search for information on the page). Searching is based on the automated search algorithms. If the user changes the search term results are different due to modification of a keyword. These results may seem dynamic but page content is static, it does not change, and users have no direct influence on it. Another example of automated services are automatic notifications of accepted request, comments, as

well as automated help desk, on which the user selects answer from predefined options through the phone numbers. [5]

Transactional business model focuses on the initiation, handling and processing of administrative procedures through e-Government platform with the aim to complement or replace existing offline services. Model offers partial and full services. Partial services are e.g. downloading applications or forms from e-Government portal which have to be brought in person after the completion, or online service finalisation which was initiated in offline mode. These services are result of non-usage of the full e-Government potential. Only the provision of fully automated services and processes brings full potential. An example is the electronic banking which offers to perform almost all banking transactions at any time from the comfort of home or office. The implementation of this model requires automation and data processing, collaboration, maintenance, technology and programming as well as the development of services.[5]

Integration business model involves the public administration institution and other stakeholders (citizens, businesses, non-profit organisations) into the value chain. This model consists of three parts: public innovation, public participation and also cooperation with the public and co-productions. Public innovation means that user becomes a part of the innovation process in the public sector. Public participation is an integration of preferences, feedback, public opinion in the policy development, administrative processes and governance (petitions, electronic voting, complaints, etc.). The collaboration with public and co-production, which increase the efficiency of the public sector (co-decision, Wiki engines etc.) constitute a higher level. [5]

4. Aim of the contribution

Authors aim to introduce ICTI Business Model from the both perspectives: theoretical and practical. Theoretical basis gives a description of Information, Communication, Transaction and Integration Business Model, as parts of ICTI Business Model. Authors transform theoretical findings into practical application by using a method of analysis to analyse the current state of e-Government services provided through the Central public administration portal www.slovensko.sk.

5. Material and methods

Relevant information resources were used:

- domestic and foreign book literature,
- scientific publications and articles,
- The central public administration portal of the Slovak Republic – information about e-Government services for citizens, and
- Ministry of Health of the Slovak Republic – information about e-Health project.

Following methods were used during the research:

- method of data collection for the theoretical basis creation,
- method of excerption for selection of essential information,
- method of description and analysis - during the process of extracting useful information about provided e-Government services for citizens, necessary for ICTI Business Model creation, and
- method of synthesis used to combine separate e-Government services in order to form a ICTI Business Model.

6. Analysis of the current state

Currently can citizens use various types of communication in the communication with the public administration e.g. the Internet, telephone or personal contact. Citizens who prefer telephone can use Central contact center. Citizens who prefer personal contact can visit client centers and Integrated Citizen Service Points provided by the Slovak post, Inc.. Citizen who prefer the Internet can use the specialised web portal and the Central public administration portal. The Central public administration portal is the most suitable for ICTI Business Model application. [6]

Citizens can use a mailbox to communicate with public administration. The mailbox is created on the Central public administration portal www.slovensko.sk. Due to decrease of the number of individuals who used the Internet to interact and obtain information from the public administration institutions in 2015, compared to 2014 the authors decided to analyse provided e-Government services by using the ICTI Business Model. [7]

Provided services are divided into 12 categories (Table 1.):

Table 1: E-Government services for citizens

1. Habitation:	2. Health:	3. Environment:
<ul style="list-style-type: none"> • housing policy, • property tax, • network engineering, • Land Register, • waste, • temporary residence, • property lease, • construction management, and • permanent residence/moving. 	<ul style="list-style-type: none"> • alcohol, drugs and narcotics, • ambulatory care, the physician of primary care, • pharmaceutical care, medical aids and dietetic food, and • institutional healthcare and institutional emergency service. 	<ul style="list-style-type: none"> • waste management, • air protection, • soil protection, • nature and landscape protection, • water protection, • hunting and fishing, and • animals and plants.
4. Education and sport:	5. Travel:	6. Transport:
<ul style="list-style-type: none"> • free-time centres, • pre-school institutions, • high schools, • primary schools, and • primary schools of art. 	<ul style="list-style-type: none"> • international travel • travel documents and replacement of travel documents, • staying abroad, and • emergency aid abroad. 	<ul style="list-style-type: none"> • road transport and parking, • emission and technical inspection and the control of originality, • registration, production and transformation of the vehicle.
7. Finance:	8. Family and relationships:	9. Citizen and the State:
<ul style="list-style-type: none"> • property tax, • income tax, • dog tax, • accommodation tax, • the use of public space tax, • entry and parking of vehicles in historical part of the city tax, • subsidies, • auctions, execution, • local fee for municipal waste and minor construction waste, • compensations, and • public services fees. 	<ul style="list-style-type: none"> • adoption and substitute family care, • crisis counselling, • birth, • family palliative care, • assistance in material need, • parenting, • social services, • child care, • death, • marriage/divorce, and • disability and promoting the social inclusion of people with physical disabilities into society. 	<ul style="list-style-type: none"> • democracy, • personal data and documents, • legal protection, • free access to information, access to non-confidential information and archives, • statistical information, • participation in public affairs, • community service, and • votes.
10. Culture:	11. Employment:	12. Defence and security:
<ul style="list-style-type: none"> • cultural activities, • sights and collections of museums and galleries, and • promotion of culture. 	<ul style="list-style-type: none"> • work in the public interest, • labour relations, and • government employee. 	<ul style="list-style-type: none"> • civil protection.

The e-Government services allow citizen to fill out forms and applications. It is necessary for citizen to have an electronic identity card (eID) with qualified electronic signature and reader. Current personal data of citizen are pre-filled in forms and applications, due to the interface with the register of individuals. In August 2015 had 4,745,718 individuals and 704,281 legal entities established an electronic mailbox. The public administration institutions had 6,031 electronic mailboxes. [6,7]

7. Results

Authors developed the following ICTI Business Model based on the analysis and synthesis of the provided e-Government services available on the central portal www.slovensko.sk (Table 2.):

Table 2. ICTI Business Model of the Central public administration portal

ICTI Business Model	
Information Business Model	Communication Business Model
<ul style="list-style-type: none"> offer mandatory information about all services – for detailed information about some services redirection to web portal of responsible agency offer non-mandatory information: statistics, RSS feeds. 	<ul style="list-style-type: none"> offer dynamic communication: telephone support +421235803083 Monday to Friday from 8 to 18.00 p.m., connected with specially trained operators, offer automated communication: users can send comments, suggestions by electronic contact form, users can search information about individual services through the search engine located on the web portal.
Transaction Business Model	Integration Business Model
<ul style="list-style-type: none"> offer partial online services: download of application and request forms through web portal offer full online services: filling of tax returns, fulfilment of financial obligations, which flow from the law (tax payments, court and administrative fees online). 	<ul style="list-style-type: none"> is underdeveloped.

Integration Business Model is the most important part of ICTI Business Model because it connects public administration with other stakeholders (citizens, businesses, non-profit organisations) and allows them to join the process of e-Government services designing.

8. Discussion

The central public administration portal www.slovensko.sk provides the e-Government services for citizens based on the use of eID card and reader. The main disadvantage of portal is that citizen does not find all the e-Government services in one place. Citizen is very often redirected to the websites of other institutions (e.g. www.financnasprava.sk), where he can provide various transactions. Another negative aspect is availability only in Slovak language. Only basic information, such as: what is the main purpose of the portal and who manages it, are available in English language. In contrast, the websites of the Finance Administration of the Slovak republic are fully available in English language, so the foreign visitor obtain all necessary information. The quality of provided e-Government services is currently discussed theme in the Slovak Republic, as well as the e-Health project.

Year 2016 represents a shift from traditional system to a more modern and efficient health services based on the use of ICT. Hospital in Malacky presented the operation of selected applications of the system and its benefits on 2nd March 2016. Presentation consisted of the standard tests in the specialized clinic: blood letting, laboratory examination and results evaluation. The attending physician issues the patient an electronic request for a blood test, laboratory tests the blood and sends electronically the doctor a clinic analysis. The patient sees the analysis results in his electronic medical file. This model of operation is being applied in terms of Malacky hospital and brings cost savings on administrative activities, eliminates duplication of examinations and eliminates reporting of fictitious performances. [8, 9]

The e-Health system consists of The National Health Portal, Citizen Health e-Book, Electronic prescription, dispensation, medication and e-Allocation. **The National Health Portal** provides information about health, disease, medicines, health care, contact information for healthcare providers. Is a gateway to the electronic medical file. The portal currently provides only basic content, which will be gradually supplemented in conjunction with other sector institutions. **Citizen Health e-Book** allows citizen to find health records, check who accessed them, as well as who has tried to get to them although unsuccessfully. **Electronic prescription, dispensation and medication** replaces paper

recipe electronically and provides a support for doctors and pharmacists during the prescription and administration of medications through the available medication history of the patient. **e-Allocation** enables electronic resource allocation between health care providers (planning patient examination, ordering laboratory examinations and vaccinations, reminders dates of planned performance, etc.). [10]

The National project of Electronic Health Services is financed from European Structural Funds. Citizens will use eID for the e-Health services and Health e-Book access and identification. The minors who don't have eID will use their identification number. [11]

E-Health provides better health care due to access of medical personnel to available current information about patient (overcome and current disease, the results of examinations, vaccinations, allergies, etc.). The physician saves time which would be paid to the detection of information while minimizing the risk of leaving out some data from the patient.

9. Conclusions

The informatisation and the use of ICT in citizens' everyday life creates a pressure on governments to provide public services more efficiently, more transparently and through the Internet. Therefore is the e-Government a part of the government program and brings many benefits to citizens like time and cost savings, availability 24/7, etc.. The government and other institutions have to cooperate on the development of e-Government and to ensure that government services are available fully online, so the number of e-Government services users will increase. The personal retrofit, which is still necessary for most services, have to be removed.

The e-Government in the Slovak republic is at a comparable level compared to the other Visegrad Four countries. The Slovak Republic began with the e-Government development quite late in 1995. Nevertheless we have the potential to use the experience and knowledge of the best performing e-Government systems abroad, which offers many opportunities. Despite the fact that we are a relatively small country we strive to provide improved services including the use of ICT. A practical example is the already mentioned implementation of e-Health project which streamlines the process of the health care provision.

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