Utilisation of Data Mailboxes by Individuals in the Conditions of the Czech Republic

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Abstract:
Purpose of the article: Information and communication technology (ICT) is becoming an integral part of other products and services, thereby increasing their added value and making processes and services provided to the population and to economic entities more effective.

In the contemporary environment of the information society, attention is focused on the development of the global information environment and the development of e-Government is its necessary part. Utilization of data boxes by individuals could help improve the quality of living in the economic, ecologic and informatics aspects.

Scientific aim: The paper aims to analyze the utilization of data boxes by individuals in the area of Czech Republic’s e-Government and to identify key factors for its development. The use of data boxes by individuals on voluntary base is relatively weak in the conditions of Czech Republic in comparison to other countries where the stimulation for the use of data boxes is more effective and not only on legal base.

Methodology/methods: The economic theory and especially e-Government theory form the bases of the paper and through analyses and synthesis and with analysis using statistics methods the current state is identified. Subsequently, based on the author’s survey, the barriers and limitations for development are formulated.

Findings: The conclusions of the analyses presented in the paper show, however, that the state of preparedness of e-Government support and the mentality of the population must be taken in to consideration to ensure continual development and improvement of global information society.

Conclusions: On this base, authors select recommendations for improvement of development of this area via strengthening the utilization of data boxes by individuals.

Keywords: e-Government, data boxes, statistical analysis, global information society

1. Introduction

The main aim in the direction of e-Government development is optimisation of conditions for development of international integration of e-Government services provided to citizens and companies regardless their country of origin. This is necessarily connected with the development of an environment supporting interoperability of the systems and key elements such as electronic signature or electronic identification. The purpose is assurance of accessibility across the EU, support for unified digital market, extension of existing legislation and focus on particular areas: electronic identification, electronic tendering, eJustice, eHealth etc. As for the implementation itself, no particular instructions have been given but the
minimum target status to be achieved is defined. (European Commission, 2013) The targeted year being 2015, when increased use of electronic public administration services is assumed – in particular achievement of use of electronic administration services by 50% of citizens. (European Commission, 2013)

With expectations high, the effects of e-government have been studied at various levels of government, with some mixed findings (Lee, Perry, 2002; Moon, 2002; Norris, Moon, 2005; Scott, 2006). Some report positive outcomes associated with e-government adoption, such as improvements in the efficiency, availability, and accessibility of public services and the provision of information to Citizen (Ke, Wei, 2004; Lee, 2008; Lee, Tan, Trimi, 2005), while others express disappointment in reaching the promise of transforming government service delivery and improving public trust in government (West, 2004). Case study (Ahn, 2011) reports an innovative e-government experiment by a local government in Seoul.

Studies undertaken on the degree of digitization of public institutions providing online public services revealed that there is considerable heterogeneity between different EU countries (Caldas et al., 2005; Capgemini, 2007). Also, significant differences have been identified at the level of regions within the same country. In other words, not all institutions have the same degree of implementation of e-government, even if we speak of the same country.

The e-Government in the Czech Republic (CR) currently offers a relatively large number of services available for its citizens to use. They are both information services and services enabling direct electronic communication with public administrative authorities.

According to the Ministry of the Interior of the Czech Republic the main aim of e-Government is assurance of mutual interconnections of services for the particular individual not to have to run from one office to another with the same document, which also respects strategic objectives of EU. (Ministerstvo vnitra ČR, 2010; Havlíček, 2012).

This objective also complied with the actual concept of e-Government, which may be understood according to Lidinský, Švarcová, Budiš et al. (2008) as utilisation of information technologies by public institutions for assurance of information exchange with citizens, private companies and other public institutions for the purpose of increased effectiveness of internal function and provision of quick, accessible and quality information services.

The currently most frequently discussed issues include why some of the offered eGovernment services are less popular then others among individuals, whether the offered eGovernment services are sufficiently attractive for private individuals and whether individuals are interested in using the offered services or whether they already actively use them. It is necessary to identify causes that might lead to reduced or completely lost interest of private individuals in using eGovernment services.

The focus of this article is on utilization of selected e-Government services – mainly the Data Mailboxes – by citizens of Czech Republic.

2. Basic facts about Data Mailboxes in Czech Republic

Data mailbox service is optional for individuals. Private individuals can have the service installed at their own request (Česká pošta, 2015).
A data box can be set up in 3 ways: By a written (paper) application with a notarized signature sent to the Ministry of Interior of the Czech Republic; By submitting a completed application form provided with an authenticated electronic signature to the address of the mailroom of the Ministry of Interior of the Czech Republic; In person via CzechPOINT, where the identity of the applicant is directly verified on the spot (Česká pošta, 2015).

It is possible to have the login details blocked, if lost or forgotten, and apply for new ones. If this is done more than once in three years, a fee of CZK 200 will apply (Česká pošta, 2015).

Received messages are stored in the system for 90 days only. It is possible, for an additional fee of CZK 720Kč per year, to request a data safe for 100 messages (Česká pošta, 2015).

Data messages are deemed delivered (fictional delivery) no later than 10 days from the moment they arrive in your data mailbox (Česká pošta, 2015).

The number of data mailboxes set up by individuals at their own request amount to, according to the Ministry of Interior, approximately 7% of all active data mailboxes, which is about 45,000. If we take into consideration that there are 7.5 million people over 18 and 3 million pensioners in our country, it shows that approximately 10% of the economically active population of the Czech Republic has a data mailbox for private individuals (Ministerstvo vnitra ČR, 2014).

3. **Significant Facts from Other Authors' Surveys**

According to the survey results obtained by Moravcová (2014), approximately three quarters of respondents are familiar with Czechpoint services, city, town and municipality websites, and data mailbox services. More than half of the respondents are aware of public registers. One third of respondents are acquainted with the Public Administration Portal and basic registers. Only one-seventh of respondents have heard about Uniform Traffic Information System, electronic identity cards, or electronic prescriptions from doctors. Almost a tenth of respondents have not heard of any of these services.

According to Moravcová’s survey (2014), 30% of respondents have already used data mailbox services. More than half of them were satisfied with the service. 5% of them were unable to provide an opinion, and the rest was rather unsatisfied or unsatisfied. Half of the respondents do not make use of the possibility to communicate electronically with public authorities. 20% of respondents communicate once per year, 13% twice per year, 4% once per quarter and once per month and 6% of respondents communicate more frequently with public authorities.

Half of the respondents would welcome the possibility to cast their votes electronically at home, appreciate a better presentation of eGovernment on social networks and greater integration of eGovernment services to a single portal. The same number of respondents is also not happy with the fact that the messages in the data mailbox are deleted after 90 days. 80% of respondents would welcome electronic application forms when applying for personal documents, complying with the notification duty, and applying for building permits. An interesting finding was also the fact that only a third of the survey respondents would like to make some changes or improvements in the eGovernment services.
According to Kopecký’s survey (2013), 90% of respondents have heard of data mailboxes, but only a quarter of them belong among their active users, while only 15% have activated their own data mailboxes. Others use data mailboxes at work. 80% of respondents who have not set it up do not even consider setting it up. The reason for setting up a data mailbox for 75% of respondents was the fact that the delivery of documents is guaranteed. Half of the respondents appreciate financial savings when sending a document, and 40% have set it up because they like to try technical innovations. 90% of respondents using data mailboxes deem it useful. Three quarters of respondents access the data mailbox via its web interface.

According to Svoboda’s survey (2012), 75% of respondents communicate with the authorities more than 5 times per year. 15% communicate 2-4 times per year. 70% of respondents have set up a data mailbox, 25% have not, and have not even considered setting it up, and 7% have not set it up yet but are considering setting it up. Less than one hour was sufficient for half of the respondents to become familiar with the operation of a data mailbox. Identically 25% of respondents needed 1-3 hours or more than 3 hours to become familiar with its operation. 73% of respondents log in to the data mailbox only if they receive a notification that a message has arrived. 17% log in almost daily and approximately 10% at least every 10 days. 37% of respondents print the received message, 27% print it only if they consider it important, and 23% store it on the computer’s disk drive or other medium. 7% of respondents always use the Czechpoint system to convert the messages into paper form, 30% of respondents use Czechpoint only if they consider the message important, and 50% of respondents believe that it is sufficient to print the message by their own means if proof is needed. 90% of respondents keeping a data mailbox did not need to buy any other technical equipment to be able to use it. More than half of respondents believe that the implementation of data mailboxes resulted in savings both in their money and time. 85% of users consider the login security features of the data mailbox using username and password sufficient. 80% of users do not use any additional security features to access the data mailbox.

According to Žváčková’s survey (2014), about one-third of respondents communicate with the public administration several times a year, or several times a month. 14% of respondents communicate daily or weekly with the public authorities. Approximately 20% of respondents use the data mailbox, Czechpoint and web interface. 45% communicate by Email with the public authorities, and 40% of respondents communicate on paper. 50% of respondents use telephone communication and 90% use personal communication. 60% of respondents would prefer to communicate electronically, if they could choose. Ideally, 80% would prefer to communicate by email; we assume that because it is customary for them. 70% of respondents, however, prefer paper documents and only 30% prefer electronic form. 50% of respondents were satisfied when communicating electronically with the public authorities. 85% of respondents are familiar with the data mailbox service. 73% of respondents have not set up a data mailbox. 80% of them believe that they do not need it, 15% do not want it, and 5% even do not know that they can have it. Only 3% of respondents have a data mailbox for private individuals.

The reasons provided by the respondents for which they did not set up a data mailbox included the following: lack of trust in electronic communication; fear of fees for the conversion of documents from electronic to paper form; fear of fictional delivery; fear of
additional costs for the acquisition of ICT facilities; not having sufficient computer skills; fear of not being able to work with the data mailbox; impossibility of cancellation; I am usually notified about a registered letter, but what if I learn about a message in the data mailbox too late or not at all; messages are deleted after 90 days. 65% of respondents having a data mailbox access it from the web interface. 60% of respondents having a data mailbox believe that it facilitates communication with the public administration. 30% of respondents do not trust the security of data mailboxes including protection of personal data. 50% of respondents think that awareness of e-government and electronic communication is insufficient. 40% of respondents cannot say, and only 10% believe that it is sufficient.

According to Havlová’s survey (2010), 75% of respondents use data mailboxes, while only 10% use them as individuals in their private life. 75% of respondents using data mailboxes prefer delivery through data mailboxes, 20% via standard mail, and 5% other ways. 82% of users claim that it is more convenient for them and facilitates their lives. 66% of respondents having data mailboxes believe that communication has been accelerated thanks to their use. More than half of the users see savings in both time and money.

4. Level of Awareness on eGovernment Services in the Czech Republic (Own survey)

The present survey aimed at finding out the level of awareness on eGovernment services in the Czech Republic among private individuals with special focus on those services of eGovernment providing a worthwhile option for communication of private individuals with public administrative authorities.

The survey itself was carried out by the authors of the present article by means of Internet, which eliminated individuals unable to use internet on a level sufficient for active communication with public administrative authorities from the survey output.

The survey consisted of 19 questions answered by the respondents either by selection of an answer from the offered list of options in the case of multiple-choice questions or by their own short composed answer in the case of open questions.

More than 92% of the respondents were older than 20 and younger than 60. Nearly 66% of all respondents were in the 20 - 40 age group, i.e. the active group assumed to be most motivated to use eGovernment services.

4.1 Interesting results about Data Mailboxes

Interesting fact of the survey is that in comparison to the current status the future trend is heading towards electronic communication with public authorities for nearly three quarters of the respondents were prepared to begin to communicate electronically in future.

92% of the respondents believed they knew what electronic signature meant. The certificate for electronic signing was only owned by 15% of the respondents and only 11% owned the certificate for certified electronic signature (required for proper electronic communication with authorities - if you do not possess/do not want to possess a data box).
82% of the respondents knew what data box was. A data box, the other option allowing for electronic communication with authorities apart from electronic signature, had only been established by less than one quarter of the respondents, out of whom nearly 43% used it for active communication with authorities.

The main reasons why three quarters of the respondents had not established a data box are shown in the following Figure 1.

![Figure 1](image.png)

**Figure 1 What is the main reason why you have not established a data box for yourself? Source: Own processing, 2014**

75% of the respondents believed they did not need a data box, were afraid of it or did not have a slightest idea about what to expect from this service or what to imagine it to be. 18% of the respondents believed the service was not safe or was unnecessarily complicated. The remaining respondents did not use this service for they believed it to be expensive or were not citizens of the country.

Another interesting finding was that 43% of the respondents believed that establishment and use of a data box by private citizens for communication with public and state administrative authorities was charged.

5. **Identified Barriers in Use of Data Mailboxes by Private Individuals**

5.1 **Barriers Related to the Setup**

In connection with setting up data mailboxes it can be said that there are no barriers causing that private individuals do not actually use data mailboxes to such an extent as they might do.

When using a data mailbox, it is necessary to change the password every 90 days, unless otherwise specified by the user.

5.2 **Barriers Related to the Usage**

If a private individual forgets or loses their password and username to access the data mailbox more than once in every three years, a fee of CZK 200 is charged for the
generation of new data. People often mention in the surveys that this fee is charged for each change resulting from forgotten sign-in details.

There is no need to make frequent changes of the password, and the password must be complex. Indeed, a regular change of the password to the data mailbox is recommended, in particular if the user logs in using only their username and password. If the login is made in combination with another security feature such as a mobile authentication token, SMS or certificate, it is not necessary to regularly change the password at 90-day intervals. It is sufficient to make changes in similar time intervals as users are accustomed to make with other commonly used services (e.g. Internet banking). Using the login token is probably the easiest option for private individuals, and it is offered for free; however, its use may be a little bit complicated for some people. In this area, the authors of the paper see the opportunity for improved accessibility and removal of barriers through the introduction of a free SMS login system for private individuals. We believe that the above solution would not even be too costly for the system provider, should a lump sum be agreed in a tender with a mobile operator for the services provided. Another option could be logging in using electronic identity cards. For a massive expansion of this approach it would be necessary to ensure better communication and cooperation between government agencies and large commercial entities (banks, insurance companies, …).

Another problem that is mentioned by the respondents is the limited time for which data messages are stored in the system (90 days). Though it is possible to expand the storage capacity, or have the data message converted, both services have to be paid for by the data mailbox user. In this regard, the authors of the paper consider the setting of the system very unfortunate for private individuals. We believe that it would be worth considering providing similar comfort to private individuals in this form of communication as in paper form and give them a data safe with a maximum capacity of 200 messages in the default setup package, while requiring the user to confirm the request for storing the message in the data safe. We do not believe that, if the conditions are set as mentioned, the number of messages from private individuals in the system would reach the maximum capacity, and people could be sure that they will not lose their important messages as well as in paper form.

Survey respondents often claim that the use of data mailboxes is disadvantageous for them. They argue that they can be served with a document without their knowing of it or without knowing of its contents (fictional delivery). In this context, it would be appropriate to make a comparison with the paper form of communication. If documents in paper form are served, the recipients not only may not be notified about a document being served (e.g. if there are problems with mail delivery, whether of family or other nature), but they will certainly not learn anything about the contents of the document before its receipt. Here, on the contrary, we consider it a convenient option that individuals can be informed about an incoming message to the data mailbox via notification to their current email address, and free of charge. Another area for improvement of the system could be the introduction of an advisory SMS message for free, which would make its use easier for the individuals.

6. How to get people to use data mailboxes:

Setting the legislative environment. Based on the results of the above-mentioned surveys, it would not be optimal to urge wide-ranging use of data mailboxes for all
individuals; this measure would disadvantage seniors and underprivileged citizens, who do not have adequate ICT facilities. But the use of data mailboxes could be set as required by law for e.g. citizens under 60 years of age, and citizens whose permanent residence is not located at the municipal registration office.

Keeping the existing voluntary approach. We would recommend supporting this approach by a continuous information campaign sustained by commercial entities and the associated complexity of services offered to citizens. In collaboration with commercial entities with which people routinely communicate, such as banks, mobile operators, or insurance companies, it would be possible to facilitate communication for the users using data mailboxes, and thus convince them of the advantages of this service. This approach would be most likely time consuming and financially far more challenging for the authorities than the first option mentioned. But it is not so violent for the people.

An across-the-board introduction of electronic ID cards, their linkage to the operation of data mailboxes of private individuals and their subsequent wide-spread use in communication with commercial entities could be the first step towards massive expansion of electronic communication between citizens and public administration.

7. Conclusion

Communication by means of a data box is one of the options of electronic communication with authorities of the Czech Republic. Data box is established for private individuals on their request and its establishment and use for communication with public administrative authorities are free of charge.

We believe that nearly 75% of the reasons mentioned by the respondents as the reasons why they do not use data box for communication with authorities might be effectively eliminated by targeted promotion of this service among citizens. The results of the survey allow for the assumption that opinions of the respondents were significantly influenced by myths or incomplete information about this issue. The inaccurate information in effect causes the common belief that establishment and use of the means needed for electronic communication with public administration is inconvenient or unnecessarily costly and may bring more problems than benefits in the end.

On the other side there could be done steps for improving efficiency of utilisation of Data Mailboxes. We identified three main area for improvement.

First area is setting the legislative environment that could significantly support the use of Data Mailboxes by individuals.

Second area is support of information campaign and propagation of Data Mailboxes that could significantly eliminate the problems mentioned above.

Third area is further development of e-Government via new and especially complex services like the ID cards with linkage not only to Data Boxes but also to other systems.

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