MANIFESTATIONS OF E-GOVERNMENT USAGE IN POST-COMMUNIST EUROPEAN COUNTRIES

Abstract

Purpose - The aim of the following paper is to examine the propensity to use e-government services in post-communist countries in the European Union.

Methodology – A survey was conducted among 7984 respondents from the states of Bulgaria, Romania, the Czech Republic, Slovakia, Hungary, Poland, Lithuania, Latvia, and Estonia. The analysis focused on the following manifestations of e-administration usage in these countries: viewing websites run by public administration bodies, making contact with public administrations via e-mail, downloading the forms necessary to obtain a public service, sending completed electronic forms to appropriate offices, and contacting politicians, activists, or offices electronically to discuss matters important for a region or the whole state.

Findings - The results of the analysis presented in this paper show that there is a statistically significant relationship between the state of the respondent’s residence and the propensity to use particular forms of e-government.

Practical implications – Decision-makers should create incentives to popularize electronic signatures, which are necessary to fully settle a matter in public offices via the Internet. They could use financial assistance offered by the European Union to implement this technology. Moreover, they should award bonuses to private persons or entrepreneurs who use Information and Communication Technology (ICT) in their contact with the state administration, for example by way of charging less for issuing a driving license, building permits, or other documents necessary to apply for a building permit. The use of ICT in the client-administration relationship would reduce corruption levels by limiting direct contact and allow for reconstruction of all of the digital records to apply for a given permit, document, etc.

Originality/value – With the rapid growth of Internet (and e-commerce) worldwide, the public administration sector has many opportunities, especially in a developing democracy. The article is unique because it shows data collected from almost 8000 respondents and it presents a comparison of the use of e-government among citizens of 9 European Union member states.

Keywords e-government, Information and Communication Technology, post-communist countries

JEL code: D12, L86, O30

1. Introduction

Information and Communication Technology (ICT) is currently one of the most significant factors contributing to socio-economic development, or the development of civilization in a broader sense, which comes down to a transformation of nearly all areas of life. The development of ICT has generated a type of technological shock, which has shaken the foundations of production models of information, knowledge, and culture and given birth to a period of socio-economic transformation (Benkler, 2008, p. 399). The leader in ICT is the Internet, which offers endless possibilities for managing information that no other tool can offer. There are no distances, borders, and socio-economic or cultural differences with regard to the Internet. Both personal and technical interactions are equally available and the role of the latter is constantly increasing. The significance of the Internet is a consequence of its accessibility. Through the decades, countries have increasingly invested in their ICT infrastructure to enhance progress. How the development of ICT varies across countries becomes a critical indicator of the global digital divide. In 2012, there were 2.4 billion Internet users in the world. At that time, 368 million people in European Union member states enjoyed Internet access (Internet World Stats, 2014). The development of new communication and information technologies has opened new perspectives for the modernization of public services, healthcare, environmental management, and new ways of communication between the citizens and public administration (Balan, 2013). The emergence of new ICTs has brought about many new assumptions concerning radical social changes in various areas of operation of administrations, such as, among others: an increased participation of the citizens in governance; an increase in e-democracy; changes
in organizations, like moving from hierarchical to horizontal structures; a transition to virtual organizations; and moving away from classic bureaucracy to New Public Management and digital governance (Șandor, 2012).

2. Literature review

2.1. ICT for the government

ICT is an innovative and modern tool for social development and progress (Ionescu, 2013a); it is also changing the business and public sectors (Gatautis, 2008). The manner in which administrations render services is changing due to elaborate ICT network systems. Moreover, the manners of collecting, integrating, and sharing information and of communicating with citizens are also changing. A new vision for the 21st century government is being shaped, namely by e-government. ICT supplements public participatory decision-making with e-government by providing information technology to assist governments to operate more effectively (Codagnone and Wimmer, 2007) and efficiently (European Comission, 2010).

The main function of e-government is to facilitate communication between governments and citizens via web-enabled computer technologies (Evans and Yen, 2006). Additionally, e-government is intended to offer new possibilities and advantages for various groups of stakeholders, such as government agencies (G2G), citizens (G2C), and business organizations (G2B) (Chen et al., 2009; Gajendra et al., 2012; Jaeger and Thompson, 2003; Krishnan and Teo, 2012). Advantages include reduction in the cost of operation of the administration (Kim, 2007; Tolbert et al., 2008), reduction in bureaucracy (Garcia-Sánchez et al., 2013), and improvement of the administration’s image (Gallego-Álvarez et al., 2010). Initiatives on e-government may strongly contribute to making public services more effective, strengthening democracy (Von Haldenwang, 2004; West 2004), reducing corruption (Banerjee and Chau, 2004; Cho and Choi, 2004; Goel et al., 2012; Ionescu, 2013a, 2013b; Krishnan et al., 2013; Kim et al., 2009; Seongcheol et al., 2009; United Nations Development Program [UNDP], 2006; Von Haldenwang, 2004; Wong and Welch, 2004), intensifying competition among businesses (Srivastava and Teo, 2007, 2008; West, 2004), and economic growth (Moynihan, 2004; Srivastava and Teo, 2008, 2010; Von Haldenwang, 2004; West, 2004) as well as improvements to ecological or environmental quality (Haigh, 2004; Haigh and Griffiths, 2008). E-government techniques may be employed to combat corruption both in developed and developing countries (Marian, 2012). The developing countries seem to display lower transparency in the public sector (Nicolăescu, 2012) and more serious corruption. E-government has been found to contribute to elimination of corruption in most corrupt countries.

Due to application of ICT in e-government, the administration assumes greater responsibility, which makes its activity more transparent (Banerjee and Chau, 2004; Cho and Choi, 2004; Elbahnasawy, 2014; Halachmi and Greiling, 2013; Haque and Pathrannarakul, 2013; Ionescu, 2013b; Seongcheol et al., 2009; Siau and Long, 2006; Von Haldenwang, 2004; Wong and Welch, 2004). ICTs offer the citizen and the media a relatively simple means to track, in almost real-time, the affairs of government agencies. Transparency achieved with a computer increases public responsibility and increases public trust in the administration (Siau and Long, 2006) because third parties have the opportunity to scrutinize the activity of the government (Grimmelikhuijsen, 2012). In turn, citizens possessing more information are empowered, leading to a more democratic and trustworthy government (Grimmelikhuijsen, 2012; Meijer, 2009). In recent years, almost all member countries of the Organization for Economic Cooperation and Development (OECD) have adopted e-government initiatives for the purpose of increasing transparency in public administration (government), which is a strategy aimed at increasing public trust (Grimmelikhuijsen, 2012; van de Walle, 2011).

Some researchers, however, question whether transparency should be improved by introducing e-government (Yang and Rho, 2007). The transparency skeptics (Bovens, 2003; Etzioni, 2010) claim that, although greater transparency contributes to increased trust placed in administrations (in governments), increased transparency, in turn, makes administration (governance) more susceptible to unjustified criticism from citizens or journalists watching for scandals (Grimmelikhuijsen, 2012).

2.2. e-Government in practice
Implementation of e-government in developing countries poses many problems and difficulties. These are social, cultural, legal, infrastructural, and safety-related problems. It is especially important to consider insufficient computerization of a country, underdeveloped infrastructure, resistance to change, poor computer skills, and lack of IT knowledge among employees in the administration sector and the whole society as well as lack of coordination between organizations (Gajendra et al., 2012). A study conducted in 2012 on e-administration led to the identification of twenty world leaders in developing e-administrations by implementing ICTs. This group encompasses rich, developed countries, including fourteen states in North America and Europe, three in Eastern Asia (The Republic of Korea, Singapore, and Japan), two in Oceania (Australia and New Zealand) and one from Western Asia (Israel). The top leaders are the Republic of Korea, the Netherlands, the United Kingdom, Denmark, and the United States of America (United Nations, 2012).

Korea’s e-governance is a result of the combined efforts of implementing systemized and unified policies developed through government-initiated mid- and long-term development strategies. However, its performance results from its response to a changing environment by establishing proper mid- and long-term goals, creating implementing organizations, budgeting, establishing a legislative basis, and provisioning information technology resources, all backed by the participation of outside experts in addition to the president’s political leadership (Hee-joon, 2010).

Carter and Weerakkody (2008) compared e-government implementation in the UK and the US. The results indicate that there are cultural differences between the two processes. It showed that relative advantage and trust are pertinent constructs for adoption in both the US and the UK, while ICT adoption barriers, such as access and skill, may vary by culture. The results of Kim’s (2007) investigation indicated that the performance of digital government is likely to be determined by economic wealth, education, urbanization, civil liberties, government effectiveness, and the interaction between Internet usage and economic wealth, while the extent of Internet penetration alone does not determine e-government performance. Many factors have been delaying the implementation of e-government, the most important ones being the digital divide, privacy and security concerns, and the availability of common data models on a national and international scale (Buchmann and Meza, 2012).

In the US, approximately 10% of the IT budget (nearly $8 billion per FY in 2010 and 2011) was spent on e-government initiatives. However, such initiatives are often operationally ineffective and many do not generate the expected level of interest among target users (Baumgarten and Chui, 2009). Citizens’ knowledge of e-government systems and services is very superficial (Al-Jaghoub et al., 2010; Lee et al., 2005). The fact that the citizens have no knowledge of the types of services offered might lead to the formation of unrealistic expectations about e-government, which may lead to low satisfaction levels (de Róiste, 2013). The financial benefits derived from e-government are not always obvious. Dečman et al. (2010) took Slovenia as an example of a country where ICT was implemented for the purpose of improving the effectiveness of the tax system. Unfortunately, the ICT expenditure turned out to be higher than savings for the tax administration and taxpayers.

Analyzing the attributes of non-users of e-government, Mpinganjira and Mbango (2013) came to a conclusion that a lack of skills to use the Internet is not a barrier to using e-government. The majority of non-users were experienced enough with the Internet. However, the respondents did not have strongly favorable attitudes towards e-government services. Their results showed no significant relationship between the demographic factors and non-users’ attitudes. Taipale’s (2013) results showed that gender and income moderate the link between the Internet and e-government service use. Education, children, income, and the size of the place of residence have a major influence on the use of the government’s e-services.

Time is the main motivation for Polish Internet users to utilize e-administration services (Szopiński, 2012). Both in developed European countries and post-communist European countries, the number of Internet users interacting with the public authorities in 2010 increased with the level of their education. The frequency of using e-government was most influenced by the level of education among Internet users from post-communist European countries. Women prevail in this group (Zoroja, 2011).
Citizens’ attitudes or, to a smaller extent, subjective norms and perceived behavioral control most influence their use of e-government services (Bauer et al., 2005; Dimitrova and Chen, 2006; Horst et al., 2007; Hung et al., 2006; Kim et al., 2007). Attitude refers to the degree to which a person evaluates using e-government services favorably or unfavorably. Perceived behavioral control is the extent to which a person perceives that the required opportunities and resources for using e-government services are available to him/her. Subjective norms, or normative social influence, are a person’s belief that most people who are important to him/her think he should or should not engage in a certain behavior.

3. Research methodology

The objective of this paper is to determine to what extent consumers/Internet users use e-administration in post-communist countries belonging to the European Union. Secondary data obtained from a study carried out at the request of the European Commission were employed for the purpose of conducting an analysis, using SPSS. The study was conducted between November 15 and December 7, 2012 in 32 European countries. Among others, the questionnaire contained questions concerning various types of e-administration services. An online panel survey targeted and identified users of e-government services. For each of the 32 benchmarked countries, a representative sample of Internet users was surveyed via local online panels to which the provider consortium has access. The user survey and online data gathering process included the following steps: preparation of the online questionnaire; translation of the final version of the survey instrument; and, after the EU Member State representatives presented feedback and validated the translations, all translated versions of the questionnaire were programmed, tested, and published online. A total sample of N = 28,000 citizen respondents was obtained overall (European Commission, 2012a). For the purpose of accomplishing the specified aim, the authors of the present article analyzed the presence of e-administration service usage in the following post-communist countries belonging to the European Union as of December 31, 2012: Bulgaria, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, and Slovakia. One thousand respondents from each country under analysis were surveyed (N=1000; 95% reliability, maximal theoretical CI = ±3.10). The authors of this article used the responses of 7984 respondents from post-communist countries for the purpose of the analysis. Incomplete questionnaires were not considered in the analysis.

4. Results

Table 1 juxtaposes the statistical relationships between the respondent’s state of residence and inclination to use e-administration. The analysis suggests that the location of the respondent’s residence influences the use of e-administration. However, the relationship is not strong. In all of the cases, the Czuprow’s Convergence coefficient, reflecting the strength of the relationship between variables under analysis, was almost zero.

Table 1

Table 2 presents the distribution of responses to questions concerning the use of eight different e-administration services by respondents from post-communist European countries compared to the average use of e-administration by citizens of 28 European Union member states. The first manifestation is the use of the Internet to contact public administrations by e-mail. The table shows that the countries with the highest percentages of respondents that use e-mail to contact public administrations are Estonia, the Czech Republic, and Slovakia. In contrast, the country with the lowest percentage of respondents using this form of e-administration is Poland, amounting to less than 48 per cent. The mean percentage of respondents from the 28 European Union member states was 67.1 per cent at the time of the study.

The second manifestation is the use of the Internet to obtain information from public administrations’ websites. This form of e-administration is most used in Estonia, Slovakia, and Hungary. On the other hand, this form of e-administration is least common in Poland. The mean percentage of respondents from the 28 European Union member states was 88.6 per cent at the time of the study.
The third manifestation is the use of the Internet to download official forms that are necessary to obtain a public service. The highest percentages of the respondents that use this form of e-administration are in the Czech Republic, Slovakia, Romania, and Estonia. In turn, the lowest percentages of respondents that use this form of e-administration are in Latvia and Lithuania. The mean percentage of respondents from the 28 European Union member states was 73.1 per cent at the time of the study.

The next manifestation is the use of the Internet to send (upload) completed web forms that are necessary to obtain a public service (for example: to obtain a certificate, permit or subsidy). This type of e-administration service is the most advanced of those analyzed. The whole service takes place online. The user downloads the necessary forms, completes them, and sends them back to the office online. The highest country with the percentage of respondents that use this form of e-administration is Estonia. While the lowest percentages of respondents using this form of e-administration are in Latvia and Poland. The mean percentage of respondents from the 28 European Union member states was 58.7 per cent at the time of the study.

Another manifestation of e-administration usage is the use of the Internet to contact political representatives of local, regional, national or European governments by e-mail. The country with the highest percentage of respondents that use this form of e-administration is Romania. In contrast, the lowest percentage of respondents using this form of e-administration is in Hungary. The mean percentage of respondents from the 28 European Union member states was 31.4 per cent at the time of the study.

The remaining manifestations include the use of the Internet to consult policy documents or decisions on local, regional, national or European government websites; participation in online consultations on policy issues organized by local, regional, national or European governments (for example: via polls or panels); and participation in interactive discussions about local, regional, national or European policy issues (for example: via online discussion forums). The highest percentages of the respondents using these forms of e-administration are in Bulgaria and Romania. Table 2 shows that the percentage of users with these behaviors is higher in these countries than the average in the European Union.

Table 2

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The research results presented above show that there is a statistically significant relationship between the state of the respondent’s residence and the use of e-government services. The existence of such a relationship has been confirmed for each of the eight e-government services under analysis. However, the strength of this dependency was found to be weak when tested with the Czuprow’s coefficient. The analysis of e-administration usage in post-communist European countries has demonstrated that citizens of different countries use different e-government services. The citizens of Estonia were the biggest users of “contacting public administrations by e-mail” and “sending (uploading) completed web forms that are necessary to obtain a public service”. The citizens of Slovakia were the most likely to use information obtained from public administrations' websites (while the citizens of Estonia took the second place). Next, the groups of respondents that were most likely to download forms that are necessary to obtain a public service were the citizens of the Czech Republic and Slovakia. The citizens of Bulgaria and Romania were the most likely to use the remaining e-administration services, including contacting political representatives of local, regional, national or European governments by e-mail; consulting policy documents or decisions on local, regional, national or European government websites; and participating in online consultations and interactive discussions on important social issues. One must bear in mind, however, that Bulgaria and Romania are the so called “new states of united Europe”, thus the citizens’ increased interest in “public life” may be a symptom brought about by freshness, enthusiasm, and greater expectations aroused by the recent accession (in 2007).

The cases of Latvia and Poland are worrying. The citizens of these counties have the worst results in all of the analyzed uses of e-administration. The barriers are definitely not a lack of access to the Internet or a low level of digitalization in the countries. The reasons for such a low interest in e-administration expressed by the citizens of
these countries is a new, urgent, and important area to be studied. The characteristic feature of all post-communist countries is the common problem of corruption (Batory, 2012; Jancsics, 2013; Zimelis, 2011). The civic society is also fragile in these countries (Zakaria, 2013). Two effective instruments adopted to counter corruption are the reformation of administration (and its digitalization, first and foremost), which ensures an increase in transparency (Nisbet et al., 2012), and the building of a civic society that is engaged in public life. Internet use is connected to the degree of citizens’ commitment to democratic governance (Nisbet et al., 2012). Thus, for e-administration to grow, it is necessary for the state to take top-down action. Dispersion of responsibility in this case may constitute a source of regional differences or lead to a halt in the development of e-administration at lower levels of the government. This problem is easily noticeable in the Polish communes (gmina) and regions (powiat). There are clear and wide disproportions between offices of public administration on various levels (national versus regional government) in terms of the extent and quality of using ICT. As noted by Halaris et al. (2010), most of the public administrations in European and developed countries recognized the need for e-government services and the number of e-government services dedicated to citizens and entrepreneurs has substantially increased. Despite the large number of already existing e-government services, users encounter significant problems with their quality. The quality of e-government services should be measured in order to improve it.

For instance, the Korean government contributed to the development and popularization of broadband Internet services in the 90s by implementing an appropriate policy. Among other things, it has led to the development of e-administration and the country has become a leader in this field. In the group of post-communist European countries, the leader in terms of e-administration is Estonia. Financial, legislative, and social factors have contributed to Estonia obtaining such a high position (Kalvet, 2012). Such results are consistent with the outcomes of analyses conducted by the authors of the present article. Estonia is the leader in sending (uploading) completed forms that are necessary to obtain a public service. In order for state offices to be able to render such public services, the use of electronic signatures must gain popularity, which would allow citizens to send authenticated documents via the Internet. This is the most advanced manifestation of e-administration because the citizens may obtain a complete service without leaving home. It is also the most likely to minimize corruption. Corruption often manifests with public procurement or while making administrative decisions (for example: regarding building permits). A private person or an entrepreneur settling a matter via the Internet (by way of sending a completed form to an appropriate office) would not come into direct contact with the officials. This might make it more difficult to offer bribes or try to influence the state officials. This, in turn, might lead to greater competitiveness in business (for example: public contracts would be won by a company offering the best conditions and not a friend of the person who can influence the final decision). Moreover, the history of a rendered service is recorded in the system so there is a record of any change to a document in such a case. This might contribute to greater transparency of the activity of public administration. Lack of the necessity to visit offices and print out documents would positively influence the environment and the image of the whole state administration as well.

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