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EFFICIENCY ANALYSIS OF ELECTRONIC CHANNELS USE TO COMMUNICATE BETWEEN ENTERPRISES AND ADMINISTRATION

The paper presents the study results on the electronic channels used in communication between enterprises and administration. Studies have shown that small and medium-sized enterprises actively use a large number of services provided by the e-government. The problems with their use have also been identified.

Keywords: *e-government, electronic channels, efficiency of use.*

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АНАЛІЗ ЕФЕКТИВНОСТІ ВИКОРИСТАННЯ ЕЛЕКТРОННИХ КАНАЛІВ ДЛЯ ЗВ'ЯЗКУ МІЖ ПІДПРИЄМСТВАМИ ТА АДМІНІСТРАЦІЄЮ

У статті представлено результати дослідження ефективності використання електронних каналов для зв'язку між підприємствами та адміністрацією. Дослідження показали, що малі та середні підприємства активно використовують велику кількість послуг, що надаються "електронним урядом". Також визначено проблеми, пов'язані з їх використанням.

Ключові слова: *електронний уряд, електронні канали, ефективність використання.*
Табл. 1, Рис. 4, Літ. 15.

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АНАЛИЗ ЭФФЕКТИВНОСТИ ИСПОЛЬЗОВАНИЯ ЭЛЕКТРОННЫХ КАНАЛОВ ДЛЯ СВЯЗИ МЕЖДУ ПРЕДПРИЯТИЯМИ И АДМИНИСТРАЦИЕЙ

В статье представлены результаты исследования эффективности использования электронных каналов для связи между предприятиями и администрацией. Исследования показали, что малые и средние предприятия активно используют большое количество услуг, предоставляемых "электронным правительством". Также определены проблемы, связанные с их использованием.

Ключевые слова: *электронное правительство, электронные каналы, эффективность использования.*

Introduction. E-government is the entirety of associated organizations of the public sector connected to the Internet (Kepczynski, 2010). The computerization of the public sector can include many different areas and aspects of office work. In particular, depending on the areas of computerization there are:

- computerization of the internal processes of administration (both within a particular office as well as between them);
- granting applicants — the external stakeholders (citizens and businesses) access to information and services (package of public services provided electronically).

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From the perspective of external stakeholders, the main objective of e-government are (Kepczynski, 2010):

- elimination of personal visits to offices;
- reducing the time wasted in queues;
- access to services provided at any time;
- shortening the total time of the service process;
- widespread sharing of information on the Internet.

Due building in Poland the, de facto, information society and more and more widespread access to the Internet, the need of building an administration has emerged. Citizens and businesses can benefit from its services. Except certain cases (e.g., the electronic signature used occasionally) contacts with administration via electronic channels are in fact cheaper than traditional ones.

The development of e-government in Poland is late in comparison with other EU countries (Dabrowska et al., 2009). In 2006, the availability of e-government services in Poland was estimated at 20%, while the EU average is 50% (Dabrowska et al., 2009). It shows a positively high improvement of growth. Indeed, in 2010 Poland ranked slightly below the EU average, which rose to 90% (Poland reached 87%). However, many EU countries came close to full (100% - 4 countries, 99% — 3) computerization of the administration (Dabrowska et al., 2009).

Is it really so well in Poland? If so, is the created potential used?

E-government development. The research carried out among Internet users indicates a relatively low level of e-government services use by citizens (Milosz, 2011). The most, but only 38% of them handle tax matters via the Internet.

The major problem in the e-government services use is the security of information (Juszczyk, 2011). This problem affects not only the contacts with administration (Ramon and Pardo, 2005), which are often associated (Lam, 2005) with transmission of critical data (e.g., sensitive, personal data), but is a broader background of the Internet use (e.g., in banking).

Analysis of the functioning of the Public Information Bulletin (BIP), which seems to be the simplest service provided to citizens by the authorities, points to a number of problems with their design, timeliness, usefulness, or contents. For example, a list of the rates of local taxes and fees could be found only in 65% of BIP (Fliegner, 2011).

Table 1. **E-government development in Eastern Europe**

	World e-government development ranking	
	2012	2010
Russian Federation	27	59
Hungary	31	27
Czech Republic	46	33
Poland	47	45
Slovakia	53	43
Bulgaria	60	44
Belarus	61	64
Romania	62	47
Ukraine	68	54
Moldova	69	80

Source: (United, 2012)

Meanwhile the "United Nations E-Government Survey 2012: E-Government for the People" (United, 2012) shows that Poland has fallen in the world ranking of e-government development from position 45 in 2010 to position 47 in 2012 (Table 1). Only 3 countries in the Eastern Europe have improved their positions: Russian Federation, Belarus and Moldova. In the world ranking on the top 10 positions held 7 European countries and South Korea (#1), the United States and Singapore (United, 2012).

The leaders in e-government pay great importance to citizen satisfaction with e-government and trust in government (Welch, E.W. et al., 2005), implementation of Web 2.0 in administration (Alton, Y.K. et al., 2012; Nam, 2012) and giving added value to business (Thompson et al., 2005).

The research problem. Electronic relationship between entrepreneurs and authorities are called B2A (Business to Administration). In connection with the development of services provided by Polish e-government (as previously mentioned 87%), the question arises: Is the use of the opportunities offered by e-government high?

So the formulated research problem was narrowed down to small and medium enterprises (SMEs) of the Lublin Region. The first narrowing is associated firstly with the fact that Polish economy is based on SMEs, which are the largest group of enterprises, and secondly, that the effectiveness of electronic interaction of SMEs with administration should be the most desirable (because of their economic importance). The Lublin Region is the perfect example of a region in which virtually the entire economy is based on SMEs. In this region there are also a number of farmers who, although are not included into SMEs, but practically belong to this group.

On this base the research hypothesis is: "The SMEs of Lublin Region widely and effectively use the services of e-government in its activities."

The research method. The study used the questionnaire method. The survey consisted of two parts: company facts and content-related. The first one included questions about the profile of a company, its size and duration at the market.

The content-related part of the survey consisted of a series of questions, including:

Q1. With which institutions do you collaborate electronically?

Q2. Have you used when setting up business an online business application for entry into the Central Registry and Information on Economic Activity (CEIDG)?

Q3. What are, in your opinion, the main difficulties in using the services of e-offices?

Q4. What are the benefits of your work with e-offices?

The survey was addressed to SMEs owners and managers.

During the formation of responses to the question 1 (Q1), the analysis of Internet sources to search for Polish state institutions with which the entrepreneur can now potentially communicate via electronic channels. Consequently, (except for an open option: other...) the variants to Q1 included the following:

- Social Insurance Institution (in Polish: ZUS);
- Tax Office;
- Office of Municipal / City / County / Voivodeship;
- Polish Post;

- Bank;
- Agricultural Social Insurance Fund (in Polish: KRUS);
- National Labour Inspectorate;
- National Labour Office;
- Statistical Office.

The list has been expanded to include business entities that are not offices (Bank, Polish Post, KRUS, ZUS). However, in the minds of entrepreneurs, they function as offices.

The answer to Q2 was binary: yes or no.

As a result of preliminary tests carried out in the form of interviews with selected respondents, in a set of answers to the question about problems in the use of e-government (Q3) were the following:

- not sufficiently clear design of an office website,
- frequent errors in the functioning of forms,
- difficulty in obtaining an electronic signature,
- long time of waiting for a response from an office,
- messages about server overload,
- other...

When asked about the benefits of electronic collaboration with the authorities (Q4) the following options were presented:

- e-government allows dealing with administrative matters without leaving a workplace,
- the documents can be submitted via the Internet; also the stage of the process of their execution can be tracked,
- a personal account provides a secure communication with an office,
- minimizing the time spent on visits to offices,
- increasing the competitiveness of enterprises,
- other...

Implementation of the research and the results. The study was conducted among SMEs of Lublin Region in the period from October 2011 to January 2012. In the study a tool surveys over the Internet, provided by Google was used.

During the preparation of the study more than 1,000 addresses of the companies belonging to SME sector were acquired, to which requests to fill in a questionnaire were sent. Moreover, a group of students of the Management Faculty of the Lublin University of Technology directly interviewed 20 businessmen. All completed questionnaires were 115.

In the survey participated mostly service (31%), manufacturing (19%), trade (23%) and construction companies (17%). A profile of the respondents corresponds with the structure of companies in the Lublin voivodeship. Most of them were microcompanies (42%), which employ less than 10 people. Small enterprises were 33% and the remaining can be classified as medium, having from 50 to 250 employees. The average age of the company was around 5 years, see Figure 1.

A very high percentage of entrepreneurs (80%) use the electronic banking, see Figure 2. But also quite a lot of them use electronic channels of communication with the Tax Office, ZUS and the Statistical Office. These are business entities with which

virtually every entrepreneur needs to communicate. These results definitely confirm the research hypothesis.

Only 17% of the respondents set up the company using by the Central Registry and Information on Economic Activity (CEIDG). However, this is quite a good result if we take into account the age of companies.

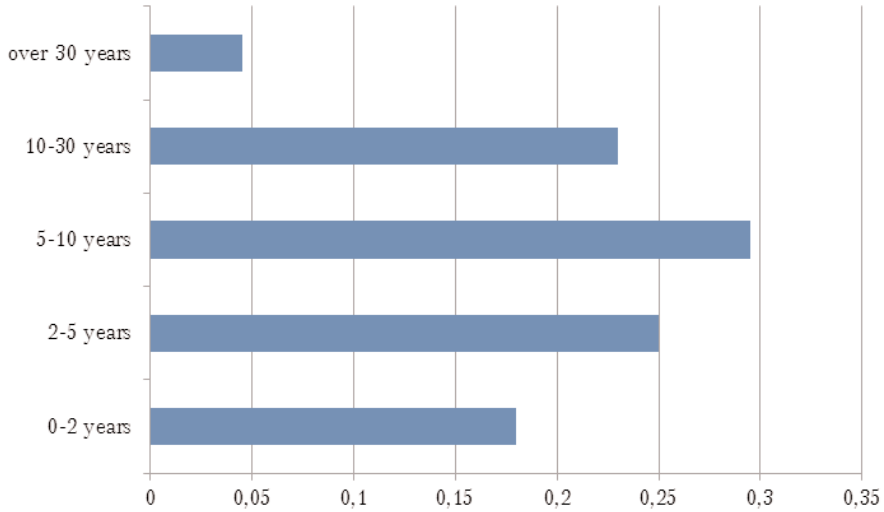

Figure 1. **The period of operation at the market of the survey respondents**

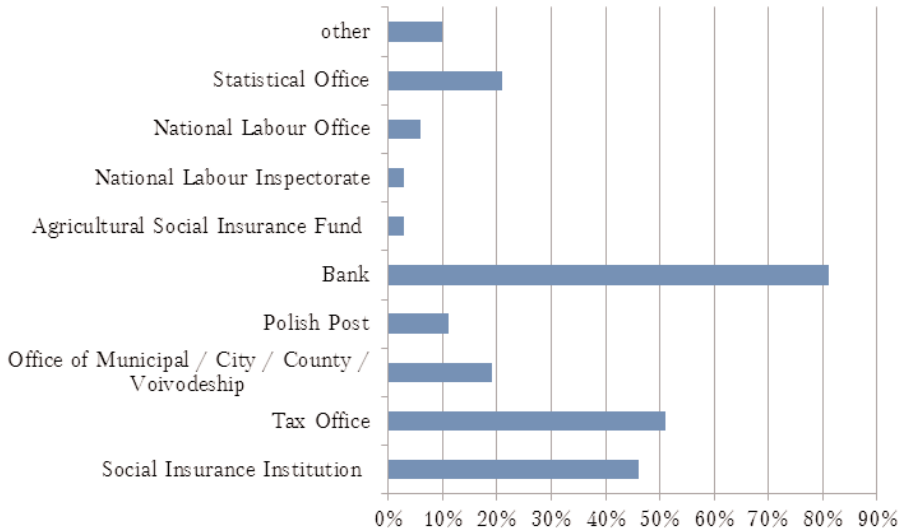

Figure 2. **Institutions with which entrepreneurs communicate electronically**

The difficulties in contacts with e-government were indicated by almost all respondents. The most common problems were: the quality of services (pointed by 45% of the respondents, Figure 3), difficulties in obtaining an electronic signature

(42%) and various technical problems (errors and system overload). Other issues were indicated by a small group of the respondents, which proves the high quality of the preliminary studies.

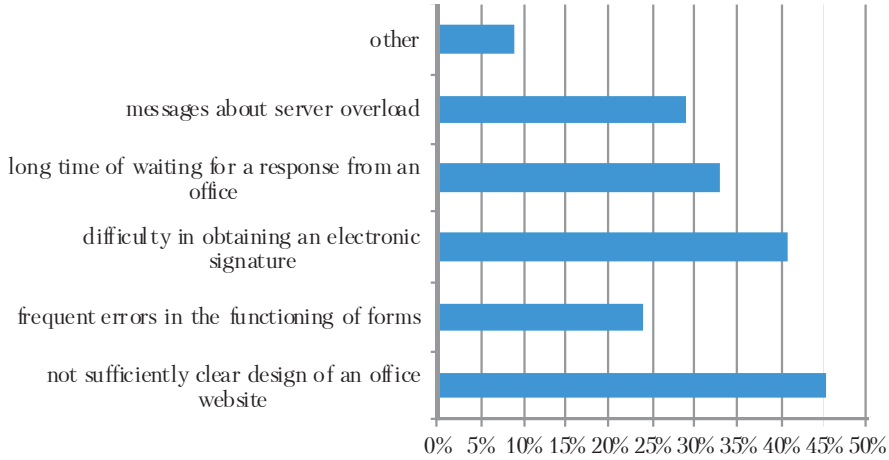

Figure 3. **Difficulties in electronic contact with offices**

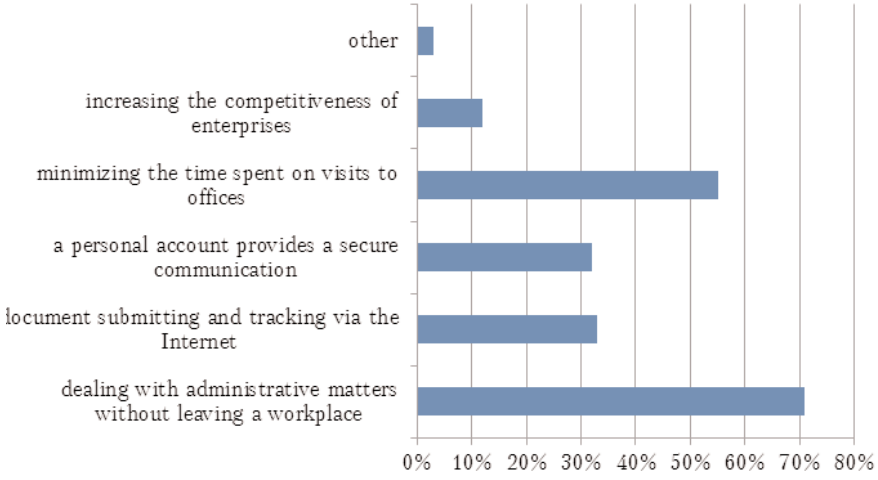

Figure 4. **The benefits of electronic contacts for business**

When asked about the benefits of electronic communication, the respondents answered quite obviously (Figure 4): remote settlement of the matter from a workplace and time saving. They do not see the influence of electronic channels of communication with administration on increasing the competitiveness of the company.

Conclusions. A number of activities in Poland in recent years resulted in providing a package of public, online services of national and local administration. The study confirmed that SMEs from Lublin Region widely and effectively use the services of e-government in their activities. Also the study shows that in dealing with a number of offices there is a lot to improve, as well as with the quality of electronic

communication channels. Contacts with such offices as the National Labour Inspectorate, the Labour Office or KRUS are on the marginal level.

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