

Czech University of Life Sciences in Prague

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Diploma Thesis

Electronic public services in the Municipality Prague 16

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CZECH UNIVERSITY OF LIFE SCIENCES PRAGUE

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DIPLOMA THESIS ASSIGNMENT

Hrubá Alena

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Objectives of thesis

This diploma thesis is focused on the use of e-government at the local level. The main purpose is to investigate, how the municipality in Prague 16 is using modern information technologies in the provision of government services and in the communication with public.

The partial goals of this thesis are:

- to characterize current state of e-government in the municipality
- to identify problems to the e-government in the municipality
- to design possible improvements of e-government in the municipality

Methodology

Methodology of this thesis is based on the study and analysis of information resources. The practical part is focused on developing of an analytical study that determines a current state of e-government in the municipality Prague 16 and investigates possible problems when using modern information technologies in the municipality Prague 16. On the basis of theoretical knowledge and author's own research conclusions of the thesis will be formulated.

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Electronic public services, municipality, Czech POINT, public administration, e-government, communication, EU structural funds.

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LUKÁŠ, M. Městský informační management. Praha, Grada Publishing, spol. s r. o., 2000, ISBN 80-7169-554-8

BONSÓN, Enrique, Lourdes TORRES, Sonia ROYO and Francisco FLORES. Local e-government 2.0: Social media and corporate transparency in municipalities. 2012. DOI: <http://dx.doi.org/10.1016/j.giq.2011.10.001>.

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Declaration of authorship

I hereby declare that I have independently composed this Master thesis „Electronic public services in the Municipality Prague 16 “and that no other than the indicated aid and sources have been used. All sources are listed in the attached bibliography and are cited according to established academic citation rules. The rights of **third parties** are not infringed by this publication.

Prague, 23rd March 2013

I would like to take this opportunity and dedicate my deepest appreciation and gratitude to my supervisor, Ing. Miloš Ulman, PhD., for his support and ideas that helped me to complete this diploma thesis.

My special thanks go to my parents who endlessly encouraged me to finish my studies, for all the moral support and the amazing chances they've given me over the years.

Elektronické veřejné služby v Městské části Praha 16”

“Electronic public services in the Municipality Prague 16”

Souhrn

Tato diplomová práce se zkoumá využití moderních informačních technologií v Městské části Praha 16 při poskytování veřejných služeb a komunikaci s veřejností.

Teoretická část této práce je zaměřena na úvod do problematiky e-governmentu a elektronických služeb a obsahuje odkazy na příslušnou legislativu. Hlavní důraz je kladen na současný stav e-governmentu v České republice, konkrétně pak na Czech POINT, základní registry a datové schránky. Dále jsou shrnuty možnosti nabízených služeb na webových stránkách, jejich popis a možné výhody.

Praktická část této práce je zaměřena na ohodnocení nabízených elektronických služeb na webových stránkách. Dále je vyhodnocen dotazník, který byl distribuován mezi podnikatele v Městské části Praha 16, jehož cílem bylo zjištění využití datových schránek mezi podnikateli.

V závěrečné části jsou pak zhodnoceny výsledky a navržena možná zlepšení do budoucna.

Summary

This diploma thesis investigates how the Municipality Prague 16 is using modern information technologies in the provision of government services and in the communication with public.

There is an introduction into the field of e-government and electronic services provided the first part of this thesis, including the respective legislative. The main focus is given on the current state of e-government in the Czech Republic, specifically on Czech POINT, base registers of public administration as well as data boxes. Furthermore, possible electronic services to be offered on the webpage are mentioned including their specifics and benefits.

The electronic services on the municipality webpage were identified in the practical part. Moreover, a questionnaire was distributed among the businesses in the Municipality Prague 16 to find the data box usage.

In the conclusive part all the outcomes are summarized and evaluated, possible recommendations for future improvement are mentioned there.

Klíčová slova: elektronické služby, Městská část, Praha 16, e-government, datová schránka, Czech POINT, webové stránky, veřejné zakázky

Keywords: electronic services, Municipality Prague 16, e-government, data box, Czech POINT, webpage, public procurements

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1. Introduction

Development of Information and communication technologies (ICT) has contributed to the significant changes in the human society. Digital technologies gave the people the access to information, enabled effective ways off communication or lowered the costs by automation of work not only in the private sector.

Nowadays, there are many projects supporting effective communication between the municipalities and citizens (e.g. Basic Registers, Czech POINT, Virtuos). There was a system of data boxes introduced in 2009 in the Czech Republic. Some of these projects are established centrally, the other might be developed from the indicatives of local municipalities. The aim of all these projects is to make negotiation between the authorities and citizens easier.

However, an obstacle might be the computer illiteracy of the population, which, according to research by STEM / MARK 2004 reached at people aged 45-59 years to 66%. According to this research, it also decreases the interest of citizens to communicate with the authorities - the proportion of passive and uninformed population since 2000 has increased from 38% to 47%.¹

The term E-Government can be seen simply as moving public services online, but in its broadest sense it refers to the technology-enabled transformation of governments to reduce costs, whilst promoting economic development, increasing transparency in government and improving service delivery and public administration.

ICT systems are now at the heart of government processes, but efforts are still needed to ensure they continue to improve the delivery of government services. Therefore improvement of effective data transmission between governments (G2G), governments and businesses (G2B) and governments and citizens (G2C) is one of the goals of European Commission, namely the Europe 2020 Initiative and the UN Public Administration Programme.

¹ Počítačová gramotnost v ČR - unikátní průzkum znalostí populace. [online]. [cit. 2014-01-05]. Available from: <<http://www.zive.cz/Clanky/Pocitacova-gramotnost-v-CR---unikatni-pruzkum-znalosti-populace/sc-3-a-126364/default.aspx>>

I have decided to focus my diploma theses on the usage of electronic services in the Municipality Prague 16, my hometown.

The Municipality is already providing some electronic services, e.g. Czech POINT, has a Facebook profile or has a web page with the information for the citizens. In this thesis, I would like to focus on evaluation of the current state of electronic services in Prague 16 and create a proposal for implementation of available tools for e-government which would help the Municipality to make the G2C, G2B and G2G relationships more efficient.

These e-government tools will be implemented on the basis of modern information and communication technologies, which are now necessary condition for the effective functioning of the office. The Municipality in Prague 16 should greatly facilitate from the implementation of new electronic services by lowering costs, improving service delivery and increasing staff efficiency.

2. Aims and Methodology

The first part of this thesis gives the theoretical background about the electronic services, introduces the term e-government and its sub-projects (e.g. Czech POINT, Public Administration Communication Infrastructure, Public administration registers, E- Government Act) and the services offered on the municipality website.

In the second part of this thesis I firstly focus on the electronic service offered on the municipality website, e.g. sending e -mail newsletters, RSS, discussion forums, online booking systems and online records of municipal councils. For each service, I mention the general characteristics.

As these services are supposed to be on the high level (Municipality Prague 16 won a Golden Crest competition in 2011), I decided to target my research on data box communication with entrepreneurs.

Research question: it is hypothesized that entrepreneurs and companies in the Municipality Prague 16 would consider the possibility to be informed about public tenders by data box as a benefit.

The partial goals are to characterize current state of e-government in the Municipality Prague 16, identify problems and design possible improvements.

In order to achieve the above stated aims a questionnaire composed of 16 questions is used and distributed to 130 entrepreneurs and firms in Prague 16 in electronic form.

The questionnaire data are entered into the statistical programme R to prove dependencies between chosen variables; these dependencies are tested by Pearson´s chi-squared test.

Then the descriptive analysis follows – this includes a variety of techniques (frequency tables, graphs) used to provide an image of the data.

On the basis of theoretical knowledge and author´s own research conclusions of the thesis will be formulated.

3. Literature Review

3.1 E-Government

The term E-government refers to the use of the most innovative information technologies (such as Internet) by government agencies to improve the access to and delivery of government information and service to citizens, business partners, employees and other government entities. It has the potential to build better relationships between government and the public by making interaction with citizens smoother, easier, and more efficient. Indeed, government agencies report using electronic commerce to improve core business operations and deliver information and services faster, cheaper, and to wider groups of customers.²

Moreover, these technologies can lead to citizen empowerment through access to information, or more efficient government management. The resulting benefits can be less corruption, increased transparency, greater convenience, revenue growth, and/or cost reductions.³

Traditionally, the interaction between citizen or business and government agency takes place in a government office. With emerging information and communication technologies it is possible to locate service centres closer to the citizens. Such centres may consist of an unattended kiosk in government office or to enable some service online so the citizens can access them on personal computer in their homes.

The target of E-government encompasses four main groups: citizens, businesses, governments (other governments and public agencies) and employees. Analogous to e-commerce, which allows businesses to transact with each other more efficiently (B2B)

² LANE, K.; LEE, Y., Developing fully functional E-government: A four stage model, [online]. [cit. 2013-09-15]. Available from
<[http://www.ekt.gr/content/img/product/5593/Government%20Information%20Quarterly%3B%2018%20\(2\)%202001,%20p.122-36.pdf](http://www.ekt.gr/content/img/product/5593/Government%20Information%20Quarterly%3B%2018%20(2)%202001,%20p.122-36.pdf)>

³Definition of E-Government, *The World Bank* [online]. [cit. 2013-09-15]. Available from
<<http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/EXTINFORMATIONANDCOMMUNICATIO NANTECHNOLOGIES/EXTEGOVERNMENT/0,,contentMDK:20507153~menuPK:702592~pagePK:14 8956~piPK:216618~theSitePK:702586,00.htm>>

and brings customers closer to businesses (B2C), e-government aims to make the interaction between government and citizens (G2C), government and business enterprises (G2B), and inter-agency relationships (G2G) more friendly, convenient, transparent, and inexpensive.

E-Government failures

According to Heeks⁴, most e-government projects fail. They are either total failures, in which the system is never implemented or is implemented but immediately abandoned or there are partial failures, in which major goals for the system are not met or there are significant undesirable outcomes. Only a minority of e-government projects can be properly called successes, estimates of the proportion falling into failure categories range from 60 – 80%.

The main reasons for e-government project being unsuccessful are poor implementation and management. If the processes, projects and systems of e-government were managed better, failure and waste would be much rarer.

3.2 Information

Information is known for many forms and many meanings depending on the perspective adopted and the field of study. In context of this thesis, we are interested in definition where people and machines are able to send, receive and store information describing particular facts and circumstance.

As a basic definition, we can cite technical standard⁵ by which “information is knowledge concerning objects, such as facts, events, things, processes, or ideas, including concepts, that within a certain context has a particular meaning”.

Information is also legally defined in paragraph 3 of Law No. 106/1999 Coll. on Free access to information as any content or part, in any form, recorded on any media or written on the list or recorded and stored in electronic form – this might be sound, visual or audio-visual.

⁴ HEEKS, Richard, *Implementing and Managing eGovernment. An International Text*. London: Sage Publications, 2006. ISBN 7619-6791-5

⁵ ČSN ISO/IEC 2382-1, page 7

3.3 Communication

Also the term communication belongs to the core stones of e-government. Generally, we can understand it as transmission of information, in our case with focus on electronic communication. This can be simply defined as passing of information from one individual to another using computers, fax and phones. A good example of a form of electronic communication is the use of email.

Electronic communications service is also legally defined in Law No. 127/2005 Coll. about electronic communication as a service provided for a fee which provides the transmission of signals on electronic communications networks, including telecommunications services and transmission services in networks used for radio and television broadcasting and cable television networks.

3.4 Information system (IS)

From the technological point of view, information system is a system consisting of hardware, software, data and people use to collect, filter, process, share and store information. The aim of the information system is the effective support of operations, management and information and decision making processes on all levels in the organization (firm).⁶

While designing and implementing a new information system, following aspects are to be considered:⁷

- Hardware: which technical components will be used in the IS
- Software: which software components will be used in the IS and their functionality and interdependence
- Data: which data are going to be stored in the system – which data are going to enter the system (e.g. customer data) and which are to be shared

⁶ Mates, P., Smejkal, V., *E-government v České republice. Právní a technologické aspekty*. 2.vyd. Praha:Leges, 2012. ISBN 978-80-87576-36-6

⁷ Information system. *Wikipedie: The Free Encyclopedia* [online]. [cit. 2014-01-26]. Available from: <http://en.wikipedia.org/wiki/Information_system>

- Processes: which processes and tasks will we supported by these services and how
- People: who is supposed to be working with the IS, their qualification constrains
- Organization: are there any organizational changes
- Legislative: what is the law to be followed
- Economics: costs and benefits

The information system is defined by Czech law in 365/2000 Coll. about Information systems in public administration.

3.5 Electronic services

Service can be defined as an activity satisfying a human need. Services are usually distinguished according to whether they meet the needs of individual or collective. Services satisfying collective needs are met from public funds, services satisfying the individual needs from private sources. Electronic service (in terms of e-Government) is that such electronic activity that meets the specific needs of the collective.⁸

“Public electronic services are those services or information that is available to the public through the website of public administration institutions”⁹. The essence of e-services is remote access and the use of remote electronic connections to obtain a specific service.

The range of electronic services and their use is very wide. Some services are used to inform the public about current events in the city (RSS, e-mail newsletters) or in emergency situations (SMS messages). Through other services, there is a greater participation of citizens in the life of the town and public affairs (internet based discussions, the records of council meetings). Online booking systems simplify dealing with the local office. Geographic information systems serve the citizens for better orientation in a city or village. Municipalities are also obliged to provide some online

⁸ Elektronické služby eGovernmentu, *Ministerstvo vnitra ČR* [online]. [cit. 2014-01-12]. <<http://www.mvcr.cz/clanek/elektronicke-sluzby-egovernmentu.aspx>>

⁹ Co je veřejná elektronická služba? *E-kraj.cz* [online]. [cit. 2014-01-12]. Available from: <<http://www.e-kraj.cz/verejne-elektronicke-sluzby>>.

services by law; these are electronic notice boards or electronic registry. In addition, municipal website may include a calendar of events, webcams or Internet TV.

3.6 Administrative subdivision of municipalities

Municipalities differ in the extent of delegated powers in the state administration. According to the scope we distinguish the basic scope of delegated powers (that perform all of the villages) and municipalities with a wider range of delegated powers¹⁰. These municipalities perform the acts of state administration on the territory of other municipalities. At present, we distinguish following categories of municipalities: municipality, the municipality with the registry office, the municipality with a construction office, a municipality with authorized municipal office and the municipality with extended powers.¹¹

There are 388 municipalities with authorized municipal office and 205 municipalities with extended powers in the Czech Republic and the majority of responsibilities of the dissolved district offices them were transferred on them. These municipalities are established by Act No. 314/2002 Coll. about municipalities with authorized municipal offices and municipalities with extended powers.

a) Municipalities - Municipalities of the 1st type

Are the smallest basic territorial units of the Czech Republic and are managed by a local authority led by mayor. Most of the villages do not consist of just one village, but more villages (settlements) at the same time. Each municipality has defined the cadastral municipality (land). These registers cover the whole territory of the Czech Republic (with the exception of military training areas). There are were 6253 municipalities in total in 2013 in the Czech Republic.¹²

¹⁰ LUKÁŠ, M.: Městský informační management. Praha: Grada Publishing, 1. vydání, 2000. 320 s. ISBN 80-7169-554-8.

¹¹ PROVAZNÍKOVÁ, Romana. Financování měst, obcí a regionů teorie a praxe. 2. aktualizované vydání. GRADA Publishing, 2009. ISBN 978-80-247-2789- 9.

¹² Český statistický úřad. Vývoj počtu obcí v České republice podle krajů (stav k 1.1.). [online]. [cit. 2014-02-15]. Available from: <http://www.czso.cz/cz/cr_1989_ts/0201.pdf>

The basic municipality's obligation is defined by the laws as creating conditions for the development of social care and to meet the needs of its citizens in accordance with local conditions and practices, especially meeting the needs housing, health protection and development, transport and communications, the need for information, education, cultural development and the protection of public order.¹³

b) Municipalities with authorized municipal office - Municipalities of the 2nd type

Authorized municipal offices may make regulations, not only for himself but also for his entire administrative circuit (in addition to the basic public administration tasks).

Registry office and construction administration offices are subject to municipalities of the 2nd type. The areas of activity include e.g. nature protection and water management, organisation of elections to the Parliament, local councils and regions.

c) Municipalities with extended powers – Municipality of the 3rd type

Municipalities with extended powers operate in the extent provided by law. These are basic scopes of delegated powers. Among the areas of activity are these municipalities responsible e.g. for issuing travel and identity documents and driving licenses, keeping the population register, providing social support for elderly and disabled citizens as well as the nature protection and construction of roads.

3.7 E-Government in the Czech Republic

According to the United Nations E-Government Survey 2012¹⁴: E-Government for the People study (the report examining the institutional framework for e-government), the Czech Republic ranked the 46th place among 194 countries over the world, placed behind Russia and Kazakhstan and has worsen the position by 13 ranks to the year 2010. One of the worst results was achieved in the field of e-Participation (electronic democracy), where e.g. the electronic process for elections is missing.

¹³ PROVAZNÍKOVÁ, Romana. Financování měst, obcí a regionů teorie a praxe. 2. aktualizované vydání. GRADA Publishing, 2009. ISBN 978-80-247-2789- 9.

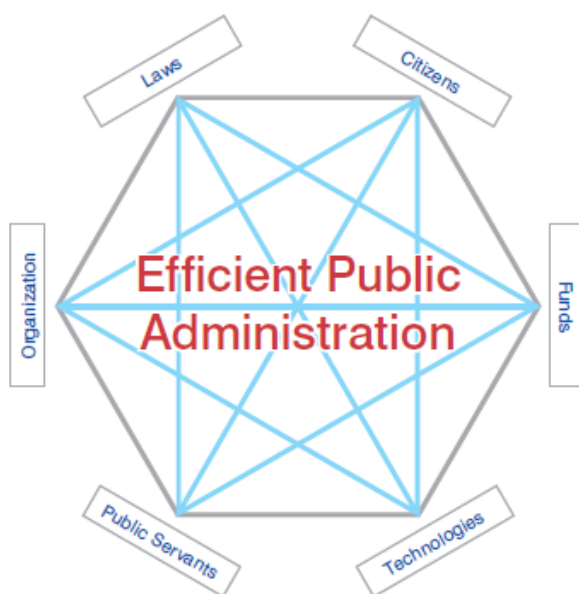
¹⁴ E-Government Survey 2012: E-Government for the People. United Nations. [online]. 2012 [cit. 2014-01-26]. Available: <http://unpan1.un.org/intradoc/groups/public/documents/un/unpan048065.pdf>

This is why the additional effort in the implementation of e-government in the Czech Republic is necessary, mainly on the G2C level.

The Ministry of the Interior responsible for the e-government agenda in the Czech Republic has started the eGON project helping with the public administration electronization.

3.8 Smart Administration

The target of the Strategy of Efficient Public Administration and Friendly Public Services – SA Strategy is to ensure a coordinated and efficient improvement of public



Picture 1: Effective Public Administration¹⁵

administration and public services supported by Structural Funds in the programming period 2007 - 2013.

Measures and mechanisms have been put into practice which newly defines the public administration in the Czech Republic as a service for citizens which meets the principles of good governance and functions purposefully, economically and efficiently. Dozens and hundreds of individual steps are summarized in the Strategy of Efficient Public

¹⁵ Smart Administration Strategy. *Ministerstvo vnitra České republiky* [online]. [cit. 2013-09-15]. Available from:< <http://projekty.osf-mvcr.cz/en/StrategieSA/Home.aspx>>

Administration and Friendly Public Services – SA Strategy adopted by the Government of the Czech Republic in 2007 (Government Resolution No. 757 of 11 July 2007).

Smart Administration Strategy looks at governance as a hexagon. The individual peaks symbolize the elements of VS, crucial to its effectiveness.¹⁶

1/ **Laws** protect social values and are influencing the behaviour of individuals. They should be as simple and clear as possible, be taken only when necessary to avoid much unnecessary bureaucracy.

2/ **Organization** of public administration seek balance between moving the Public administration closer to citizens and effective spending of public funds. It involves the usage of quality management methods, monitoring the performance and efficiency of resources and monitoring citizen satisfaction as a customer.

3/ **Technologies**: ICT is a tool which makes the communication between the state and citizen and also inside the public administration easier.

4/ **Citizen** is a client of the public administration. It was necessary to facilitate contact with the authorities and minimize the annoyance life overregulation. At the same time government services for citizens transparent, make it open to allow citizens to participate in decisions and control its operation.

5/ **Public servants** are the cornerstones of public administration. It does not matter whether it is a ministry official or official of the state administration in delegated the county or municipality, but it is important that all officials were continuously trained and paid according to quality performance at all levels of management.

6/ **Funds** of public administration, budgeting. We need to pay attention to the method of allocating resources to activities within the public administration and linking budgets to the strategic priorities of government / departments / councils. All agenda within the public administration should be reviewed in terms of cost-effectiveness.

The strategy, gradually fulfilled till 2015, relies on several key strategic and specific goals that define individual measures in further detail. This system is based on strategic planning

¹⁶ Smart Administration: Hexagon efektivní veřejné správy. [online]. [cit. 2013-09-15]. Available from: <<http://www.smartadministration.cz/clanek/hexagon-efektivni-verejne-spravy.aspx>>

and management, including continuous control. An important aspect is the connection to everyday practice including, for example, links to budgets.

This will guarantee that domestic as well as foreign investors and entrepreneurs receive high-quality and quick services rendered by public authorities which will have well-organized structure and competences. The elimination of redundant regulations that come in the form of an excessive number of acts and decrees will also be useful. This group of clients, as well as the majority of citizens, will appreciate the introduction of a modern communication and information technology as it helps to reduce the administration load and save time.

The SA Strategy identifies exactly the weaknesses in the operations of many public administration and local authorities and offers specific solutions.

This will make public service not only more efficient and consequently cheaper but also more transparent and less prone to corruption. Thanks to its links to eGovernment and Smart Administration, the service becomes easier to use and, moreover, more accessible from any point (for example, the dense network of public administration contact points Czech POINT) without redundant time load.¹⁷

3.9 eGON Project

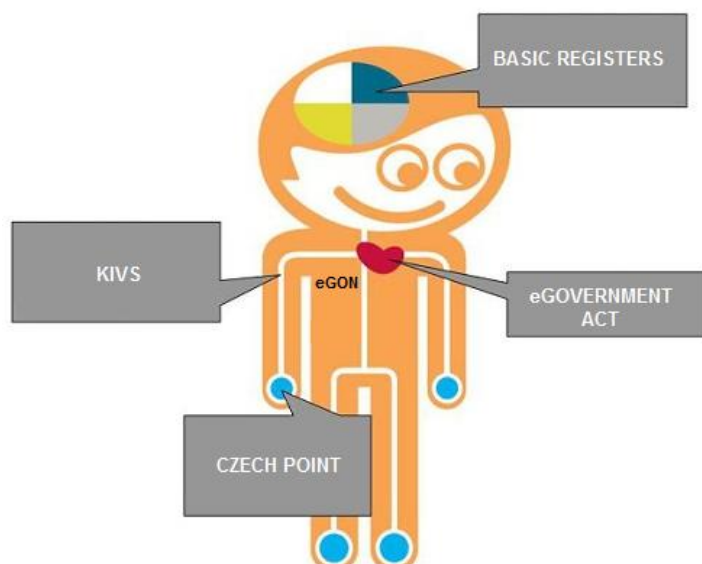
eGON project, initiated in late 2006 is a comprehensive e-governance project, whose main objective is to make the lives of citizens easier and to increase the efficiency of public administration through the sophisticated use of information technology.

The symbol of E-government is the eGON figure, whose basic life functions represent the main 4 electronization projects:

- Fingers: Czech POINT
- Circulatory system: KIVS
- Heart: eGovernment Act
- Brain: Basic registers

eGON, as well as eGovernment, should be helpful, simple and functional.

¹⁷ Úspěšné projekty IOP a LZZ v gesci Ministerstva vnitra: Smart Administration Strategy. [online]. [cit. 2013-09-15]. <Available from: <http://projekty.osf-mvcr.cz/en/StrategieSA/Home.aspx>>



Picture 2: The eGON figure¹⁸

3.10 E-Government Act

The first impulse leading to the significant legislative changes accelerating the development of e-Government in the Czech was the Government Resolution No 1085 from 20th September 2006.

„E-Government Act brings eGON' s heart to life“¹⁹

The law on electronic transactions and authorized conversion of documents was published in the Collection of Laws on August 19, 2008 as Act No.300/2008 Coll. This law sometimes called the Law on eGovernment and eGovernment Act came into effect on 1st July 2009.

The aim of eGovernment Act is to create optimal conditions for electronic communication between authorities and citizens and the authorities themselves. Moreover, it allows the usage of electronic records in administrative proceedings.

¹⁸ EGON jako symbol eGovernmentu - moderního, přátelského a efektivního úřadu: SEZNAMTE SE S EGONEM. *Ministerstvo vnitra České republiky*[online]. [cit. 2013-06-01]. Available from: <<http://www.mvcr.cz/clanek/egon-jako-symbol-egovernmentu-moderniho-pratelskeho-a-efektivniho-uradu-252052.aspx?q=Y2hudW09MQ%3d%3d>>

¹⁹ EGovernment: Zákon o eGovernmentu. *Ministerstvo vnitra ČR* [online]. [cit. 2013-9-17]. Available from: <<http://www.mvcr.cz/clanek/ega-cili-zakon-o-egovernmentu.aspx?q=Y2hudW09MQ%3d%3d>>

The key tool enabling the communication with the public authorities and ensuring the delivery of official reports in electronic form are the data boxes. The second key element of the Act on Electronic Communication is an authorized document conversion. This allows the conversion of paper documents into the electronic form and vice versa while verifying the conformity of their content by inserting a verification clause.

Another important law that helped to revive eGON and thus complete the basic processes of electronization of state administration was the adoption of Act No. 111/2009 Coll., about the Basic registers. The functioning of the Basic registers required changes in other laws and regulations, which are treated with Act No. 227/2009 Coll. The adoption of these two laws, which came into effect from 7th January 2010, set a legal environment in which basic registers operate.²⁰

In addition to these statutory provisions also other regulations such as issuing statements for local points of public administration - Czech Point were amended. The purpose is generally defined in Act No. 365/2000 Coll.

3.11 Czech POINT

This project was launched on 28th March 2007 and is legally enshrined in Act No. 365/2000 Coll. about the Information systems and public administration. The aim of the project is to create a guaranteed service for communication with the State through one universal place where you can get and verify data from public administration information system, certify document or convert written documents to electronic form.

Czech POINT or the Czech Submission Verification Information National Terminal is a project that offers all citizens communication with the national authorities at one universal office. Currently, a citizen must often visit several offices to deal with one problem. Czech POINT serves as an assisted place of public administration, enabling communication with the State through one place.

²⁰ EGovernment: Moderní úřad. *Ministerstvo vnitra ČR* [online]. [cit. 2013-09-15]. Available from: <<http://www.mvcr.cz/clanek/ega-cili-zakon-o-egovernmentu.aspx?q=Y2hudW09MQ%3d%3d>>

Czech POINT logos are visibly situated for example outside of municipal offices, banks, post offices or even embassies or consulates abroad – basically at all points equipped with modern technology and authorized to search and provide information regarding the Commercial Register, for example, criminal records or driver licence points. Moreover, the range of services is continuously expanding



Picture 3: Czech Point logo.²¹

Applicants therefore do not need to visit the court or other institutions: all documents can be obtained at a single point, including a verification stamp. Also no forms have to be completed – citizens just present their ID cards, or bring a pre-filled form downloaded from the Internet.

The dense network of Czech POINTs is also one of the most active users of public registers. In addition to the above-stated documents, applicants can also almost immediately obtain an extract from the Land Register, a verified copy of an extract from the Qualified Vendors List or an extract from the Insolvency Register. Czech POINTs also provide access to data boxes.

Before the establishment of the network of Czech POINTs, applicants were forced to spend many hours, often even whole days waiting at court. At present, the procedure takes approximately two hours including a 30-minute processing of a criminal record. The verified extract can also be collected at any contact point or sent by post to a permanent address.

²¹ Logo Czech POINT. *Czech POINT* [online]. [cit. 2014-01-05]. Available from: <http://www.czechpoint.cz/web/docs/loga/cp_logo_3D_nahled.jpg>

The following services are now available at any post office (List of Post offices providing Czech POINT services with the Czech POINT logo²²):

- Extract from the Land Register
- Extract from the Commercial Register
- Extract from the Trades Register
- Extract from the Register of Qualified Contractors
- Extract from the Insolvency Register
- Extract from the Criminal Register
- Extract from the Criminal Register of Legal Entities (124/2008 Coll.)
- Submission to the registry of car wrecks, module ISOH
- Extract from the Driver Register
- Forms Filed under the Trade Act (§ 72)
- Authorised Conversion of Documents
- Czech Point @ office
- Czech Point e-shop
- Data boxes
- Central verification clauses repository
- Czech POINT depository

Three extracts from central registers (Extract from the Commercial Register, Extract from the Trades Register and Extract from the Register of Qualified Contractors) government can be ordered directly from the Czech POINT e-shop. Extracts from these public registers are available without identity proof of the customers, but identification number of the registered person.

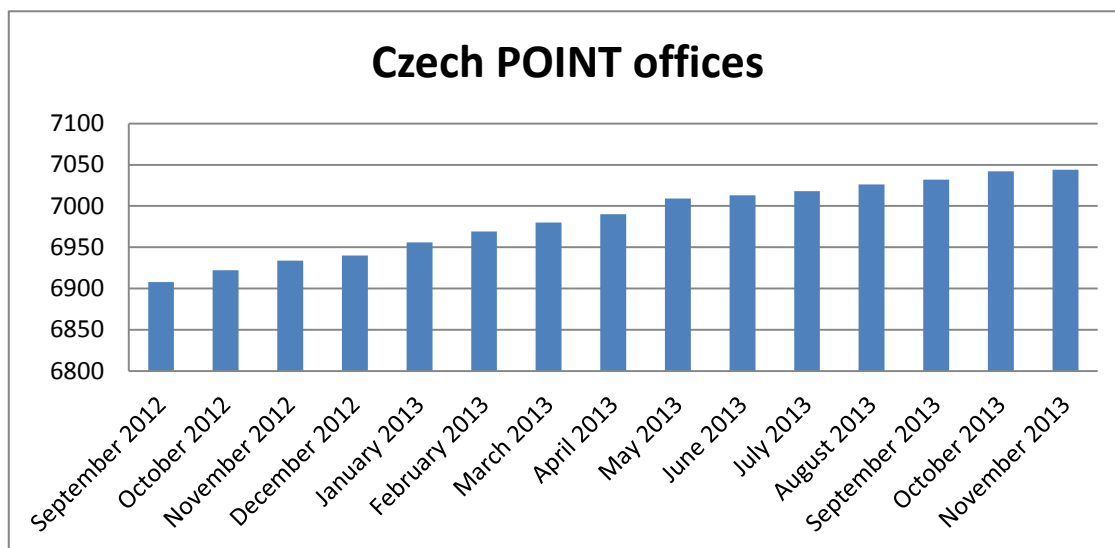
The costs for the above mentioned extracts are:

- a) 100 CZK for the first page, 40 CZK for every following page.
- b) Second and every following copy of the same electronic document (regardless of the number of pages in the document) are for 40 CZK. The handling fee makes 70 CZK.

²² Czech POINT: Co poskytuje Czech POINT. [online]. [cit. 2013-11-13]. Available from: <<http://www.czechpoint.cz/web/?q=node/23>>

Czech POINTs statistics

The Czech POINT services are subject to permanent enhancement; the complete and up-to-date list of these services is available at <http://www.czechpoint.cz>. Selected types of the Czech POINT services can be used in places chosen by the user, with the internet access possibility being under progress.



Graph 1: Czech POINT offices increase²³

According to the chart in the Graph 1, the number of Czech POINT offices has been increasing since the introduction in 1997. On 30st September 2013 there were 7039 offices opened in the Czech Republic.

Table 1 analyses the structure of the outputs issued from 2007 until 2012 in the Czech Republic. In the period January 2007 - December 2012 there were 9.867.064 documents issued in. The overall interest of inhabitants in Czech POINT services is increasing every year.

The largest parts of the issued documents represent a criminal record which covered 39% of all issued statements in 2012. The next most requested service in 2012 is an extract from the Land Register (21%) followed by the extract from Trade Register (18%) and

²³ Aktuální statistiky Czech POINT. *Ministerstvo vnitra ČR* [online]. [cit. 2013-11-13]. Available from: <http://www.czechpoint.cz/web/?q=node/488>

Authorised Conversion of documents (8%).²⁴ As further seen from the table, citizens were in 2012 least interested in issuing extract from the list qualified contractors (8.084) and the extract from Base registers (2.252).

	2007	2008	2009	2010	2011	2012	Sum
Land Register	28.379	230.406	349.666	441.726	414.633	407.478	2.226.231
Trade Register	24.144	150.791	250.641	327.225	326.455	348.492	1.690.133
Commercial Register	1.338	7.656	31.666	55.359	62.638	77.362	304.655
Criminal Register	0	595.615	712.638	790.130	818.884	739.948	4.306.649
Extract from the Driver Register	0	0	104.744	85.445	78.934	84.273	426.244
Register of Qualified Contractors)	0	0	4.512	8.070	7.784	8.084	36.362
Authorised Conversion of Documents into electronic form	0	0	6.805	83.484	97.776	165.263	617.655
Authorised Conversion of Documents from electronic form	0	0	4.389	7.695	24.679	50.821	171.040
Data box application	0	0	15.944	12.417	6.615	13.198	68.196
Basic registers	0	0	0	0	0	2.254	9.206
Other	0	0	2.074	2.277	1.937	2.252	10.693
SUM	53.861	984.468	1.483.079	1.813.828	1.840.335	1.899.425	9.867.064

Table 1: Structure of issued outputs from 2007 - 2012²⁵

3.12 KIVS

Communications infrastructure is eGON's circulatory system responsible for a secure data flow.

The communication infrastructure of public administration (KIVS) is allowing the unification of various data lines between public administration bodies into a single data network. The largest benefits are significant cost savings and higher efficiency.

The infrastructure is being built since 2007 KIVS when the number of data lines from different ministries and agencies was increasing. Primary objective was to create a unified data network that provides secure connectivity and has a high standard of service. Secondary aim was to remove the monopoly of data services providers. The tender

²⁴ Aktuální statistiky Czech Point. *Ministerstvo vnitra*. [online]. [cit. 2013-12-01]. Available from: <<http://www.czechpoint.cz/web/?q=node/488>>

²⁵ Aktuální statistiky. *Czech Point: Ministerstvo vnitra*. [online]. [cit. 2013-12-01]. Available from: <<http://www.czechpoint.cz/web/?q=node/488>>

announcement led to the involvement of two other operators - except Telefonica O2 there were GTS Novera a consortium of T -Systems and ČD Telematika participating.

In a short period of after the project implementation, the system KIVS savings are more than 250 million CZK.²⁶

KIVS is a way to effectively link the institutions and public administration information systems, allowing the secure transfer of data between stakeholders. Public authorities are connected through KIVS with the public registers or Czech POINTs. The integration digital map of public administration into KIVS is currently being prepared.

3.13 Base registers of public administration

Base registers are one of the cornerstones of e-government and symbolize eGON' s brain, enabling the effective function of eGovernment in the Czech Republic. The estimated time savings by the introduction of the base registers are up to 40% at the administrative proceedings.

The basic objective is to facilitate the relations between the citizens, companies and other entities relations of the public administration, e.g. to minimize the number of personal visits in the offices of public administrator and use the opportunities and technologies of the 21st century for online access from anywhere at any time. At the same time, public authorities have to ensure a safe, efficient and transparent exchange of accurate and updated data.

Goals²⁷:

- Secure hub for data sharing inside government
- Guaranteed data shared
- Elimination of “Big Brother”

²⁶ Komunikační infrastruktura veřejné správy: Ministerstvo vnitra. [online]. [cit. 2013-12-01]. Available from: <<http://www.mvcr.cz/clanek/egon-symbol-egovernmentu-komunikacni-infrastruktura-verejne-spravy.aspx>>

²⁷ Basic registers: National registers authority. [online]. [cit. 2014-26-01]. Available from: <<http://www.szrcr.cz/index.php?lang=2>>

- Creating multiple digital identity inside government
- Creating inventory of government operational activities as base for process optimization
- Creating GIS base of governmental systems

Legislation:

- Valid data, mandatory usage for government
- Full transparency for subjects of data
- Right to be informed about changes
- Right to inform private sector about changes

Current status:

- Legislation complete
- Systems implemented, installed and fully operated
- Editor systems connected and working on near real time base
- Connecting reader systems

A major step towards the conceiving of the system of base registers was the adoption of Law No. 111/2009 Coll. about the base registers and Act No. 227/2009 Coll. in early 2009. These laws were a prerequisite for starting the trial in 2010 and releasing into production one year later.

Creating a central public administration registers addresses the existing problems related to the lack of unity and multiplicity of the key databases.

The information systems of public administration contain usually name, address, social security number or other contact information which is current only at the time when it is entered. Citizens provide the updated information but this become obsolete during the time (people change e.g. their residence, name, marital status or job etc.). All these changes should be reported to the appropriate office, but sometimes this does not happen - some departments might not communicate with each other or there are inconsistencies in the data.

The base register is a database where all public authorities have access to and there is no need for the citizen to report changes of information to multiple institutions, but only notify the local municipality. The local official changes the data through public administration and the data will be made available to all other officials.

An essential element in the system of the base registers is called a “reference”. This is the data that will be taken from the system of base registers and can be taken by respective agendas as guaranteed, valid and up to date without having to authenticate. The role of central registers can be expressed by slogan „Only documents and not people themselves will be circulating in the authorities”.

There are four base registers²⁸:

1/ ROB – register of inhabitants

- Contains base information (name and surname, date and place of birth and death and citizenship) about citizens and foreigners with a residence permit.

2/ RPP – register of rights and responsibilities of public authorities

- Contains reference information about the scope of public authorities, including authorization to access to individual data or information about changes made in the data.
- Guarantees the data security management for citizens and subjects included in the registers

3/ ROS – register of persons (companies)

- Contains information on legal persons, self-employed individuals, public authorities as well as non-commercial entities such as civic associations and churches.

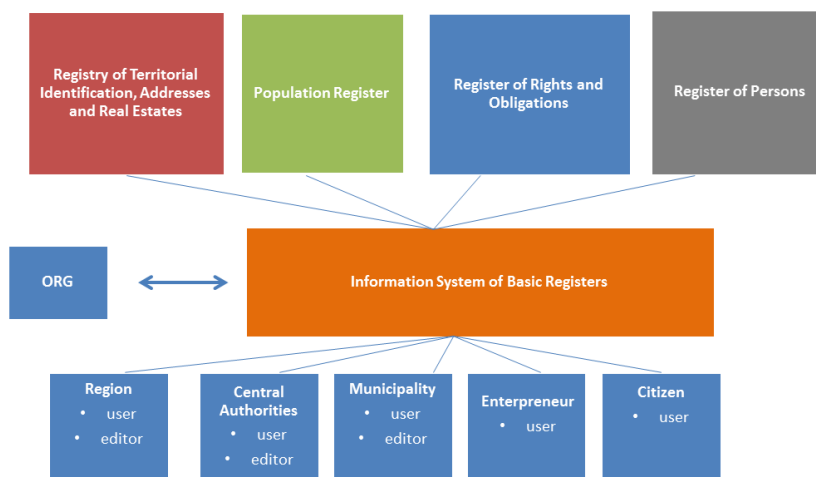
4/ RUIAN – register of territorial identification, addresses and real estates

- Contains data on the basic territorial and administrative elements.

All four basic registers operate within the **Information System of Base Registers**, whose management is in charge of the newly formed state Office of Base registers). EGON’s additional components (Public Administration Communication Infrastructure and Central Place of Services) will provide the technological platform of the information system.

²⁸Základní registry veřejné správy: Ministerstvo vnitra ČR. [online]. [cit. 2014-01-05]. Available from: <<http://www.mvcr.cz/clanek/zakladni-registry-verejne-spravy.aspx>>

An important element of the system is so-called **ORG** (“převodník identifikátorů fyzických osob”), which is coordinated by the Office for Personal Data Protection. ORG’s activity is absolutely crucial for the protection of personal data in the entire system of base registers. ORG is the only institution that can recalculate the agenda identifiers from one register to another. Therefore is no longer possible e.g. with the knowledge of the personal identification number to obtain information about the inhabitants from every public administration information system, as it is now.



Picture 4: Base registers information system²⁹

Operational status (start 1. 7. 2013)³⁰

- Over 125 000 000 transactions since 1st of July 2012.
- Over 1200 public authorities connected.
- Over 1900 IS of public authorities connected.
- Over 400 SD requests handled since 1st of May 2013.

²⁹ Základní registry veřejné správy: Ministerstvo vnitra ČR. [online]. [cit. 2014-01-05]. Available from: <<http://www.mvcr.cz/clanek/zakladni-registry-verejne-spravy.aspx>>

³⁰ Basic registers: National registers authority. [online]. [cit. 2014-26-01]. Available from: <<http://www.szrcr.cz/index.php?lang=2>>

3.14 Data boxes

Effective as of the beginning of July 2009, the relevant law lays down a data box system identical with the delivery of documents in written form. Electronic documents delivery system was launched by the Ministry of the Interior and the Czech Post on November 1st. Based on the usage of state-of-the-art information technologies, this communication method guarantees greater efficiency, speed and reliability of information transfer.

The purpose of the introduction of data boxes was to unify the methods of service and efficient communication between citizens and public authorities, and communication between the public authorities themselves. In addition, should the data box featuring a new, state-guaranteed secured channel for communication between private objects.

The Information System of Data Boxes has fundamentally changed the way that the public authorities and citizens communicate with each other. Citizens can send or receive official correspondence anytime and anywhere, using a computer or mobile phone, in or outside office hours, from their living room or on vacation by the sea. The user can also tailor their data box according to their personal needs. They are able to filter and sort the data, choose the level of security, set their password, and send unlimited invoices or returns.³¹

Data boxes are established and administered Ministry of the Interior, the operator is Czech Post. According to §2 Act No. 300/2008 Coll., the data box is an electronic (data) storage designed for:

- a) Delivery of public authorities' documents
- b) Interacting with public authorities
- c) Delivery of documents of natural persons, sole traders and legal entities

Data boxes cannot be regarded as classic e-mail boxes as they cannot be used to communicate with individual civil officers and other natural persons. This involves the kind of communication proceeding exclusively with a public authority. Data box is not an archive of electronic documents either – messages are saved in the data box for 90 days

³¹ Czech data box system has now delivered over 50 million messages. Epractice.eu. [online]. [cit. 2014-02-15]. Available from: <<http://epractice.eu/en/news/5312440>>

only for the purposes of secured communication. However, Czech Post offers a paid service called Data Safe for the purpose of longer message storage.

One of the main tasks in construction of information system of data boxes is to guarantee secure way for official announcements or applications. That's why using a data box is not the same as using common email communication. The main difference to e-mail communication is the usage of encrypted HTTPS protocol, which is the most suitable transfer protocol available for the safe data transmission.³² Only an owner of a data box can access it using a unique username and password.

The average success rate of messages delivery by logging into the mailbox is 97% (the rest is delivered fiction), while only about 0.01% of the data message was not delivered³³. The message is considered as received and read 10 days after being sent.

Unfortunately, comparable data to the letter consignments are not available (official correspondence is fiction delivered in paper form in about 40% of cases). Based on the data available we can definitely conclude that the success of electronic delivery via data boxes is extremely high. The owner of the data box is notified when he receives a new message, he/she can choose the preferred form of notification (SMS or email).

Advantages of a Data Box³⁴

- Accessibility from any place where the Internet is available.
- Time saving, no problems with mail delivery and no need to visit the post-office.
- Financial savings - this service is provided free of charge.
- Representation – other persons may be appointed to have access to a data box and handle correspondence.
- Widespread use – data boxes will be created by statute for all public authorities.

³² Mates, P.,Smejkal, V., *E-government v České republice. Právní a technologické aspekty*. 2.vyd. Praha:Leges, 2012. ISBN 978-80-87576-36-6

³³ Mates, P.,Smejkal, V., *E-government v České republice. Právní a technologické aspekty*. 2.vyd. Praha:Leges, 2012. ISBN 978-80-87576-36-6

³⁴ Government of the Czech Republic: *Novelties in Communication with the Authorities: Data Boxes* [online]. [cit. 2014-02-01]. Available from: <<http://www.vlada.cz/en/media-centrum/aktualne/novelties-in-communication-with-the-authorities-data-boxes-60252/>>

Disadvantages of a Data Box

- Since the time of its accessing a data box must be regularly collected, if not an official document is deemed to have been delivered within 10 days.
- One has to work with electronic originals of documents, and is obliged to ensure their long-term storage.
- For the time being, it will not be possible to use the data box information system for communication with foreign subjects that are not based in the Czech Republic

Communication via Data boxes

Based on Act No. 300/2008 Coll., from now on is for all public institutions (e.g. government offices, local governments, institutions established by local or state government etc.) obligatory to use data boxes (or so-called eBoxes) instead of traditional paper form.

<i>Communication via DB</i>		From		
		Public authorities	Legal entity	Natural person
To	Public authorities	Obligatory	Voluntarily, if the sender has a DB	Voluntarily, if the sender has a DB*
	Legal entity	Obligatory, if the recipient has a DB	Voluntarily, if both sides have a DB	
	Natural person	Obligatory, if the recipient has a DB		

Table 2 Communication options via data boxes³⁵

*obligatory communication for employers with Czech Social Security Administration since 1st January 2015

Pursuant to the relevant law, a data box is created for legal entities registered in the Commercial Register, for legal entities established by law, and for public authorities. Natural persons are not obliged to have their own data boxes.

³⁵ Mates, P., Smejkal, V., *E-government v České republice. Právní a technologické aspekty*. 2.vyd. Praha:Leges, 2012. ISBN 978-80-87576-36-6

Public authorities

There are various opinions on which bodies should be considered as public authorities. According to Mates and Smejkal³⁶, authorities which are according to the Constitution involved in the state power - legislative, executive and judicial - should be considered:

- a) Central government bodies such as ministries but also authorities (Czech Statistical Office, State Office for Nuclear Safety or Czech Telecommunication Office). There are separate data boxes being set up for municipalities in the capital city of Prague - one automatically, more on request.
- b) State authorities or the authorities of the state administration outside the organizational system, such as the Office for Personal Data Protection
- c) Courts (Constitutional Court, Court of First Instance, Supreme Administrative Court, provincial, district and supreme courts)
- d) Parliament of the Czech Republic
- e) President

Legal entities

The data box set up for legal entities is mandatory. Ministry of Interior registers a new data box for all legal entities registered in the commercial register automatically, free of charge.

If the nature of the document allows and if a legal entity owns a data box, public authority communicates with the legal entity via the data box, unless delivered by public notice or on the spot. The document, which was delivered into the mailbox is considered as delivered at the moment when the authorized person logs into the data box. This document has the same legal effect as personal delivery.

If the authorized person does not log into the mailbox within 10 days since the date on which the document was delivered into the mailbox, the document is considered to be delivered on the last day of such period.³⁷

³⁶ Mates, P., Smejkal, V., *E-government v České republice. Právní a technologické aspekty*. 2.vyd. Praha:Leges, 2012. ISBN 978-80-87576-36-6

³⁷ Datové schránky. Právnícká osoba. [online]. [cit. 2014-02-01]. Available from: <<http://www.datoveschranky.info/pravnicka-osoba/>>

Natural persons

There are four types of natural persons with the data box:

- a) Natural person, by law categorizes the public authority (notaries, executors). The data box is required by law.
- b) Natural person who conducts a business under special regulations (lawyers, tax advisers and insolvency administrators). The data box is required by law.
- c) Natural person who conducts business under the Trade Act. The data box is voluntary, on application.
- d) Natural person - citizen. The data box is voluntary, on application.

Since January 1st 2014 there is an obligation for all employers to submit the prescribed forms electronically to the Czech Social Security Administration (CSSA) according to the law 470/2011 Coll. This requirement applies to all employers who employ at least one employee: the position of the employer may be self-employed or a doctor. However, based on the results of the monitoring report, the director of CSSA decided to grant an exemption for all employers and postponed the obligation by one year mainly due to unpreparedness of the small employers.³⁸

Options to create and send e - Submission³⁹:

- 1/ Using a software supporting e – Submission. Usually, it is a system that can generate and send the data message corresponding to the CSSA specification through a public. The qualified electronic signature is necessary for the VREP communication interface.
- 2/ Using an interactive forms for e - Submission in software602Form Filler (a free download CSSA web). The procedure for such submission is not complicated, but would be more convenient for employers with fewer employees.

³⁸ Česká správa sociálního zabezpečení. *ČSSZ informuje: povinná elektronická komunikace v roce 2014*. [online]. [cit. 2014-02-03]. Available from: <<http://www.cssz.cz/cz/o-cssz/informace/media/tiskove-zpravy/tiskove-zpravy-2013/2013-12-04-cssz-informuje-povinna-elektronicka-komunikace-v-roce-2014.htm>>

³⁹ Ministerstvo práce a sociálních věcí. *Připravte se na povinnou elektronickou komunikaci včas* (*podnikatel.cz*). [online]. [cit. 2014-02-08]. Available from: <<http://www.mpsv.cz/cs/16641>>

Following documents need to be sent electronically:

Employers	Natural persons (self-employed)	Doctors
<i>Obligatory e-communication since 2015</i>	<i>Obligatory e-communication since 2015</i>	<i>Obligatory e-communication since 2016</i>
Pension insurance evidence list	Statement of income and expenditures	Decision on temporary work incapacity
Study confirmation for the purposes of pension insurance	Notice of self-employment initiation	Report of an attending physician in accordance with § 61 of the Law on Health Insurance
Amount of insurance overview	Application for participation in pension insurance	
Notice of entry into employment (termination of employment)		
Appendix to the request for sickness insurance		

Table 3: Documents need to be sent electronically to CSSA⁴⁰

Submission possibilities:

a) Data box

The form is sent to the data box of e - Submission with the identifier 5ffu6×k. Submissions must be in electronic form in the XML data format. Submissions delivered into data boxes are considered to be signed.

b) VREP

User needs to register at the relevant Social Security Administration office. Qualified signature certificate is necessary to verify all submissions.

The possibility of electronic forms submission is used commonly already, employers send most often pension insurance evidence form - 71 % of all submissions – and a notice of

⁴⁰ Ministerstvo práce a sociálních věcí. *Připravte se na povinnou elektronickou komunikaci včas* (*podnikatel.cz*. [online]. [cit. 2014-02-01]. Available from: <<http://www.mpsv.cz/cs/16641>>

entry into employment (termination of employment) - 54 % of all submissions.⁴¹ Since January 2014 there is also an obligation for VAT payers to communicate with tax authorities electronically. The new obligation applies to filing tax returns, reports, application for registration for VAT and the change of registration data.

The exemption applies to VAT payers (natural persons) with a turnover less than 6 million for the previous 12 months. They can communicate with the tax authorities still in the paper form⁴².

3.15 Electronic signature

An electronic signature that is based on the PKI (Public Key Infrastructure) technology represents the use of key pair for the identification of partners communicating in the electronic world. A key pair is a generic term for a private key, also referred to as data for the creation of an electronic signature, and a public key, also referred to as data for the verification of an electronic signature.

The communicating party proves their identity using a certificate that is issued by a specific institution – a Certification Authority. In the mutual communication between two entities, the Certification Authority is a third independent and trustworthy party that ties the entities' identification to their data for the creation of an electronic signature using a certificate issued by the Certification Authority to the clients. The certificate therefore becomes an “electronic identity card”.

The certificates contain identification data that ensure the distinctiveness of the entities. The regularly used certificates also contain the date of the beginning of validity, the date of the end of validity, the name of the Certification Authority that issued the certificate, the series number, and certain other information. The Certification Authority guarantees the

⁴¹ Česká správa sociálního zabezpečení. *ČSSZ informuje: povinná elektronická komunikace v roce 2014*. [online]. [cit. 2014-02-03]. Available from: <<http://www.cssz.cz/cz/o-cssz/informace/media/tiskove-zpravy/tiskove-zpravy-2013/2013-12-04-cssz-informuje-povinna-elektronicka-komunikace-v-roce-2014.htm>>

⁴² Měšec.cz. *Plátci DPH musí s finančním úřadem od nového roku komunikovat jen elektronicky*. [cit. 2014-02-08]. Available from: <<http://www.mesec.cz/aktuality/platci-dph-musi-s-financnim-uradem-od-noveho-roku-komunikovat-jen-elektronicky/>>

uniqueness of the entities according to the applied entity identification. This is ensured by the legislative and technical rules for the operation of the institution of a Certification Authority, as defined in the Certification Policy.

Certification authorities:

1/ First Certification Authority

2/ Czech Post

3/ e-Identity

European law (directive n.93/1999) provides three kinds of electronic signatures, each with different juridical value⁴³:

1/ Electronic signature (also called a weak electronic signature or light electronic signature): "means data in electronic form which are attached to or logically associated with other electronic data and which serve as a method of authentication"

2/ Advanced electronic signature meets the following requirements:

a) It is uniquely linked to the signatory;

b) It is capable of identifying the signatory;

c) It is created using means that the signatory can maintain under his sole control; and

d) It is linked to the data to which it relates that any subsequent change of the data is detectable"

An advanced electronic signature has more significant value than an electronic signature: it guarantees the integrity of the text, as well as the authentication. The juridical value it has is for integrity: one is sure the text received is the same that was sent, and that no hacker had changed it. The judge must consider the text unexpurgated and nobody can deny its integrity.

3/ Advanced electronic signature which is based on a qualified certificate and which is created by a secure-signature-creation device (also called a secure digital signature, strong

⁴³Directive 1999/93/EC of the European Parliament and of the Council of 13 December 1999 on a Community framework for electronic signatures. EurLex. [cit. 2014-02-11]. Available from <http://eur-lex.europa.eu/smartapi/cgi/sga_doc?smartapi!celexapi!prod!CELEXnumdoc&numdoc=31999L0093&model=guichett>

digital signature, or qualified digital signature). The secure-signature-creation device (also called a Certification Authority or CA) must have the technical standards needed to ensure the key can neither be forced nor reproduced in a reasonable time, one that is longer than the validity period for the signature. These requirements are clarified by the "Electronic Signature Committee", which helps commission for technical subjects.

The requirements for qualified certificates are:

- a) The indication that the certificate is issued as a qualified certificate;
- b) The identification of the Certification Authority and the State (European or foreigner) in which it is established;
- c) The name (or pseudonym) of the signatory, to identify her/him
- d) Signature-verification data which correspond to signature-creation data under the control of the signatory;
- e) The indication of the period of validity of the certificate;
- f) The identity code of the certificate; and
- g) The advanced electronic signature of the certification-service-provider (Certification Authority).

3.16 Web pages

Websites are one of the main tools used by local municipalities for the communication with the public. It is important that these sites are able to respond to user requests and adapt to the new possibilities offered by computerization and development of public administration.

Websites of public administration should fulfil three basic functions:⁴⁴

A. **Informative** (static communication) - Public Administration websites should bring certified and current information on the city/town management, pursued agendas, public announcements, but also about life in the city in general - historical and statistical data, data from culture, sport, etc.

⁴⁴ JEŽKOVÁ, Alena. Úroveň úřadu prezentují též www stránky. *Moderní obec* [online]. 3.3.2004 [cit. 2014-01-05]. Available from: <<http://moderniobec.ihned.cz/c1-14041560-uroven-uradu-prezentuji-tez-www-stranky>>.

B. Interactive (dynamic communication) - Offering online services such as downloading of forms, filing, handling inquiries or direct contact with an official. To increase the participation of citizens in the city administration is appropriate to establish a web forum or poll.

C. Presentation - web sites also represent the institution. It is important to ensure structural and visual appearance and user-friendliness of the website, e.g. translation into foreign languages, phonebook, useful links or interactive map of the location.

According to the data⁴⁵ which Czech Statistical Office released on 31st December 2007, an 88% of state, 100% regional and 88% of all municipalities have an official website. Even 80% of the villages with less than 500 inhabitants have a website. In 2008, the Internet was used in relation to public administration by 18% of all people aged 16 and over (34% of all Internet users). Users visiting websites of the public administration mostly seek for information (30% of Internet users over 16 years old), 15% of them seek for forms and 8% of users have downloaded and filled an online forms⁴⁶.

The usage of Internet in relation to public administration by Czech citizens lags behind the most of the EU countries. There were 28% of the EU adult population using Internet in relation to public administration on average – in the Czech Republic it was only 14%.

Published information and services

Communication with the citizens and visitors of towns and villages is often neglected. If citizens do not have the correct and relevant information they might lose interest in the community and everyday life in the city. When creating a website the municipality management has to decide which information and services will make available on its website.

Municipalities are obliged to publish all information requested by the Act §5 106/1999 Coll., follow ISVS standard but should also disclaim information recommended by this

⁴⁵ Český statistický úřad: *Veřejná správa* [online]. [cit. 2014-01-05]. Available from: [http://www.czso.cz/csu/redakce.nsf/i/e_verejna_sprava_is2009/\\$File/is09_e.pdf](http://www.czso.cz/csu/redakce.nsf/i/e_verejna_sprava_is2009/$File/is09_e.pdf)

⁴⁶ Využívání informačních a komunikačních technologií ve vztahu k veřejné správě. *Český statistický úřad* [online]. 2011 [cit. 2014-01-12]. Available from : [http://www.czso.cz/csu/redakce.nsf/i/vyuzivani_ict_v_organizacich_verejne_spravy_vysledky_za_rok_2011/\\$File/vs_analyza_12.pdf](http://www.czso.cz/csu/redakce.nsf/i/vyuzivani_ict_v_organizacich_verejne_spravy_vysledky_za_rok_2011/$File/vs_analyza_12.pdf)

standard. More information is voluntary and depends on the decision of the local community.

When selecting this information, the municipality must correctly identify the target groups who can possibly visit a website and determine information that these groups might need. It is essential to provide local residents and people from surrounding communities with information on current events in the city or village and some practical information that belong to the most sought-after.

But the website of towns and villages are also visited by tourists - especially if the town is located in the attractive destination. For such cases is a good idea to translate contents into foreign languages or connect the webpage with a portal offering accommodation.

Another group of users could be e.g. entrepreneurs willing to invest into the community or seeking for available real estates. The amount of public information and services is naturally also related to the size of the municipality and its financial capabilities. Smaller city or municipality usually has a simpler situation compared to the large city which might have difficulties to structure all the information so that they are transparent and easy to find for the user. An appropriate solution might be to divide the information into sections according to target groups or to create a separate site on tourism or cultural area.

Mandatory information disclosure

- The ISVS Standard about disclosure of information on public administration websites presents 17-points outline that fully covers, develops and completes the obligations of the Act No. 106/1999 Coll., on free access to information in relation to the Internet. Every municipality must specify all the 16 items in this curriculum, without changing the order or numbering of the items, item nr. 17 is optional. All the information has to be current and accurate. There is no need to create a website in order to meet the requirement for disclosure of such information - free publication of this curriculum to all municipalities allows e.g. ePUSA portal.
- The outline „Description of the procedure" is also part of the standard and contains 30 items that define the mandatory and recommended guidelines on how public should be handling requests, proposals and other requests to the public.

Expected information and services disclosure

Information marked items both ISVS curriculums as recommended – includes e.g. online forms, the full text of the main regulations or older annual reports.

- A detailed description organizational structure, the names and contact details of elected representatives hierarchy, their scope of activities
- Transcripts from municipality meetings
- Public tenders, investment opportunities
- Basic information about the village history a present development, demographic, geographic and statistical data
- Press releases
- Interactive form for citizen's questions
- FAQ

Other information

- Local information
 - Current local news, culture and sport
 - Program events (markets, festivals)
 - Photos and videos from events
- Promotional information
 - Tradition and history of the village
- Tourist information
 - Architectural and engineering sights (photos, description, map, opening hours)
 - Tips on interesting events and cultural facilities (theatres, cinemas, clubs, addresses, links), hiking or cycling - including maps
 - Accommodation and meals
- Practical information
 - Important telephone numbers, addresses
 - Schools (contact, focus links)
 - Traffic and parking road closures, emergency situations
- Commerce and employment
 - Overview of business entities, job offers, strategic plans for urban development

Requirements on the municipal web

A good website should be intuitive and give easy way to the important information. The author should avoid effective design or demanding audio visual presentation – the main focus should be set on easy access to the information and clear signpost.⁴⁷ The main requirements for municipal web by Jan Savický⁴⁸ are as follows:

- a) **Timeliness** - Users should always get access to current information. In order to ensure timeliness is useful to establish a content management system that helps reduce the time needed for publishing information on the web by allowing posting the desired web content without detailed IT knowledge. The information is published not only by webmaster but also by other authorized persons.
- b) **Universality** – Websites should be designed for a broad group of citizens who cannot be defined by age, gender, nationality, income or handicap. Therefore, it is essential to create a website so that their operation was clear, simple and understandable to all without distinction.
- c) **Clarity** – the home page should inform about the site purpose and contents. Each page should include a logo, navigation or links leading back to the home page.
- d) **Target groups** – the website should be adapted to all target groups, such as businessmen, tourists, locals, children or people with disabilities. It is appropriate to adapt an appropriate page design, such as greater font, less comprehensible sentences without professional terminology or short paragraphs in narrower columns.
- e) **Graphic design** - should be professional without disturbing graphic elements, which slow down the page loading. Adjusting the colour and design should be based on a uniform visual style of the city.
- f) **Page searching** - web municipalities should search an appropriate domain name that is intuitive and easy to find and remember. It is necessary to store the logs for

⁴⁷ KUPKA, Martin. Veřejná správa musí umět kvalitně a účinně komunikovat. *Moderní obec* [online]. 31.10.2005 [cit. 20014-10-01]. Available from: <http://moderniobec.ihned.cz/c4-10004970-17112010-C00000_d-verejna-sprava-musi-umet-kvalitne-a-ucinne-komunikovat>.

⁴⁸ SAVICKÝ, Jan a Odbor informatiky Krajského úřadu kraje Vysočina. Tvorba internetových stránek obcí. *Portál Města a obce online* [online]. 2005. [cit. 2009-01-10]. Available from <<http://extranet.kr-vysocina.cz/download../pdf/tvointstrobc.pdf>>

analysis of user behaviour on the site and to trace error messages stored on the server.

- g) **Accessibility** - ensuring barrier-free access to the sites of public authorities for handicapped users. This includes blindness (even partial), immobility, deafness or as mild mental disability. Methodology and advice on how to adjust the web to be accessible to users with disabilities, provides e.g. the Blind Friendly Web project (<http://blindfriendly.cz/>) or amendment to the Act No. 365/2000 Coll. on the information systems of public administration.

3.17 Municipal websites and electronic services evaluation

There are several projects focused on the evaluation of municipal websites and electronic communication between public administration and citizens in the Czech Republic. Each of these projects has different areas of focus. Probably the best known project in this area is the Zlatý erb competition, organized by the portal Obce.cz founded in 1999. There are two contests of the server Otevrete.cz: Infoliga and Otevřeno – Zavřeno focused on evaluation of government openness, transparency or the information value of the site. Czech Statistical Office also provides important data about the development and use of ICT in public administration.

Zlatý erb (Golden Crest)

Zlatý erb is probably the most well-known national competition, in which the best websites and online electronic services of the cities and municipalities are being evaluated. This competition takes place every year since 1999 and "aims to promote upgrading of local and regional governance through the development of information services provided to citizens and specific groups of users using the Internet and other electronic media, and to contribute to the development the quality of life in cities, towns and regions in the Czech Republic"⁴⁹. The competition is organized in two stages: first taking place in the regional rounds and then in the national round. Regional rounds are being announced the by the region of the Czech Republic. The competition is organized in cooperation with the local

⁴⁹ Propozice soutěže Zlatý erb 2013. *Otevřete.cz* [online]. 2013 [cit. 2014-01-12]. Available from: <http://zlatyerb.obce.cz/vismo/dokumenty2.asp?id_org=200005&id=1005&p1=52>.

self-government portal Města a obce online (<http://mesta.obce.cz>) and ISSS conference (<http://www.issc.cz>).

There are three categories being awarded:

- a) The best websites of the city (including municipalities, boroughs and districts, + Prague municipalities 1-22)
- b) The best municipal website (+ in Prague websites of other boroughs)
- c) The best electronic service

There might also other categories be awarded like price of the public, best tourist presentation, best regional web, the best barrier-free web, etc.

The results of the competition but not entirely conclusive while not all the public administration websites are evaluated – it is necessary to apply via the official website <http://zlatyerb.obce.cz/index.asp>.

Otevřete.cz

The project supports the citizens and authorities in the implementation of Act No. 106/1999 Coll. on Free access to information which requires authorities and public institutions (including state, county or municipal companies) to publish information about their activities online. It also supports openness of public administration: participation of citizens in decision-making and freedom of expression (e.g. whistleblowing or city hall media)⁵⁰.

3.18 Social networks

Social networks are new platforms for exchanging personal and professional information. By allowing users to incorporate external web applications, these platforms constitute a new discussion forum. Facebook and My Space can be mentioned as general networks, while LinkedIn is a professional platform. Most of these social networks allow users to interconnect from one of these platforms to another. For example, an entity can create

⁵⁰ Otevřete.cz, *Otevřete.cz* [online]. 2013 [cit. 2014-01-12]. Available from: <<http://www.otevrete.cz/cs/>>

a YouTube channel and a Facebook page and then create links or include materials from its own corporate website. Thus, it is possible to classify social networks as follows⁵¹:

- General purpose, like Facebook and Myspace.
- Professional, like LinkedIn and XING.
- Specific functionality, like Digg to share web content, Delicious to share bookmarks, etc.

In this way, the impact on the public sector can be seen in four areas:

- Improvement of public sector transparency: for example, by using content syndication and social media platforms to bring the public sector agenda and activities closer to citizens and provide news and information in the platforms preferred by citizens (who no longer need to go to the public entity website in order to get this information).
- Improvement of policy making: new forms of participation, enabled by the use of ICTs, which improve social consciousness and citizen engagement.
- Improvement of public services: more innovative mechanisms for service delivery.
- Improvement of knowledge management: transformation of relationships within the organizations and between different public entities.

What is certain is that the new technological base is now available to all the local entities, allowing them to take action on two fronts: the mass distribution of the content of the official website and/or the implementation of corporate dialogue, as follows:

- In the first case, the local entity can make use of the web technologies to facilitate the mass redistribution of contents, making them more visible. An example of this approach is the implementation of functionalities that allow users to redistribute the contents of an official website in their own blogs or social networks using e.g. RSS.
- In the second case, local governments actively use social media in order to open corporate dialogue. They could, for example, generate a Facebook page or group, a Twitter account or YouTube channel.

⁵¹ BONSON, Enrique, TORRES, Lourdes, ROYO, Sonia & FLORES, Francisco, 2012, 'Local e-government 2.0: Social media and corporate transparency in municipalities', *Government Information Quarterly*, 29: 123–32.

4. Analytical part

4.1 Basic information

The city of Prague is currently divided into 22 administrative districts and 57 municipalities. Prague 16 is one of the municipalities and also the seat of the administrative district in the south western outskirts of the city. This administrative district includes municipality Prague 16 (cadastral Radotín) Lipence, Praha-Lochkov, Praha-Velká Chuchle (cadastral Velká and Malá Chuchle) and Praha-Zbraslav (cadastral Zbraslav and Lahovice). The whole administrative district had on 31st December 2011 a total number of 22,923 inhabitants (Radotín 8141) living on an area of 3,616 hectares (out of which Radotín has 931 ha). There were 9164 households in Radotín in 2011⁵² out of which 5613 owned personal computer (61,2%). When we look at the Internet connectivity, we can see that 5311 households had an access to Internet while 302 of them did not.

Municipal office of Prague is divided into 16 departments whose task is to carry out governmental tasks (most agendas for all administrative districts) and local government tasks for Radotín.

The Office is divided into 7 basic organizational units (departments): Municipal Office, Department of Economic, Department of local economy, Civil-administrative Department, Social Department and Department of construction, transport and environment and the Department of trade.

The municipality is currently employing 69 employees. Due to unfavourable economic situation of the city (especially the need for partial subsidization of the municipality from its own budget) there were many changes necessary in 2007. Since 1st July 2007 is the structure stable, with minimal changes performed due both internal needs (e.g. cancellation of previously independent charity organization in Radotín and its integration into the structures of authority), and external change (especially the shift of certain social agendas of local governments on labour offices).

⁵² Český statistický úřad, Sčítání lidu, domů a bytů 2011, [online]. [cit. 2014-03-15]. Available from: <[http://www.scitani.cz/csu/2012edicniplan.nsf/t/03003AB321/\\$File/ZVPH031.pdf](http://www.scitani.cz/csu/2012edicniplan.nsf/t/03003AB321/$File/ZVPH031.pdf)>

4.2 Network

Office is located in 4 buildings in Radotín and has one detached office on Zbraslav in the building of local district office (office for Cadastral Zbraslav, Lahovice and Lipence).

All the buildings are interconnected to a central computer network; a scheme of basic parameters is shown in Appendix. The network has a star connection with the central element (10.64.64.1) located in the main office building. This network branches out to the second building of the previously mentioned office in Zbraslav. Linking between buildings is provided wirelessly (1GB/s) with backup laser line speed (100MB/s). The server part consists of both physical and virtual form at the moment. Physical machines are used e.g. for MS Exchange (HP ProLiant DL360 G4P), SQL server (HP ProLiant DL360 G5). Virtual servers are HP ProLiant DL380 G7 and HP ProLiant DL320 G6. This machine is attached storage capacity of 2 x 2.8 TB and the vast majority of virtual machines running on that server.

There is a construction framework of the project called „Centrum Radotín" planned to cultivate former industrial and storage sites at the heart of the city. This centre would be located near the municipality centre and the aim is to rise building complex of public facilities (cultural and community centre for city, new municipality hall or firehouse and police station). If the new town hall would be built, it would significantly simplify an access for citizens, internal communication as well bring a simplification of computer networks - particularly in the transmission of data between objects, and therefore cost savings.

4.3 Information system

Information system Munis consists of interconnected and cooperating agendas. The creator this IS the company Triada, s.r.o. One part of this system is a management module for electronic filing service that meets all the conditions of the law No. 499/2004 Coll., about the Archives and Records Service. The core of the electronic filing service is a trusted document storage platform built on SQL Server.

IS Munis was implemented in 2002. In the introductory phase it was necessary to organize an extensive training for the employees, as it was necessary that every officer took working

with the filing service as an integral part of their job description. Over time this has happened and is currently all officers are familiar with this service.

Munis has built-in links to all the latest tools of e -Government related to communications and work with documents: the linkage to Data Box, the application CzechPOINT and basic registers of public administration. From the perspective of filing service is the link to the data box the most important as advanced electronic communication channel.

Munis allows the connection not only to the application CzechPOINT but also enables to track number of outputs from the information systems through CzechPOINT. Munis is also linked to Czech POINT@Office. Thanks to CzechPOINT@Office the municipality can provide authorized conversion of documents of based on Act No. 300/2008 Coll. on electronic acts and authorized conversion of documents. As the latest in a series of the above-mentioned e-government tools IS Munis links to essential public administration registers (implemented last year).

Probably the most significant attribute of the introduction of electronic filing services to offices is more accurate compliance with internal Filing and disposition order which of course affects every official. Filing management monitors the overall flow of documents through the office and enables to reconstruct the recorded history or provide statistical outputs serving for the management of the municipality. You can also track the amount of time spent on requests or the overall communication ranges and volume of transmitted data.

4.4 Data boxes

In July of 2009, Act No. 300/2008 Coll. on Electronic acts and authorized document conversion was amended. From this moment, all authorities public authority were forced to establish a data box, but the obligation to activate it was given to the 1st November 2009, which was also a start date for activating the municipality data box. The communication between the electronic filing service and the information system of data boxes is authorized through commercial server certificate, which helps to increase the overall security (as opposed to authorization with name and password) and also simplifies administration approaches.

The implementation of the data boxes was not methodically difficult thanks to the uniformity of the IS Munis. Of course, the officials had to accept some changes into their

working practices, such as verification of data and take decision in paper or electronic form, but thanks to an established way of working with the electronic filing service the changes were manageable in a relatively short timeframe.

However, results of data boxes usage and their connection to the file service IS Munis are clearly positive and the volume of messages received and sent annually in terms of filing services is increasing: in 2012 there were 2,289 messages received 8,455 shipments sent electronically. In addition to greater comfort and reducing current costs (e.g. for office equipment) is also definite financial effect for postal services. Despite the increase of postal prices, the costs for physical postal services since 2009 decreased by 45% in Municipal Office of Prague 16, which clearly corresponds with above described trends in utilization of data boxes connected to the filling service IS Munis.

4.5 Link to CzechPOINT

As noted above, the connection between CzechPOINT application and electronic filing service is beneficial. It contributes to the overall unity of the documents, which is desirable for the office.

Czech POINT brought a change in the perception of access to central national databases. Since the Office of Prague 16 is also a registry office, was the foundation of CzechPOINT office obligatory. Throughout the administrative district of Prague 16 the Municipality Prague 16 had established the first Czech POINT, at two sites in two different buildings in Radotín, which means greater convenience for citizens and removal the need to visit more buildings to get various documents. Every year there are around 1500 applications dealt (in 2012 it was a 1410 tasks).

4.6 Link to basic public administration registers

The situation of the position of the Municipality with regards to linkage of the filling service and Register of rights and responsibilities of public authorities is specific while power range is determined by the Statute of the City of Prague.

While in the competences of the municipalities with authorized municipal office are clearly defined, municipalities in the capital city of Prague have very limited partial competence. The system, in addition to a lack of transparency and citizen orientation difficulties "cut

off" the connection from the municipalities in Prague and disabled the option for data validation in majority of activity agendas - as legally competent public authority is directly to the city of Prague. This problem has unfortunately not been resolved despite all efforts for more than eight months after a start of basic registers.

4.7 Municipality webpage

In this chapter I am going to focus on electronic services offered on the Municipality Prague 16 webpage Praha16.eu.

The Municipality Prague 16 won in year 2011 the 3rd place in Prague round of the Golden Crest (Zlatý erb) competition for the best city website among the 22 boroughs, only Prague 2 and Prague 12 ranked better places. Website Praha16.eu underwent a fundamental transformation in the autumn of 2010. There were language versions added, design was simplified as well as some sections like Questions and Answers were added.

The Golden crest award was not the only award the municipality won – in 2010 Governance Institute at Rutgers University in Newark Fresh evaluated the web as the very best in Prague based on the given evaluation criteria.

4.7.1 Electronic office board

Electronic office board brings a modern and efficient way of publishing documents. The main benefits of this solution include the ability of continuous communication with the public. Method of publishing documents on the electronic notice board meets all the legal conditions according to § 26 paragraph 1 of Act No. 500/2004 Coll.

The updates of the official board can be sent to the citizens per e-mail, SMS or RSS channel. It is important that the contents of the physical and electronic notice boards are identical, documents that are published both physically and electronically and the contents of the electronic notice boards cannot be shortened. The date of document posting and the date of withdrawal must be clearly visible.

Úřední deska

1 | 2 | 3 ▶

Vystaveno od-do	Název	Anotace
18.3.2014 25.3.2014	- Oznámení o přerušení dodávky elektřiny dne 25.3.2014	PRÉ Distribuce oznamuje, že dne 25.3.2014 v době od 8.00 do 13.00 hodin, dojde k přerušení dodávky elektřiny v ulici K Lázním a Loučanská, Praha 16-Radotín.
17.3.2014 28.4.2014	- Výběrové řízení	Výběrové řízení na uzavření smlouvy se zdravotními pojišťovnami o poskytování a úhradě hrazených služeb v oboru patologie-laboratoř
17.3.2014 28.4.2014	- Výběrové řízení	Výběrové řízení na uzavření smlouvy se zdravotními pojišťovnami o poskytování a úhradě hrazených služeb v oboru fyzioterapie
17.3.2014 28.4.2014	- Výběrové řízení	Výběrové řízení na uzavření smlouvy se zdravotními pojišťovnami o poskytování a úhradě hrazených služeb v oboru rehabilitační a fyzikální medicína
13.3.2014 28.3.2014	- Rozhodnutí, dodatečné povolení stavby	Veřejný vodovodní řad, Praha 5, Lipence, lokalita "Kazín"
12.3.2014 26.3.2014	- Záměr pronájmu pozemku parc.č. 1705 v k.ú. Radotín	MČ Praha 16 oznamuje záměr pronájmu pozemku parc.č. 1705 o výměře 141 m2 v k.ú. Radotín panu Ing. Ivo Šenkyříkovi, vlastníkově sousedních nemovitých věcí.
12.3.2014 22.4.2014	- Výběrové řízení	Výběrové řízení na uzavření smlouvy se zdravotními pojišťovnami o poskytování a úhradě hrazených služeb v oboru urologie
12.3.2014 22.4.2014	- Výběrové řízení	Výběrové řízení na uzavření smlouvy se zdravotními pojišťovnami o poskytování a úhradě hrazených služeb v oboru chirurgie
10.3.2014 18.4.2014	- Výběrové řízení	Výběrové řízení na uzavření smlouvy se zdravotními pojišťovnami o poskytování a úhradě hrazených služeb v oboru alergologie a klinická imunologie
10.3.2014 7.4.2014	- Vyhlášení výběrového řízení	Úřad městské části Praha 16 vyhláší výběrové řízení na pracovní pozici vedoucí oddělení evidence obyvatel a osobních dokladů. Přihlášky je třeba do podatelny úřadu doručit nejpozději do 7. dubna 2014 do 12.00 hodin.

Picture 3: Screenshot of electronic office board⁵³

4.7.2 Digital mailroom

Digital mailroom is considered a service designated to send and receive data messages in electronic form. Public authorities are obliged to establish these mailrooms by law and publish following information on the office board or website (see Act No. 495/2004 and 496/2004 Coll.):

- Digital mailroom electronic address: elpodatelna@praha16.eu
- Required parameters of electronic messages:
 - Format: *.txt, *.htm, *.rtf, *.doc, *.xls, *.jpg, *.pdf, *.gif
- Procedures for cases in which the message does not meet the parameters or contains malicious code: The data report, which was detected by malicious software, will not be processed.
- Contact information for submission of data stored on the digital media: Úřad městské části Praha 16, Odbor občansko správní, Podatelna, Václava Balého 23/3, 153 00 Praha-Radotín
- Parameters of the digital media: CD, DVD or flash media drives.

⁵³ Úřední deska. Oficiální stránky Městské části Praha 16. [online]. [cit. 2014-03-15]. Available from <<http://www.mcpraha16.cz/Urad/Uredni-deska.>>

- Updated list of employees equipped with a qualified certificate: Irena Kopřivová, podatelna ÚMČ Praha 16
- The list of legal rules under which the authority is allowed to take legal acts in electronic communication: In accordance with Decree No. 496/2004 Coll. Electronic registries and Government Regulation No. 495/2004 Coll. and Act No. 227/2000 Coll., on electronic signature.

4.7.3 E-mail newsletter

E-mail newsletter or newsletter a popular communication channel for commercial entities, allowing them to inform their users about updates on the site, action prices or news.

In order to subscribe for the service, citizens need to fill their email address on the municipality website in the appropriate form. It is possible to unsubscribe from the service any time by clicking on the link in the newsletter.

Municipality Prague 16 launched a newsletter service in July 2009. This free service offers the sending of the most important information (such as planned outages or street closures) to an e-mail. In addition, the report may also relate to other urban parts of the administrative district of Prague 16 (Lipence, Lochkov, Velká Chuchle, Zbraslav).

To activate the service, citizens need to click on the registration link on the top bar of the homepage (<http://www.mcpraha16.cz/path/registration/lang/11>). After completing the mandatory information in the registration form (user name, e - mail address and a numeric key to encrypt the password) is candidate sent an e - mail at the given e-mail address.

4.7.4 RSS

An RSS document (called "feed", "web feed" or "channel") includes full or summarized text, and metadata, like publishing date and author's name. Subscribing to a website RSS (Rich Site Summary) removes the need for the user to manually check the web site for new content.

Also Municipality Prague 16 offers to follow multiple channels:

Main channel: <http://www.mcpraha16.cz/xml/rss.aspx?l=1>

Other:

News: <http://www.mcpraha16.cz/xml/rss.aspx?l=1&area=3&sh=-1553656506>

Office: <http://www.mcpraha16.cz/xml/rss.aspx?l=1&area=4&sh=-1553656730>

Prague 16 news: <http://www.mcpraha16.cz/xml/rss.aspx?l=1&area=18&sh=963711030>

Office board: <http://www.mcpraha16.cz/xml/rss.aspx?l=1&area=5&sh=-1553656442>

4.7.5 Internet forum

An Internet forum is an online discussion site where people can hold conversations in the form of posted messages. Depending on the forum's settings, users can be anonymous or have to register with the forum and then subsequently log in in order to post messages.

Municipality Prague 16 offers a forum called “Questions and Answers”. This is a moderated discussion on various topics related to daily life in Radotín, where citizens publish their suggestions as well as complaints and Municipality co-workers reply on their initiatives.

4.7.6 Online reservation system

Municipality Prague 16 offers one online booking system for cinema tickets in Radotín cinema. When using this service, citizens can book tickets online; however, it is not possible to pay via internet but cash only before the performance starts.

4.7.7 Facebook

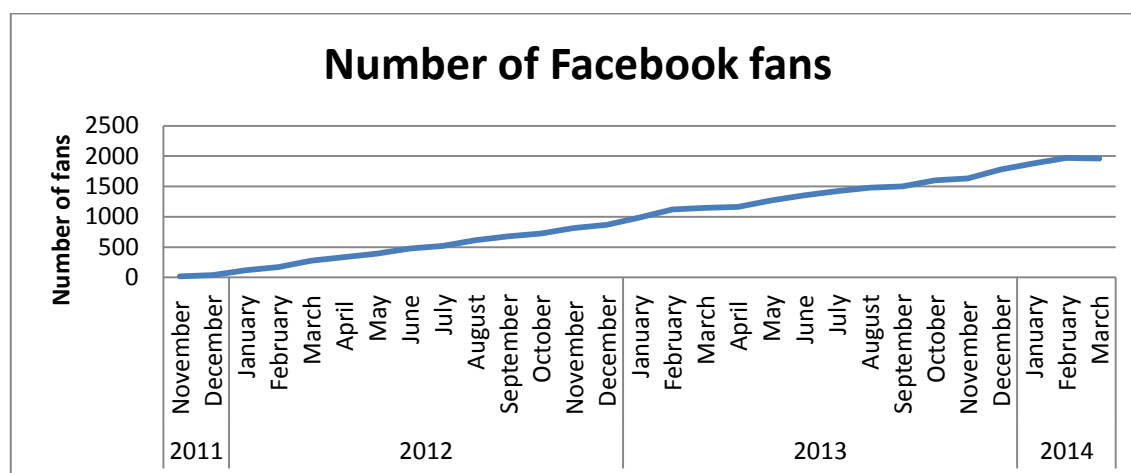
Facebook offers a number of unique advantages in helping local governments do a better job of listening to citizens, from features like status updates, to the wall, longer discussions, videos and photos, and much else. Moreover, people tend to provide their real names and locations. These factors make it especially useful for local leaders who are trying to figure out who their citizens really are.

Sharing status updates, photos, and other media in the stream is the single most important aspect of the site, as this information is what appears to users in their news feeds, and what typically generates the most conversation.



Picture 4: Municipality Facebook webpage⁵⁴

Municipality Prague 16 created the profile on Facebook social network in year 2011 and the interest of citizens is growing. This is done also by the fact that Municipality is very active on this social network and is posting new information every day – either sharing links from the municipal webpage, sport events, posting photos from cultural events or natural catastrophes (like floods). There are 1959 fans of the page at the moment; the development is shown in Graph 2.



Graph 2: Facebook fans development⁵⁵

⁵⁴ Municipality Prague 16 Facebook profile. [online]. [cit. 2014-03-15]. Available from <<https://www.facebook.com/praha16.eu?fref=ts>>

⁵⁵ Facebook fans development, Municipality Prague 16 Facebook statistics. Online.

4.7.8 Winter cleaning on-line

Since October 2012 there is a possibility to watch online the winter maintenance of roads and sidewalks on <http://vozidla.praha16.eu>. The movement of three vehicles is tracked using GPS and shown on the interactive map including the 12 hours history.



Picture 5: Winter cleaning online⁵⁶

"Service is running from October 2012 in a trial, and if successful, we plan to extend it beyond the winter period. Long-term efforts of municipality are to focus on transparency and to increase public awareness," said Secretary of the Municipality Prague 16 Ing. Pavel Jirásek.

4.7.9 Other

These services include e.g. a calendar of events, advertiser portal or job portal.

- Calendar of events: offers users a list of events that take place in a city, with options to search by event data, type or place in an interactive calendar.
- Advertiser portal: Free service - bonus for advertisers who have their advertisement published in a newspaper the Prague 16. These firms may also

⁵⁶ Winter cleaning service online. [online]. [cit. 2014-03-15]. Available from <<http://vozidla.praha16.eu>>

publish information about them on the website of the City of Prague 16 in the "Firms" section for one year.

- Job portal: Service for employers from Radotín which allows advertising vacancies for free. Workers may actually look for a job opportunity right at home.

4.8 Questionnaire

The aim of the research is find out what is the awareness about electronic communication among the entrepreneurs and firms in Prague 16 and to figure out if there would be a potential for data box usage in communication of the entrepreneurs and firms in the Municipality Prague 16?

The questionnaire is focused on the opinions and experience of companies and self-employed individuals located in the area of Prague 16 with electronic communication with the local authority.

Questionnaire created in Google Forms and the link sent by e-mail to 130 companies and self-employed individuals in Prague 16. I used a list of companies presented on municipality webpage as well as the advertisement on Seznam.cz portal. The overall response rate was 32,7% (42 responses), which could be considered as low. However, according to Průcha⁵⁷ the low response rate in electronic distribution of forms is usually around 30%

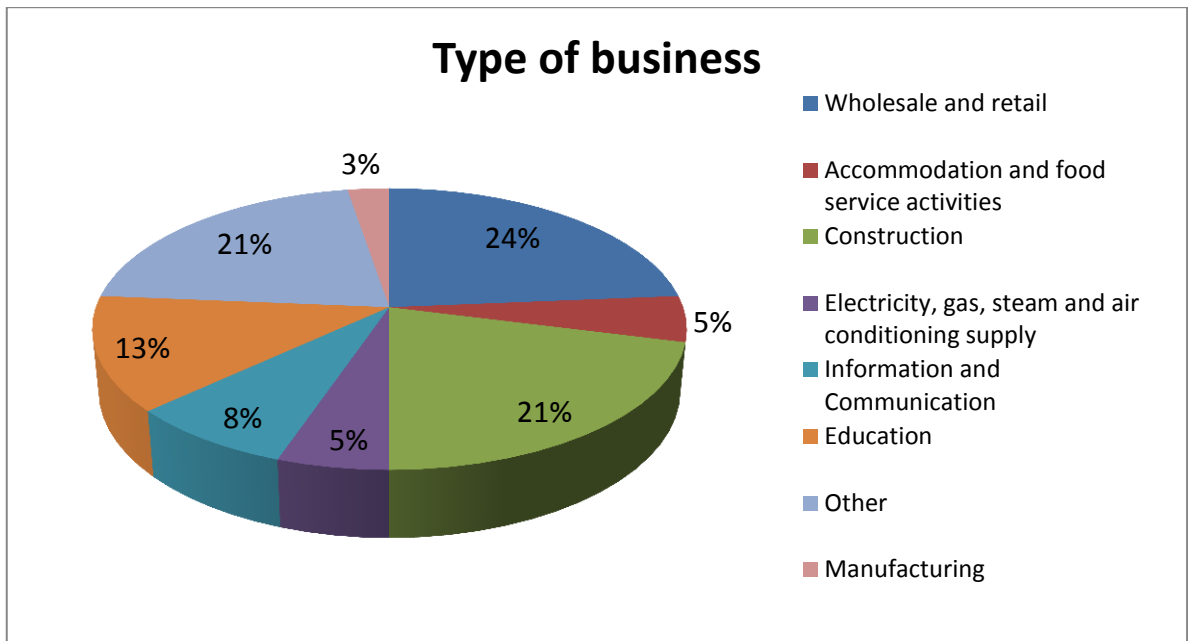
4.8.1 Statistical processing of the questionnaire

Respondents

There were 42 respondents of the questionnaire out of which 24 (57%) were natural persons and 18 (43%) legal persons.

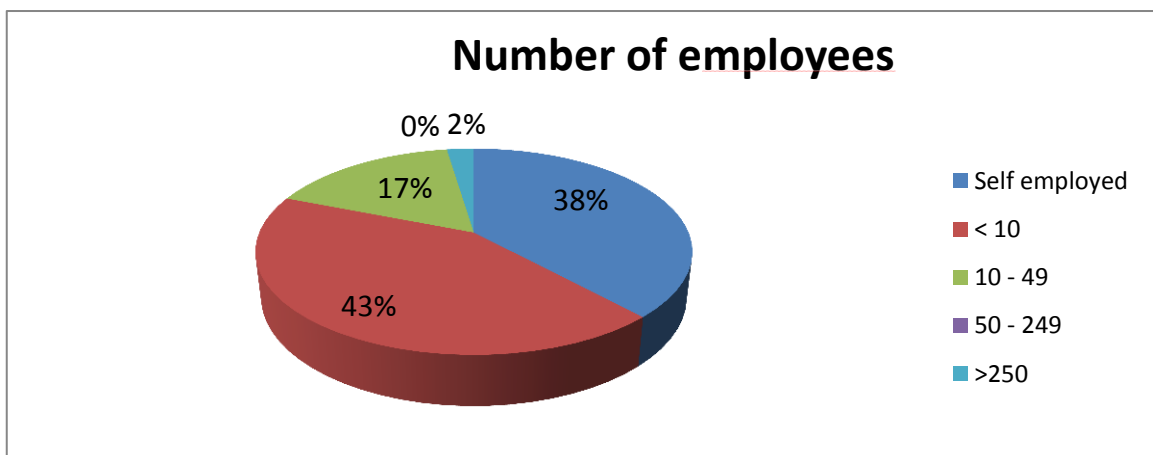
With respect to the type of business, majority of respondents are active in wholesale and retail (9 subjects, 24%), followed by construction (8 subjects, 21%), other (8 subjects 21%) and education (5 subjects, 13%).

⁵⁷ PRŮCHA, J.; WALTEROVÁ, E.; MAREŠ, J.: Pedagogický slovník. 3. Rozšířené a aktualizované vydání. Praha: Portál, 1995, 2001. ISBN 80-7178-579-2



Graph 3: Respondents according to their type of business⁵⁸

When we focus on number of employees, we can see that 43% of respondents have less than 10 employees, 38% are self-employed, 17% have 10 – 49 employees and two respondents have over 250 employees (these were excluded from the Chi – quadrat testing).



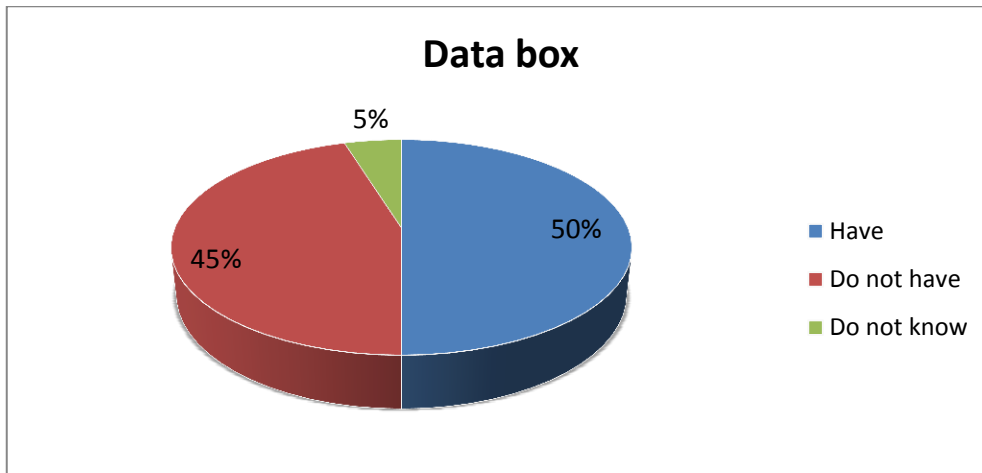
Graph 4: Businesses according to their number of employees⁵⁹

⁵⁸ Own processing based on the questionnaire results

⁵⁹ Own processing based on the questionnaire results

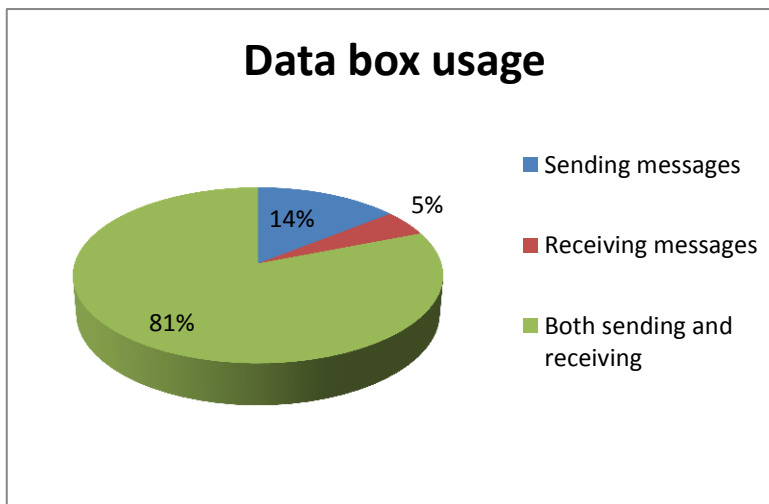
4.8.2 Data box ownership

When researching on data box ownership we can see that 50% of respondents own a data box (17 legal persons, 4 natural persons), 45% do not own data box and 5% of respondents do not know.



Graph 5: Respondent's data box ownership

In case respondents own the data box, they use it mainly both for sending and receiving messages (81%). Only 14% of them are only sending messages and 5% do not send any messages but receive passively only.



Graph 6: Data box usage⁶⁰

⁶⁰ Own processing based on the questionnaire results

Pearson's Chi-squared test

In order to find out possible dependency of data box communication on number of employees, we used **Pearson's chi-squared test**.

H₀: There is not any dependency between the number of employees in the company and data box usage for communication.

H₁: The number of employees influences the business's decision to communicate via data box.

For purposes of the Pearson's chi-squared test, we divided the sample of respondents into two groups: businesses with no employees (self-employed individuals) and businesses with employees (1 and more).

Tested table			Expected values		
	Data box	Other		Data box	Other
No employees	3	14	No employees	6,10	9,90
I have employees	14	12	I have employees	9,90	16,10

```
Pearson's Chi-squared test with Yates' continuity correction
data: table(zamestnancu2, komunikace2)
X-squared = 5.5337, df = 1, p-value = 0.01865
```

We observe from the control χ^2 that this relation is statistically significant (Pearson's $\chi^2 = 5,3337$, $p\text{-value} < 0.05$) and can say that companies with employees are more likely to communicate via data box than those without employees. This might be also related to the fact that communication of subjects with employees was supposed to be obligatory since 1st January 2014 but and businesses are already prepared for this duty.

As there is a 1,8% probability that H_0 would be valid ($p=0.01865$), we rejected H_0 and accept an alternative hypothesis H_1 .

I also tested the dependency of business type on data box usage, but as those businesses without employees are self-employed individuals, both tests would give us very similar results.

Advantages and disadvantages of data box communication

Almost 70 % of all respondents answered the open question on what are advantages and disadvantages of the data box communication.

Advantages:

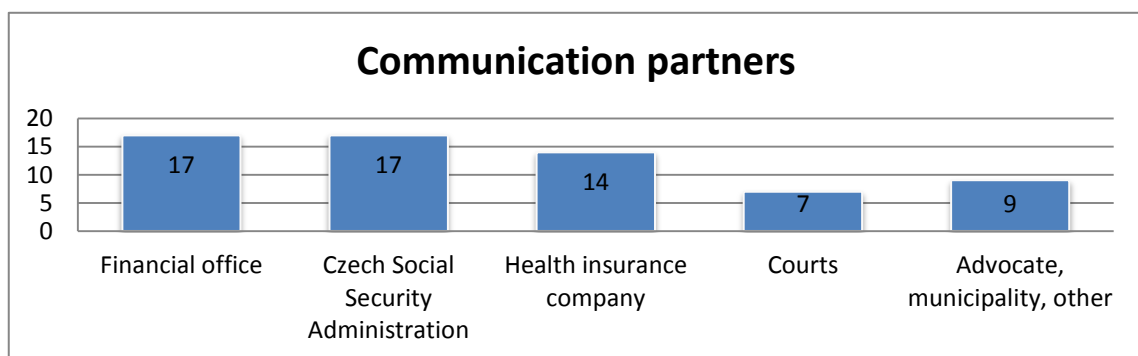
Among the main advantages of data boxes entrepreneurs frequently reported time savings, delivery speed and the fact that they communicate at any time of day or night, do not have to go personally to the authorities or the option to save the document to their own records in electronic form. Moreover, there is immediate information transmitted from a government organization, no need to wait for postal delivery, etc.

Disadvantages

The respondents' answers can be summarized as concerns about the functionality, reliability, and the fact that messages are deleted from the system after some time. Some respondents also claimed about the system complexity, e.g. uncomfortable login, need to change password after 90 days without previous email notice. Two respondents also point out the impossibility to "forward" messages.

Furthermore, businessmen see the risk of shortening delivery periods by state authorities when sending comments over the weekend, especially when the message is considered as delivered after 10 days – this might cause trouble especially in the holidays period.

In case that entrepreneurs and firms own a data box, they communicate mainly with Financial Office, Czech Social Security Administration and Health insurance companies. More detailed overview is shown in Graph 6 below.



Graph 7: Communication partners⁶¹

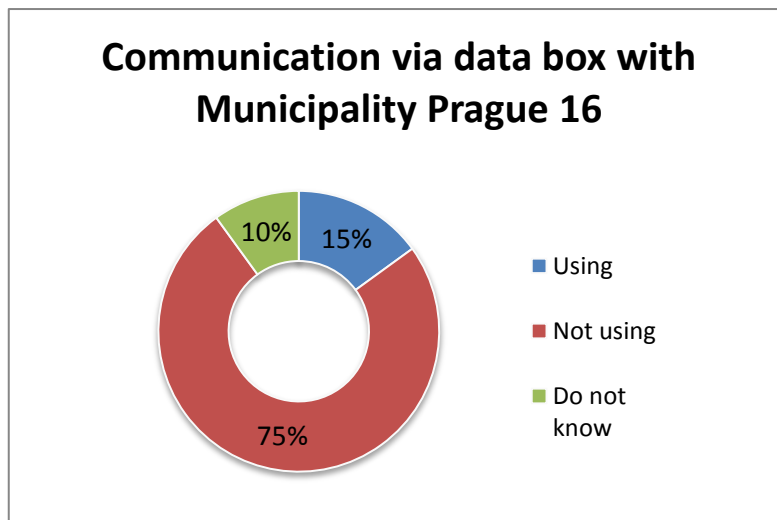
⁶¹ Own processing based on the questionnaire results

17 respondents communicate with Financial office and Czech Social Security Administration (communication for VAT payers is obligatory since January 2014). 14 respondents use actively the data box for communication with Health Insurance companies.

4.8.3 Communication with Municipality Prague 16

From 21 respondents owning a data box, only 3 of them are using data box for communication with the local Municipality Prague 16. As the main reason of not communicating via data box, respondents expressed that they communicate with specific officers either per email or phone or visit them personally in their office hours.

Some respondents also claimed that they prefer personal visit due the Municipality's long reaction time on the emails or they do not need to communicate with the Municipality at all.



Graph 8: Communication with Municipality Prague 16⁶²

One respondent accused Municipality of not willing to use electronic communication for communication with citizens at all, while Municipality rejected to send invoices for advertisement in local newspaper electronically. He claimed that municipality keeps on sending invoices in paper form per post even if he asked for sending these documents in electronic form.

⁶² Own processing based on the questionnaire results

Municipality argued that sending documents electronically to a single person would be technically too difficult.

4.8.4 Public procurements

The placing of public contracts and concession procedures is regulated in the Czech Republic by Act No 137/2006 on public procurement and Act No 139/2006 on concession agreements and concession procedures (the 'Concessions Act').

There are following types of public procurement, depending on what is to be supplied:

- a) Public contracts for supplies - the subject of which is the ordering of items,
- b) Public contracts for building work - the subject of which is the performance of building work or the construction of buildings,
- c) Public contracts for services covering any public contract which is not a public contract for supplies or a public contract for building work.

Depending on the expected value, public tenders are divided into:

- a) Above-threshold public contracts (expected value reaches the lower financial limit set by Government Regulation No 77/2008 pursuant to the European Commission communication),
- b) Below-threshold public contracts (the expected value is at least CZK 1,000,000 or, in the case of building work, CZK 6,000,000),
- c) Small-scale public contracts (the expected value is less than CZK 1,000,000 or CZK 3,000,000).

The Ministry of Regional Development is the public procurement information system administrator. The information system includes the Public Procurement Gazette, the List of Qualified Suppliers, the List of Certified Supplier Systems, the Register of Concession Agreements, Register of Persons Prohibited from Performing Public Contracts and Register of Persons Prohibited from Performing Concession Agreements.

The contracting authority's legal obligation to publish a notice is secured through the Public Procurement Gazette, operated by an established concessionary.

Also the Municipality Prague 16 is following the law and is publishing public procurements online on Public Procurement Gazette on <http://www.vestnikverejnychzakazek.cz/cs>. The screenshot from Public Procurement

Gazette is the Picture number 6. If we review all public procurements published on the Procurement Gazette website, we can find 17 records in total published since 2007. 13 of them were public contracts for building work, the remaining 4 public contracts for supplies.

Evidenční číslo formuláře	Název zadavatele:	Název zakázky	Druh	Datum uveřejnění	Typ	Související
7303010073318	Městská část Praha 16	Zametený Radotín, vyčištěný od zplodin	3	15.11.2013	Řádný	
7303010073325	Městská část Praha 16	Snížení imisní zátěže městské části Praha 16	3	15.11.2013	Řádný	
7303010071215	Městská část Praha 16	Zateplení bytových domů Sídliště č.p. 1061 - 1063	3	25.10.2013	Řádný	
7303010070708	Městská část Praha 16	Zateplení Zdravotnického zařízení Praha - Radotín	3	22.10.2013	Řádný	
7351010066824	MĚSTSKÁ ČÁST PRAHA 16	Zametený Radotín, vyčištěný od zplodin	51	16.09.2013	Řádný	
7353010050110	Městská část Praha 16	Profil zadavatele	53	03.05.2013	Řádný	

Picture 6: Screenshot from Public procurement Gazette⁶³

Municipality Prague 16 also publishes public procurements online on the municipality website <https://zakazky.praha16.eu>.

If we review all public procurements published since the year 2012 we can see that there were 12 public procurements published on the website, out of which 4 were cancelled afterwards. 4 public procurements were listed for construction work, the rest for supplies (machines for street cleaning).

⁶³ Screenshot from Public procurement Gazette. [online]. [cit. 2014-03-15]. Available from < <http://www.vestnikverejnychzakazek.cz/cs.>>

Přehled veřejných zakázek městské části Praha 16

Zadavatel: Městská část Praha 16 IČ: 00241598 Identifikátor profilu zadavatele: 352761
 Adresa: Václava Balého 23/3, 153 00 Praha – Radotín E-mail: Tel.: +420234128111

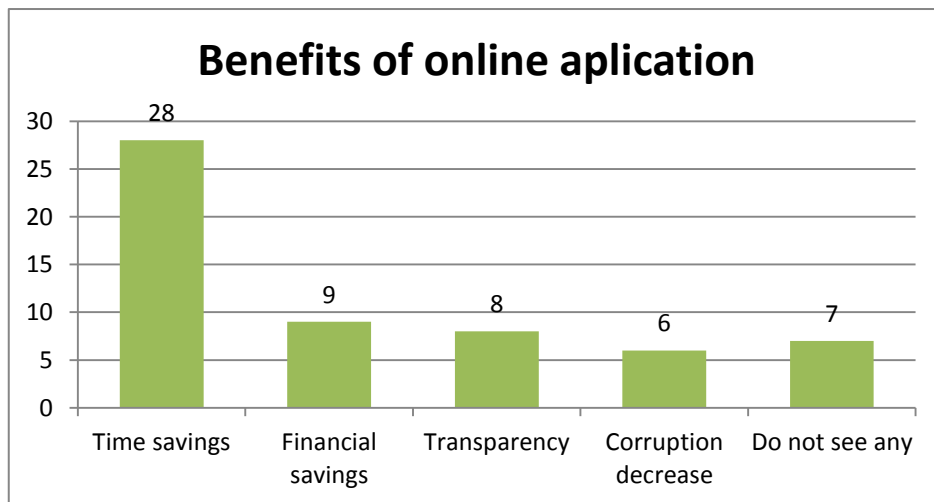
Typ zakázky: -- Nezáleží -- Druh zakázky: -- Nezáleží --
 Druh řízení: -- Nezáleží -- Fáze řízení: -- Nezáleží --
 Zadavatel: -- Nezáleží --
 Textový řetězec: **Vyhledat**

záznamů: 12

Rok	Název zakázky	Typ zakázky	Druh zakázky	Fáze řízení	Datum zadání zakázky	Smlouva	Poslední změna
2013	Vyčistíme účinné silnice v Radotíně	malého rozsahu	dodávky	ukončeno plnění smlouvy na základě veřejné zakázky	21.10.2013	Zobrazit	23.1.2014 7:51:23
2013	Zametený Radotín vyčištěný od zplodin II.	podlimitní	dodávky	ukončeno plnění smlouvy na základě veřejné zakázky	18.10.2013	Zobrazit	28.1.2014 9:37:17
2013	Vyčistíme účinné silnice v Radotíně	malého rozsahu	dodávky	zrušení zadávacího řízení			15.10.2013 7:45:48
2013	Zametený Radotín, vyčištěný od zplodin	podlimitní	dodávky	zrušení zadávacího řízení			9.12.2013 16:56:31
2013	Zateplení Zdravotnického zařízení Praha - Radotín II.	podlimitní	stavební práce	zadání zakázky	2.10.2013	Zobrazit	6.2.2014 13:38:09
2013	Zateplení Zdravotnického zařízení Praha - Radotín	podlimitní	stavební práce	zrušení zadávacího řízení			22.8.2013 10:22:33
2013	Rekonstrukce střechy radnice MČ Praha 16 (II)	malého rozsahu	stavební práce	ukončeno plnění smlouvy na základě veřejné zakázky	26.8.2013	Zobrazit	28.1.2014 8:51:07
2013	Snižování imisní zátěže Městské části Praha 16	podlimitní	dodávky	ukončeno plnění smlouvy na základě veřejné zakázky	2.9.2013	Zobrazit	28.1.2014 8:56:55
2013	Rekonstrukce střechy radnice MČ Praha 16	malého rozsahu	stavební práce	zrušení zadávacího řízení			12.6.2013 8:56:08

Picture 7: Screenshot from Municipality Public Procurement website⁶⁴

Applying for these procurements is currently possible by submitting the documentation in paper form. According to the questionnaire respondents, the main benefits of submitting applications electronically are as follows: time savings (48%), financial savings (16%), and transparency (14%). On the other hand 12% of respondents do not see any benefits.



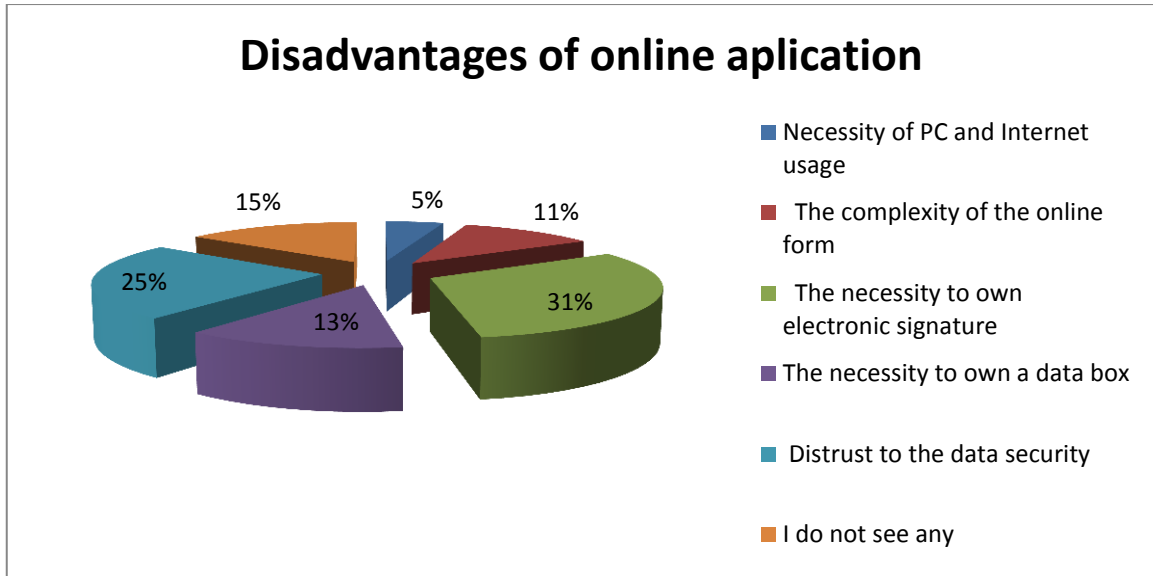
Picture 8: Benefits of online application⁶⁵

⁶⁴ Screenshot from Municipality Public Procurement website [online]. [cit. 2014-03-15]. Available from <<https://zakazky.praha16.eu>>

⁶⁵ Own processing based on the questionnaire results

One of the aims of this thesis is to figure out if respondents would consider being informed about the public procurements using data box electronically as benefit.

We are also interested in figuring out which factors might be considered as disadvantage if there would be an obligation to apply for public procurements via data box.

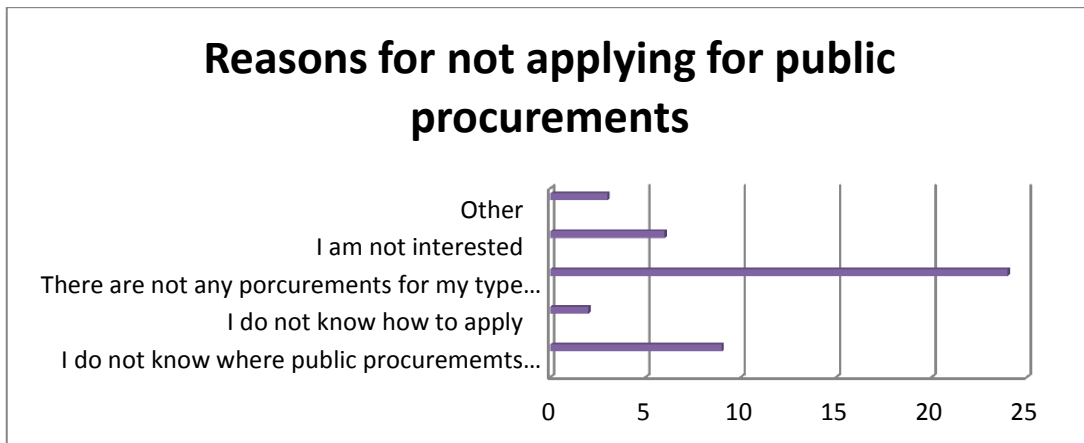


Graph 9: Disadvantages of online application⁶⁶

Majority of respondents (31%) stated that the biggest disadvantage would be the necessity to have an electronic signature. This aspect is followed by distrust to the data security- this would be an obstacle for 25% of respondents. On the other hand, 15% of respondents do not see any disadvantage in applying to public tenders online.

As 90% of respondents have never participated in any public procurements competition published by the Municipality Prague 16, we are interested in the reasons for the negative attitude. The graphics below shows that the main reason for not taking part is the fact that majority of openings does not fit in the respondent's field of business.

⁶⁶ Own processing based on the questionnaire results



Graph 10: Reasons for not applying for public procurements⁶⁷

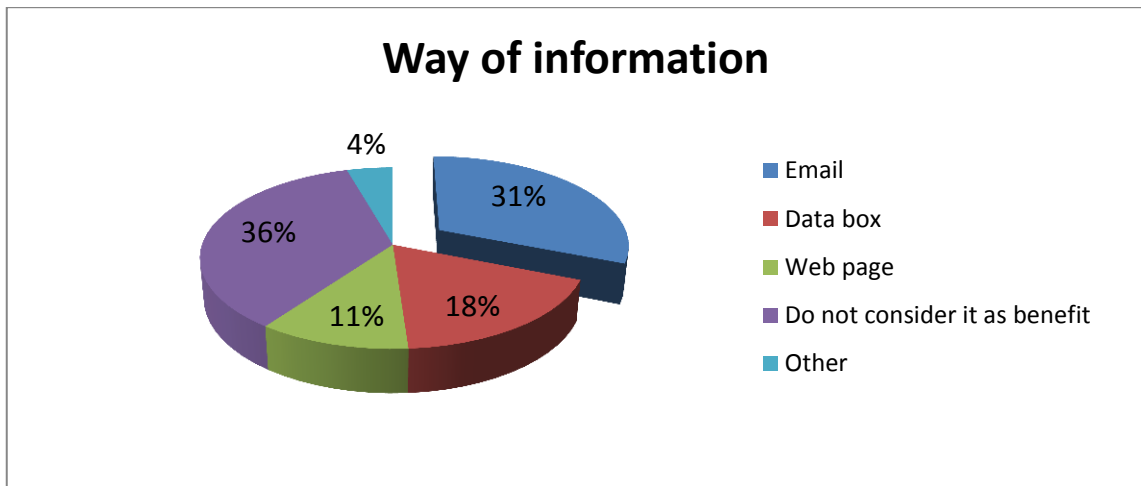
If we look on the data in more detail, we can see that only 8 (21%) respondents of the questionnaire run their business in construction works. This is also the reason why 55% percent of respondents replied that there is not any public procurement available for their business range. Moreover, 9% of respondents stated that they do not know where to find the information on public tenders and 14% are not interested.

Those who chose the option “Other” claimed that public procurements are corrupted and it does not have any sense to participate.

If we focus on businesses operating in construction, we can see that 6 of them own a data box. Three are using this data box actively for communication with authorities while 4 of them prefer to use email without electronic signature for communication with authorities and one respondent communicates via normal post.

If there would be an option to be informed electronically about current public procurements, 31% of respondents would prefer to be informed via email, 18% by data box and 11% of them consider current status as sufficient. Naturally, 36% of respondents do not consider it as benefit while there are no public procurements available for their type of businesses.

⁶⁷ Own processing based on the questionnaire results



Graph 11: Way of information⁶⁸

As the last aspect, we were interested in general knowledge about the development of electronic services and data box communication in the Czech Republic and wanted to figure out the awareness of the obligatory communication for employers with Czech Social Security Administration since 1st January 2015.

There are 28 (63%) respondents out of 42 who are aware of the obligation, the 14 of them are not informed. When we look at the structure of those who are unaware, we can see that 8 respondents are self-employed individuals and 6 respondents with employees (less than 10).

In order to find out possible dependency of the awareness about the necessity to communicate electronically with the Czech Social Security Association (CSSA) on number of employees, we used **Pearson´s chi-squared test**.

H₀: There is not any dependency between the awareness about the necessity to communicate with CSSA since 2015 and the number of employees in the company.

H₁: There is a dependancy between the awareness about the necessity to communicate electronically with CSSA since and the number of employees in the company.

⁶⁸ Own processing based on the questionnaire results

Tested table

	Are you aware of the obligation	
	Yes	No
Self-employed	8	8
I have employees	20	6

Expected values

	Yes	No
Self-employed	10,67	5,33
I have employees	17,33	8,67

Pearson's Chi-squared test with Yates' continuity correction

```
data: table(zamestnancu2, Dotaznik[,
10])
X-squared = 2.1328, df = 1, p-value = 0.1442
```

We observe from the control χ^2 that this relation is statistically insignificant (Pearson's $\chi^2 = 2,1328$, $p\text{-value} > 0.05$) and therefore we cannot say that the awareness about the obligation to communicate electronically with CSSA since 1st January 2015 could be related to the number of employees in the company.

Therefore we cannot reject H_0 , as we our data sample is not large enough to prove any dependency.

EU funds

Prague 16 completed an E -Government Praha 16 project , which was implemented from August 2012. The project focused on expanding and improving the quality of electronic communication with the public, including the acquisition of the necessary infrastructure. Citizens of Radotín may use many benefits and simplify their communication with the office.

There were Internet terminals installed in the office buildings where citizens can benefit from free access to the internet, connect to the service CzechPOINT and data boxes. All documents can be printed out. Visitors of the office can also now use the free Wi-Fi Internet connection.

The E -Government Praha 16 project was implemented under the Operational Programme Prague Competitiveness and was co-financed by the European Fund for Regional development.

5. Results and discussion

In this chapter conclusions and recommendations will be drawn based on the results of the questionnaire research.

In the first chapter of Analytical part we focused on electronic services offered on Municipality Prague 16 webpage. As there is wide range of services offered online, we can say that the electronic communication with citizens is on a very high level. Firstly, there is all information requested by the law published on the web:

1/ Mandatory information according to the ISVS Standard about disclosure of information (Act No. 106/1999 Coll.).

2/ Electronic office board according to § 26 paragraph 1 of Act No. 500/2004 Coll.

3/ Digital mailroom according to the Act No. 495/2004 and 496/2004 Coll.):

Besides updated calendar of events, important contact information, and photo gallery of events, there is an electronic newsletter available as well as the RSS feed. Municipality is also very active in the online forum and is responding to all questions posted to the official Facebook page. The number of fans of the official Facebook profile is increasing as well as the number of posts.

Moreover, there is a here is a CzechPOINT point office in Radotín since 2008 in two buildings, where over 1500 requests per year are processed.

The Municipality co-workers also actively participated on the ISSS conference in 2013 and are presented the information about the e-government implementation process IS Munis and data box usage. This also demonstrated the high level of electronic services in Radotín.

While processing the questionnaire results, we noticed that 50% of respondents own a data box and are using it mainly for both sending and receiving messages. Only 15% of respondents are using this data box for communication with the Municipality Prague 16, but majority of them are already using data box for communication with CSSA, Financial office and Health insurance companies.

Among the main advantages of data boxes entrepreneurs frequently reported time savings, delivery speed and the fact that they communicate at any time of day or night, do not have

go personally to the authorities or the option to save the document to your own records in electronic form.

The main concerns are about the functionality, reliability, and the fact that messages are deleted from the system after some time. Some respondents also claimed about the system complexity, e.g. uncomfortable login, need to change password after 90 days without previous email notice.

The second part of the questionnaire was focused on the interest in public tenders offered by the Municipality Prague 16. We wanted to figure out if there would be an interest to be informed about public tenders electronically. Majority (33%) of respondents would prefer to be informed per email. But on the other hand 55% of respondents are not interested in public procurements at all while there is not any procurement available for respondent's type of business.

We were also interested in statistical relationship between the variables, so we performed two Chi-squared tests. First test proved the statistical dependency between the number of employees and the communication via data box – companies with employees are more likely to communicate via data box than those without employees. This test was tested at 0,05 significance, whereas the $p= 0.01865$.

Second Chi-squared test did not prove any dependency between the number of employees and the awareness about the obligation to communicate electronically with the Czech Social Security Association since January 2015.

This test was also tested at 0,05 significance, whereas the $p= 0.1442$ and therefore we cannot say that the awareness about the obligation to communicate electronically with CSSA since 1st January 2015 could be related to the number of employees in the company. As we our data sample is not large enough to prove any dependency.

Recommendations for possible services to be offered

- Appointment form

An internet based system which would enable to schedule online appointments with officers. This would avoid the need to contact an officer on the phone or wait in the queue.

The service for online appointments could be used for any administrative act, e.g. replacement of the driving license, international driving license issue, a statement from the ID card or just for visiting particular department.

- Interactive map

An interactive online map of Municipality Prague 16, showing all shops, public services (medical care, police), businesses and services including the contact information.

- Payments online

Municipality does not offer the payments for dog registration online. One has possibility to download the online form but needs to pay either in the office or postal order at the moment.

- Municipality budget online

Could be an important tool in the context of anti-corruption strategy of the Municipality to track a particular item, what is the Municipality intends to spend the in a given year. This would allow easily identify individual items of revenue and expenditure, not only to individual articles, as required by law, but also on individual items, which is above the statutory standards.

The application would allow showing detailed budget information for individual departments Municipality, as well as for public organizations (schools from across the social constitution to city police).

- Public procurement portal

There could be a new feature implemented in the Public procurement portal of the Municipality Prague 16, which would work on the similar principle as newsletter. Businesses could register on the website and every time a new procurement is published, they would be either notified per email or via data box.

Moreover, additional information about how to apply for procurement should be added to the website.

- Social networks

Municipality could consider establishing a Twitter profile, as this network is becoming more and more popular.

- Council meetings online

Streaming of the council meetings online could involve more citizens into the political life in the Municipality and inform them about the daily issues. Recordings would be stored on the website so everyone could watch them if needed.

6. Conclusion

The main goal of the thesis was to investigate how the Municipality Prague 16 is using modern information technologies in the provision of government services and in the communication with public.

There is an introduction into the field of e-government and electronic services provided the first part of this thesis, including the respective legislative. The main focus is given on the current state of e-government in the Czech Republic, specifically on Czech POINT, base registers of public administration as well as data boxes. Furthermore, possible electronic services to be offered on the webpage are mentioned including their specifics and benefits.

Partial goals of this thesis were to characterize current state of e-government in the Municipality Prague 16, identify problems and design possible improvements of electronic services.

All these goals were reached in the practical part of this thesis.

Firstly, the electronic services offered on the municipality webpage were identified. We can say that based on the amount of electronic services offered for citizens and the fact that the Municipality Prague reached 2nd place in the Golden Crest (Zlatý erb) competition, we can say that electronic services are on a high level. Municipality's webpage meets all legislative requirements e.g. on obligatory information disclosure as well as offers additional services for citizens like online reservation system for cinema tickets, discussion forum, updated calendar of events or is active on the official Facebook profile. The official Facebook profile has over 1900 fans and this number is increasing.

In order to meet the second partial goal, a questionnaire was distributed among the businesses in the Municipality Prague 16 to find the data box usage and possible area for improvement. There were 42 respondents of the questionnaire out of which 24 (57%) were natural persons and 18 (43%) legal persons.

With respect to the type of business, majority of respondents are active in wholesale and retail (9 subjects, 24%), followed by construction (8 subjects, 21%), other (8 subjects 21%) and education (5 subjects, 13%). When researching on data box ownership we can see that 50% of respondents own a data box (17 legal persons, 4 natural persons), 45% do not own data box and 5% of respondents do not know.

17 respondents communicate with Financial office and Czech Social Security Administration (communication for VAT payers is obligatory since January 2014). 14 respondents use actively the data box for communication with Health Insurance companies.

From 21 respondents owning a data box, only 3 of them are using data box for communication with the local Municipality Prague 16. As the main reason of not communicating via data box, respondents expressed that they communicate with specific officers either per email or phone or visit them personally in their office hours.

90% of respondents have never participated in any public procurements competition published by the Municipality Prague 16 due to the fact that there are not any public procurements published for their type of business.

If there would be an option to be informed electronically about current public procurements, 31% of respondents would prefer to be informed via email, 18% by data box and 11% of them consider current status as sufficient. Naturally, 36% of respondents do not consider it as benefit while there are no public procurements available for their type of businesses.

In order to find out possible dependency of data box communication on number of employees, we used **Pearson's chi-squared test**. This relation is statistically significant (Pearson's $\chi^2 = 5,3337$, $p\text{-value} < 0.05$) and can say that companies with employees are more likely to communicate via data box than those without employees.

This test was also performed in order to find out possible dependency of the awareness about the necessity to communicate electronically with the Czech Social Security Association (CSSA) on number of employees. As we our data sample is not large enough to prove any dependancy - relation is statistically insignificant (Pearson's $\chi^2 = 2,1328$, $p\text{-value} > 0.05$).

As the overall response rate to the questionnaire is 32,7% which reduces its statistical power.

Based on author's own knowledge and questionnaire results following improvements were proposed (introducing new electronic services such as appointment form, Twitter profile, possibility to pay for services online or more information to be added to the Public procurement portal).

Further research could be focused on financial analysis of data box system implementation in the Municipality Prague 16 in order to figure out what were the costs for the system implementation and what are the savings. By promoting the electronic communication on the municipality webpage these savings could be possibly increased and the public awareness about the electronic communication would grow.

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8. Appendix

Questionnaire for diploma thesis „Electronic services in the Municipality Prague 16“

The research in this thesis is focused on the usage of data boxes by corporations and entrepreneurs for electronic communication with the Municipality Prague 16 and explores the potential use of data boxes in public tenders. This questionnaire is anonymous and will be used for the purposes of the thesis only.

Thank you for your time in advance.

1) What type of legal entity are you?

- a) Natural person
- b) Legal person

2) How many employees do you have?

- a) I am a self employed individual without employees
- b) Less than 10
- c) 10 – 49
- d) 50 – 249
- e) More than 250

3) Type of business:

- a) Arts, entertainment and recreation
- b) Construction
- c) Accommodation and food service activities
- d) Wholesale and retail trade; repair of motor vehicles and motorcycles
- e) Transportation and storage
- f) Electricity, gas, steam and air conditioning supply
- g) Information and Communication
- h) Financial and insurance activities
- i) Real estate activities
- j) Professional, scientific and technical activities
- k) Water supply; sewerage, waste management and remediation activities

- l) Administrative and support service activities
- m) Public administration and defence; compulsory social security
- n) Education
- o) Human health and social work activities
- p) Mining and quarrying
- q) Manufacturing
- r) Agriculture, forestry and fishing
- s) Other

4) For communication with public administration bodies I use mainly:

- a) Email without electronic signature
- b) Email with advanced electronic signature
- c) Data box
- d) Classic mail
- e) Other, please specify:.....

5) Do you own a data box?

- a) Yes
- b) No *
- c) I do not know*

** the questionnaire splits into two parts here. Please go to the question number 9.*

6) I use the data box for

- a) Sending messages
- b) Receiving messages
- c) Both sending and receiving

7) Which public administrative bodies do you communicate with (please select all applicable):

- a) Czech Social Security Administration
- b) Financial office
- c) Health insurance company
- d) Municipalities
- e) Advocate
- f) Courts
- g) Other, please specify:.....

8) Do you use the data box for communication with the Municipality Prague 16?

- a) Yes
- b) No – please specify, why?
- c) I do not know

9) Are you aware of the obligation for the employers to communicate electronically since January 1st 2015?

- a) Yes
- b) No

10) Do you participate in the public tenders published by the Municipality Prague 16?

- a) Yes
- b) No

If you do not participate in the tenders, please specify, why:

- I do not know where to find them and where to find more information
- I do not know how to participate
- There are no tenders for my business
- I am not interested in public tenders
- Other, please specify:.....

11) Would you appreciate if the public tenders would be published:

- a) By email
- b) By data box
- c) On the website of Municipality Prague 16
- d) I do not consider it as a benefit
- e) Other, please specify:.....

12) What are the advantages of communicating via data box?

13) Are there any disadvantages?

14) If you have already participated in the tender, did you send the application form and documentation electronically?

- a) Yes
- b) No
- c) I do not know

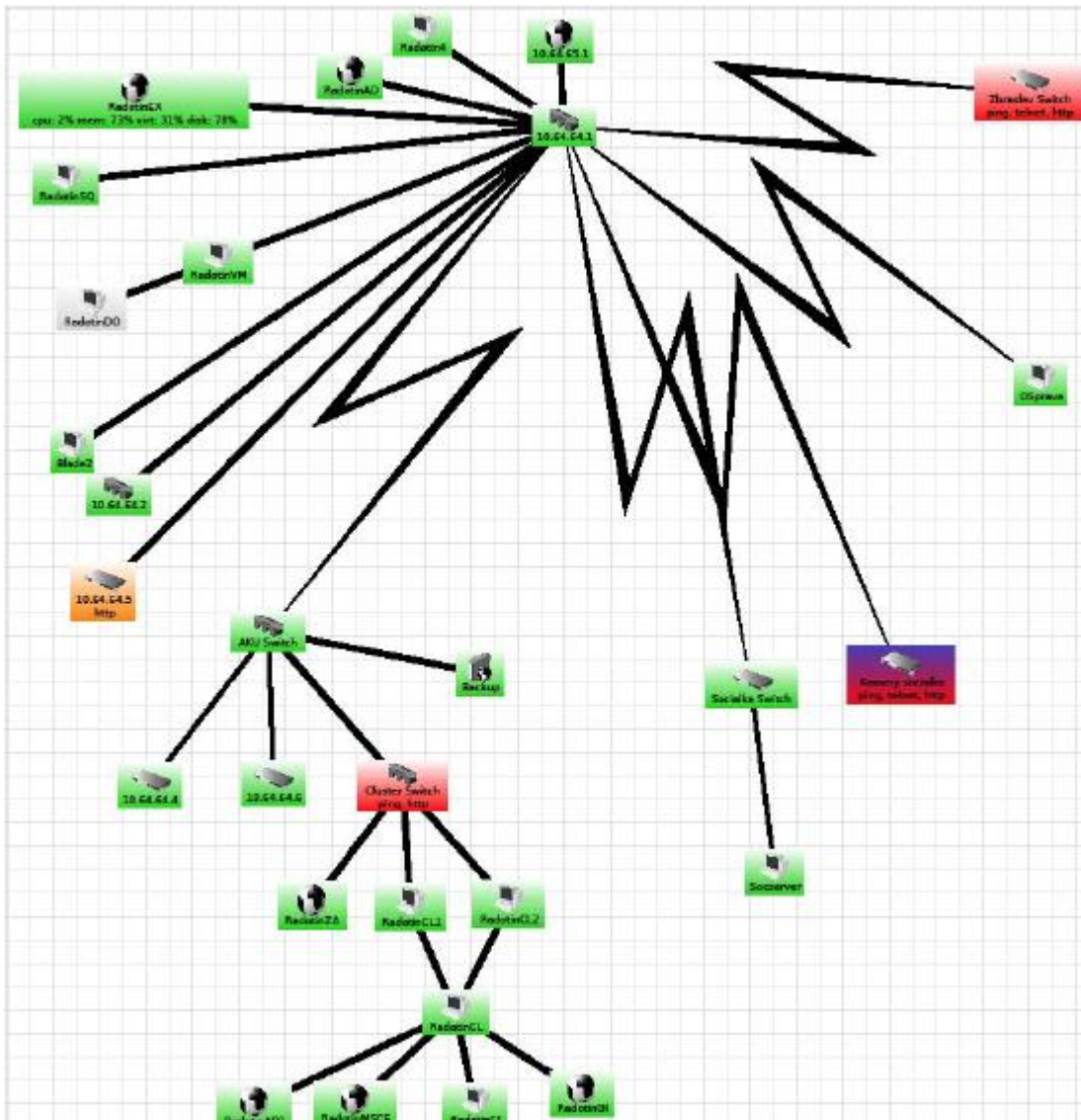
15) What benefits do you generally see in electronic submission of applications for public tenders?

- a) Time savings
- b) Financial savings
- c) Transparency of the selection process
- d) Corruption decrease
- e) Other, please specify:.....

16) What disadvantages do you see generally in el. submission of applications for public tenders:

- a) Necessity of PC and Internet usage
- b) The complexity of the online form
- c) The necessity to own electronic signature
- d) The necessity to own a data box
- e) Other, please specify:.....

Network structure



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