Management of Electronic Documents in Public Sector: Analysis of Possibilities and Trends of Development

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Abstract

The article deals with the process of modernization of Lithuanian public sector in the aspect of development of management of electronic documents. In order to ascertain the reasons why institutions of the Lithuanian public sector still hesitatingly move to means of management and administration of electronic documents and to identify the possibilities and trends of development of management of electronic documents in public sector, we carried out the analysis and structuring of scientific publications by Lithuanian and foreign authors, also of published research results, the Republic of Lithuania legislation, strategic plans, reports, international standards, European Union directives, online sources. We also did a qualitative empirical study in institutions of Siauliai city state administration and local self-government.

The research carried out by the authors has shown that current system of management of electronic documents and exchange of information by electronic means in Lithuanian public sector in laws and in theoretical insight is clearly different from the implementation of practical solutions. Therefore, in order for Lithuanian public administration system to be in line with the European levels of public administration by the year 2010, more attention should be paid to the rapid deployment of systems of information exchange by electronic means, to transferring of documents to electronic carriers and to strategic development of electronic documents.

Keywords: electronic government, electronic signature, modernization of public sector, management of electronic documents in the public sector.

Introduction

The scientific problem, novelty and relevance of the article. The effective management of today's state is unimaginable without the latest information technologies and telecommunication measures encouraging public institutions to apply new work and management methods. New technologies radically change the activities of state and local government institutions; create conditions to improve the quality of public services, to ensure transparency of the activities and to reduce manifestations of corruption in the public sector (Ginevicius, Paliulis, Chlivickas, Merkevicius, 2006).

Management of electronic documents is a relatively new phenomenon and its practical implementation still lacks experience, but legislation has already been adopted that can facilitate the smooth functioning of this innovation. It is obvious that the authorities often pay more attention to bureaucratic factors, e.g. legislative actions, but the adopted legislation often does not guarantee that the processes will be developed and decisions will be made (Ginevicius, Paliulis, Chlivickas, Merkevicius, 2006). Different public institutions search for solutions only to their specific problems and seek to improve the effectiveness only of their own activities, i.e. they do not coordinate their activities with other institutions, and therefore the systems of different institutions are often not consistent with each other.

It is likely that in the near future the electronic tools improving the effectiveness will become the dominant standard of work efficiency and quality. Heads of Lithuanian institutions of public sector should take full advantage of the opportunities to develop their own and their workers' knowledge in this area and to use the best experience of other countries. Only with joint efforts of all public sector institutions, business organizations and citizens to improve the activity of public sector institutions, it is possible to create an effective public administration system.

Legislation of the Republic of Lithuania (hereinafter – RL) and the EU directives require the transition to electronic government and electronic management of documents. Legal, technical base of Lithuanian public sector is adequately prepared, consistent and meets the EU requirements for and standards of the usage of official electronic documents (Ozaliene, Saparniene, 2008), therefore the problem of the research presented in this article can be formulated by the following questions:

1. Why do public sector institutions still hesitatingly move to electronic management of documents and the use of administration measures, although the legislative base does not prevent from the implementation of these measures?
2. Does valid legislative base of RL ensure the ap-

propriate development of electronic documents in the public sector?

3. What are the basic theoretical and practical differences in implementation of electronic management of documents and the system of electronic information exchange?

4. What trends of development of electronic management of documents do state administration and local self-government institutions foresee?

The subject of the research is opportunities and trends of development of management of electronic documents in the public sector.

The aim of the research is to study the opportunities and trends of development of management of electronic documents in Siauliai city state administration and local self-government institutions.

The objectives of the research:

1. To reveal the need for electronic management of documents in the public sector in the context of development of e-government.

2. To review the trends of development of electronic documents and electronic signature in Lithuanian public sector, to assess the current situation and possible changes in the future.

3. To determine the opportunities and trends of development of management of electronic documents in Siauliai city state administration and local self-government institutions.

The methods of the research:

1. Analysis of documents (legislation of RL, strategic plans, EU Directives and Standards).

2. Analysis, synthesis and generalization of scientific literature – a theoretical context for the main study area.

3. Analysis, comparison and logical generalization of information and documents found on websites of state administration and local government.

4. Interviewing experts representing the being investigated problem, i.e. specialists of this sphere.

5. Analysis of qualitative research data by using general qualitative research methods, i.e. generalization of data, systematizing, identification of identical features and links, comparison of similarities and differences of the answers of the research areas, their interpretation.

6. Comparison and verification of survey data obtained by the interview method with the data of another method – document analysis, by interpreting the similarities and differences of the results.

Management of electronic documents in the context of e-government development

The effective governing of a country is impossible without the active application of the latest information technologies. Information and communication technologies (hereinafter – ICT) are radically transforming the state and local government institutions, i.e. information technologies are becoming one of the main factors influencing the effective state and self-government activities. As the work of management and self-government institutions changes due to use of information technologies and telecommunication tools, the areas of use of electronic documents are expanding. ICT used in public administration create conditions for improving the quality of public services, accelerating solving of problems, ensuring transparency and effectiveness of activities using new work and management methods (Paliulis, Chlivickas, Pabedinskaite, 2004).

E-government is one of the ways to modernize governance of a state, to carry out public sector reform by adapting to the requirements of the information society, to improve not only the quality and efficiency of public and government communication, but also the interaction of cooperation between the government institutions. For these reasons, e-government can and should become one of the effective factors and priorities of implementation of the strategic management of state (Limba, 2007).

The main idea of e-government is to strive that the bureaucratic system of public institutions would be *cheaper*, *more efficient* and *more flexible* than it is at present. In the meantime, in the EU and in Lithuania, implementation of ICT solutions in the public sector is still lagging behind that of the business structures (Knabben, Chlivickas, Pabedinskaite, 2004). It is obvious that the public sector should make more efficient use of ICT potentials to facilitate the transfer of the traditional services of state institutions to the Internet space, to make the services cheaper, to reduce time costs and bureaucracy.

It is important to note that the use of ICT for reorganization of public administration should be not a temporary show phenomenon, but a long-term and integral (strategic) measure. Therefore, today in Lithuania much attention is paid to the development of information society and e-government by preparing and implementing various laws and strategic documents. The modernization of public sector through use of information technologies is included into the main Lithuanian Information Development planning documents: *State Long-Term Development Strategy* (Zin., 2002, No. 113-5029), *Lithuanian Information Society Development Strategy* (Zin., 2005, No. 73-2649) and based on it *Programs of development of the information society* are being prepared. They provide public institutions with key measures in development of information society.

The successful implementation of e-government is determined by many factors: the level of com-

puter literacy (i.e. civil servants' and citizens' skills in working with ICT), access to the Internet, the simplicity of public e-services procedures, the use of e-signature. Ginevicius et al. (2006) identify one of the most important and biggest problems – different state and local authorities look for solutions to problems that are specific only to them and seek to improve the efficiency only of their own activities. It is essential that cooperation exists not only between the government and business or citizens, but also between the government institutions.

Experts estimate that the existing main legal framework for e-government is sufficient, ICT infrastructure is well developed, the majority of the public administration institutions provides e-services and improves them, access to them and their use is increasing, the national public administration institutions are sufficiently computerized; there is no lack of financial resources, although the practical implementation of the procedures is still complicated (The status and prospects of E-government in Lithuania, 2006).

To sum up, it can be stated that the use of ICT in the public sector and its influence on society is increasing. Because of the negative attitude of the staff of the state institutions towards innovations, the public authorities do not take sufficient advantage of the opportunities offered by ICT. To develop the e-government successfully, it is important to develop e-literacy coherently, to promote electronic service, and to ensure that Lithuanian people and businesses can use these services.

Management of electronic documents in public sector

Modern information management in Australia or Canada differs little from the information management in the European Union. More and more work is done without "papers" due to advantages and effectiveness of competing electronic data processing. However, bearing in mind that there are no written documents anymore, legal situation is required to change as well in order to ensure that electronic documents would be legally acceptable as well as written ones and that legal rules of acceptability would be established. Thus, there appeared a need to set standards and strategies for management of electronic documents.

management of electronic documents is encouraged by increasing implementation of compulsory provisions concerning both private and public sector institutions. An increased regulation forces to pay more attention to management of electronic documents and their compliance with the EU requirements.

In the last decade of the twentieth century, some European countries created patterns and recommendations of their own experience in management of electronic documents, but nowadays the leading methods are those of the European scale, or at least of the EU level. As it seems from the various initiatives, Europe develops a mature approach to management of electronic documents. In Waldron's (2004) opinion, the document management is gaining a new and essential role in promoting e-governance and e-business services. Most countries face the same essential questions in using similar processes, standards and regulations. Sharing the good practice not only helps to comprehend the specifics of this sphere in another country better, but also to avoid the same mistakes in one's own country. Cooperation with other countries and international organizations that have more experience in this sphere could help to develop management of electronic documents partnership network among public sector institutions, would create favourable conditions for official electronic document exchange in regional government and local self-government institutions.

Waldron (2004) believes that in most of Europe government institutions are lagging behind in reaching e-government goals, so their need to manage electronic documents is not as great as it was expected. According to Waldron (2004), in some cases the heads of government institutions delay the process, because they do not see the need to do more than is enough at the minimum. In other cases, more initiative public sector authorities interpret e-government targets, choosing the processes according to their priorities. In both situations, the management of electronic documents is invisible to decision-makers. Speaking about it as about a useful tool, it is likely that the amount of electronic documents in the public sector organizations will increase, resulting in an increasing need to systematically manage them.

Today, in Europe there are a series of laws and directives encouraging the implementation of document management programs and development of joint activities and information strategies both in the public and private sectors. Most of European Union directives have already been included in the laws of larger EU Member States in which support programs for management of electronic documents are initiated. Lithuania is not an exception. In Lithuania, more and more public social relations are transferred to virtual space: the electronic communication is actively used not only to receive or send information, but also to take advantage of e-banking, e-business and e-government opportunities. Considering this situation, it is necessary that legal framework would be regularly and systematically strengthened and development problems would be solved on the national level.

Information technology community currently focuses on using e-signature on e-data, i.e., there pre-

vails an assumption, nearly becoming a tradition, that written documents that are drafted on a computer not necessarily have to be printed and signed on paper because a computer file of the paper document with an e-signature is equivalent to a written document and has the same legal effect (management of electronic documents and digital signature in state institutions ..., 2006).

Thus, an electronic signature is an integral part of an electronic document, therefore its use in Lithuanian state institutions to sign electronic documents is very important, however, it is rather rare. So far, the electronic signature for a large part of the popula-

tion, even to the one that actively uses new information technologies, is quite an unusual thing. Such a situation most probably will continue until the electronic signature becomes an unavoidable daily attribute of administrative, economic activity.

Information Society Development Committee (hereinafter referred to as ISDC) states that Lithuania has "legislation database regulating e-signature infrastructure which does not make any difficulties to implement and use e-signature". This is shown in annual reports submitted to the Government of the Republic of Lithuania and to the Seimas (Parliament) of the Republic of Lithuania since 2004 (see Table 1).

Table 1

Comparison of electronic signature infrastructure legislation database development 2004–2008

2004	2005	2006	2007	2008
"…**legislation database** regulating e-signature infrastructure which **does not make any difficulties to implement and use e-signature**". State Audit Report No. 2010-21, 2003-12-12 "Assessment of electronic signature implementation", assessment of telecommunications companies, banks and interested public institutions).	"…**legislation database** regulating e-signature which **does not make any difficulties to implement and use e-signature**". State Audit Report No. 2010-21, 2003-12-12 "Assessment of electronic signature implementation", assessments of certification service providers, public institutions, telecommunication companies, banks and other market participants (data of March 2006).	"…**legislation database** regulating e-signature which **does not make any difficulties to implement and use e-signature**" (State Audit Reports, data from 53 state institutions and business companies).	"…**legislation database** regulating e-signature which **has not made any difficulties to implement and use e-signature** already for several years" (State Audit Reports, data from 44 state institutions and 11 business companies).	"…**legislation database** regulating e-signature **does not make any difficulties to implement and use e-signature**" (State Audit Reports, data from 47 state institutions and 18 business companies).

Source: compiled by authors, based on annual reports of realization of the Law of Electronic Signature, published by Electronic Signature Supervisor (2004, 2005, 2006, 2007, 2008).

It is not easy to create a unified e-signature infrastructure, because it is difficult to convince the institutions to use e-signature, since consumers do not believe in benefits of e-signature technology. An influential fact is that there are no positive examples that the Lithuanian market could follow (e.g., laws passed by the Seimas are published on the internet without any e-signature). Thus, theoretically, Lithuania seems already to have all means to replace a traditional signature with an electronic one and to transfer the paper documents to the electronic systems, but in practice, using an e-signature is still in the initial stage.

In summary we can state that the perception of many institutions that an electronic document differs from the paper document only in the way of preparation and the electronic signature is only one electronic datum of the document and therefore there is no need to reform the systems of management of electronic documents in the institutions and to use the recommended formats of electronic document content brakes the opportunities of development of management of electronic documents in Lithuania. Theoretical analysis revealed that:

• Civil servants are not sufficiently motivated to run e-services; they lack knowledge and skills of management of e-government projects, that is why e-services are implemented more formally, without making use of their potential;
• E-government services are copied from the EU recommendations, regardless of the actual needs of the population;
• Currently, the legislation database regulating the electronic signature does not prevent the implementation and use of e-documents and e-signature;
• Newly approved E-document Management Rules, a supplement to Law of Public Administration and market participants' agreement on a uniform standard of an electronic signature should encourage the use of the electronic signature;
• Implementation and use of electronic signature in Lithuania in the EU context is not slow, but it needs to be accelerated by carrying out "A program of electronic signature breakthrough" and projects of civil servants' certificates, and electronic identity cards;

- Created and freely distributed e-signature generation and verification software enables to sign electronic data by using a secure electronic signature, therefore, the need for e-documents signed by e-signature should grow in state institutions.

After analysis of the opportunities for development of management of electronic documents in public sector in theoretical aspect, it can be stated that in Lithuania sufficient conditions for using e-documents and e-signatures exist. In order to clarify the reasons why Lithuanian public sector institutions still hesitatingly move to electronic document management and administrative measures, we carried out an empirical study in public administration and local government institutions, which helped to establish the practical problems of use and slow establishment of management of electronic documents systems and e-signatures in the Lithuanian market.

The methodology of the research

In order to study the development and trends of development of management of electronic documents in public sector, we analyzed the scientific literature, various legal acts of the Republic of Lithuania, strategic documents, Directives of the European Union and the study of Siauliai city state administration and local self-government institutions. A qualitative research method was chosen that allowed updating the development opportunities and trends of management of electronic documents in the public sector.

Methodology of the research is based on:
1. Concepts of Lithuanian scientists Raipa (2006), Garuckas, Kaziliunas (2008) about modern public administration, modernisation of public sector activities; modern conception of e-government and e-democracy (Limba, 2007; Petrauskas, Malinauskiene, 2007; Ginevicius, Paliulis, Chlivickas, Merkevicius, 2006; Domarkas, Lukoseviciene, 2006); Klift's (the USA) model e-government to government (Ginevicius, Paliulis and others, 2006); problems of e-government development, development prospects and legal regulation published in articles *Problems and trends of e-government development in Lithuania* by Paliulis and Jurkenaite (2007), and *Planning of e-government development: survey of main documents* by Zilioniene (2004); analysis of e-government, public sector and public interaction in Lithuania done by Garuckas, Kaziliunas (2008), Limba (2007); articles of Sauliunas (2000) and other authors about opportunities of management of electronic documents and the use of e-signature in public sector, analysis of opportunities and problems of implementation of e-signature and computerized document management systems in the public sector.

2. Ideas and recommendations of foreign authors for management of electronic documents in public sector: application of MoReq's pattern in institutions authorized to undertake public administration functions, provisions and recommendations provided by Cain (2003) in the article "*MoReq: The Standard of the Future?*", Neale's (2004) analysis of document management strategies and procedures for standardization under ISO-15489, Dumortier, Kelme, Nissan's (2003) document content format recommendations for public sector institutions exchanging electronic documents, analysis of problems of development of electronic signature market. Also on trends towards strengthening of standards of information management and promotion of electronic document management in Europe analyzed in Waldron's (2004) article "*Adopting Electronic Records Management: European Strategic Initiatives*".

3. Lithuanian legislation, strategic plans, EU Directives and Standards: Law of Electronic Signatures (Zin., 2000, No. 61-1827, 2002, No. 64-2572), Concept of Electronic Government (Zin., 2003, No. 2-54) Plan of Implementation of E-government Concept (Zin., 2003, No. 112-5022, 2006, No. 36-1284), Public Administration Development Strategy until 2010 (Zin., 2004, No. 69-2399), concepts and insights of Electronic Signatures Directive, provisions of the European Commission's Model Requirements for the Management of Electronic Records "MoReq", international standard ISO-15489: Information and Documentation – Records Management.

A qualitative research method based on case study approach and criterion selection (Bitinas, Rupsiene, Zydziunaite, 2009) was applied in the study. In order to obtain information to help to fully understand and clarify the subjective informants' approach, opinion, beliefs, to realize their experiences, the study employed one of the most efficient qualitative data collection methods – in-depth interview. Applying an interview as a qualitative data collection method is based on an assumption that it is meaningful to know the informants' views, assessments and opinions (Frechtling, Sharp, 1997).

The qualitative study was based on Patton's (1990) proposed qualitative study purposive sample units of selection, when only those cases that are most informative in terms of investigation are chosen, i.e. criterion selection. For purposeful, semi-structured individual deep dyad interviews were selected specialists, as controlling group were selected experts best representing the issue from Siauliai County Administration, Siauliai City Municipality, Siauliai District Municipality and Akmene District Municipality, as a control group of experts representing the best investigated problem, etc. were selected Y. concerned professionals.

In order to describe the subject of the study more fully, to prove the validity and credibility of the results, to draw firm conclusions, the principle of triangulation was applied. Data collected by using interview method are compared and checked with the results received by using another qualitative data collection method – document analysis, by comparing and discussing different interpretations of the results.

The results of the research

The analysis of the results of empirical research is structured according to 3 problem areas of the study: the use and development of electronic signature, the use of electronic document management systems and electronic document management process.

As the uses of electronic documents expand, a number of laws relating to the preparation, use and management of these documents has recently been adopted. During the research we aimed to examine how public government institutions assess the readiness of RL legislation regulating the use of e-documents and e-signature. Three out of four institutions claimed that legal framework of the Republic of Lithuania is properly designed for use and development of e-signature. The scheme shows the expression of the respondents' opinion on this issue (see Figure 1).
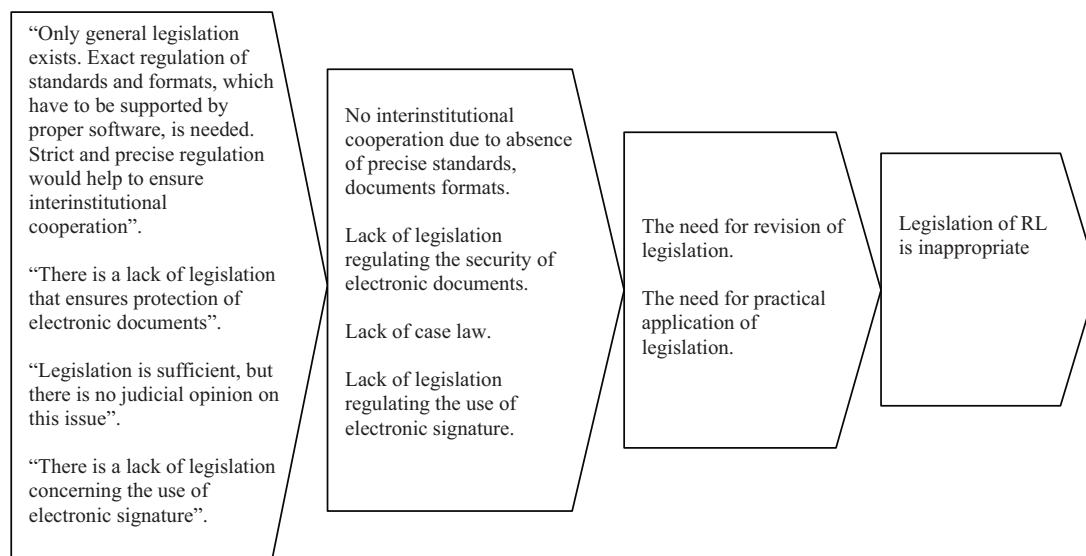

Figure 1. Identification of fitness of the Lithuanian legislation base for electronic signature infrastructure (analysis of informants' opinion)

The scientific literature and document analysis revealed that Lithuania has all the initial legal conditions to use e-signature and e-documents. ISDC shows that since 2004 Lithuanian legislation does not prevent from implementation and use of e-signature (see Table 1). However, after evaluation of the results of the empirical research there arises a contradiction to theoretical insights of the established opinion about the completeness of the legal framework.

The research has revealed that actually there are no suitable conditions for development of e-documents and e-signature. Legal acts are described not properly enough; therefore it is not clear for the state administration and local self-government institutions how to apply them in practice. Therefore, in compliance with the needs of public sector institutions, it would be purposeful to revise and renew the legal acts, strategic documents. From the results obtained it can be concluded that the legislative base of RL is prepared not properly.

The research has shown that in their activities, public sector institutions do not use e-signature due to ill-compatibility of legislation, lack of state encouragement and lack of positive examples, and partly due to employees' resistance to innovation. However, the results show that the institutions themselves do not demonstrate the initiative and do not see the need: they do not take part in state (free) projects, do not provide for e-signature development in internal (and strategy) documents of the institution, and fail to see the practical importance of the e-signature.

After the analysis of the first field of the problem-oriented research – the use and development of electronic signature in public administration institutions – these trends came out:
- The need for new laws more targeted to the needs of the public sector, and adjustment of the existing ones.
- Providing not only authorities and civil servants, but also citizens with e-signatures and certificates (eg, personal documents with e-signature capability).
- Preparation of promoting leverages to institutions and residents and use of such leverages.
- The initiation of development of "necessity" model that will help to expand the use of e-documents signed with e-signatures.
- Creation of a unified system (integrated network)

to exchange e-documents between state and other institutions, thus overcoming the lack of specialized software.
- Increasing motivation and competencies of staff of government institutions.
- Reduction of price for services of institutions providing e-signature certification.

In order to investigate the trends of development of e-document management, the first question was whether e-document management systems are used in public government institutions. The results of the analysis showed that e-document management systems are used and not a single institution doubts about their usefulness in their activities. It would be useful to distinguish the following informants' opinions:

"After the documents started to be provided electronically, the flow of paper documents decreased, but due to previous practice, opportunities given by document management system are not fully assimilated."

"If the document management system stopped, work in the institution would be impossible."

"Without a document management system there would be no the internal document management."

The obtained results revealed the fact that e-document management systems used by institutions are different. Public institutions, when carrying out their assigned functions, use computerized systems that help to fulfil only their functions, and often are not co-ordinated with similar computerized systems of other institutions; therefore they cannot exchange electronic documents with each other. There is also an obvious problem of technical incompatibility between the institutions concerned. In order to reduce these differences in public institutions, it is necessary to do the following: to adjust legislation, to identify and create such means of the e-signature and e-documentation solutions that they better serve the public institutions and interests of developing e-government.

The research revealed that the majority of employees of public institutions have the computer user certificates (ECDL). Most of these certificates have been issued with the help of EU support. After generalizing the informants' thoughts, it can be concluded that for the civil servants computer literacy level is not so important, more important is the possession of the ECDL certificate. Thus, the possession of ECDL certificate is only a prestigious indicator (document), showing a high level of computerization of an organization.

After the analysis of the second field of the problem-oriented research – possibilities of the use of electronic documents management systems – the following problems came out:

- Lack of initiative and competence on the users' side.
- Employees' resistance to change the routine.
- Incompatibility of information systems between public sector institutions.
- Insufficient accessibility of information about electronic systems that are used by the institutions.
- The need for organizations' employees to acquire new electronic document management competencies.

After systemization of the third field of the problem-oriented research – the process of electronic document management – the research results revealed that not a single institution gets electronic documents signed with an electronic signature. Informants claim that their institutions are prepared to receive e-documents signed with e-signature, if only the need arises. However, the institutions announce about the capability to receive e-documents signed with e-signature neither on the Internet sites, nor in any other source of information. It can be concluded that other institutions and residents do not even know about this possibility.

The research also aimed to find out whether the institutions experience the problem of e-documents storage (archiving). The informants' answers supposed an opinion that the institutions do not see this problem so far. Most likely, there is no need, because, as the results show, the institutions do not receive e-documents signed with the e-signature. The results lead to the conclusion that the institutions use not many e-documents in their daily work, so there is no need for storage (archiving) of e-documents yet. The majority of documents used in public administration institutions are their paper variants, or printed copies, or e-documents not signed with e-signature.

To sum up the research, according to the chosen problem-oriented spheres of the research the trends of development of e-document management in institutions were distinguished (see Figure 2).

After analysis of opportunities for and trends of development of management of electronic documents in public sector, and review of problems and objectives in theoretical aspect, it was found that Lithuanian legislation base does not present any obstacles to implement and use e-signature. However, the empirical study in state and local self-government institutions and the assessment of users' attitudes to the implementation of e-signature and the use of electronic documents showed that the legislative framework does not meet these expectations, and this is one of the main reasons preventing public sector institutions from moving to electronic means of document management and administration.
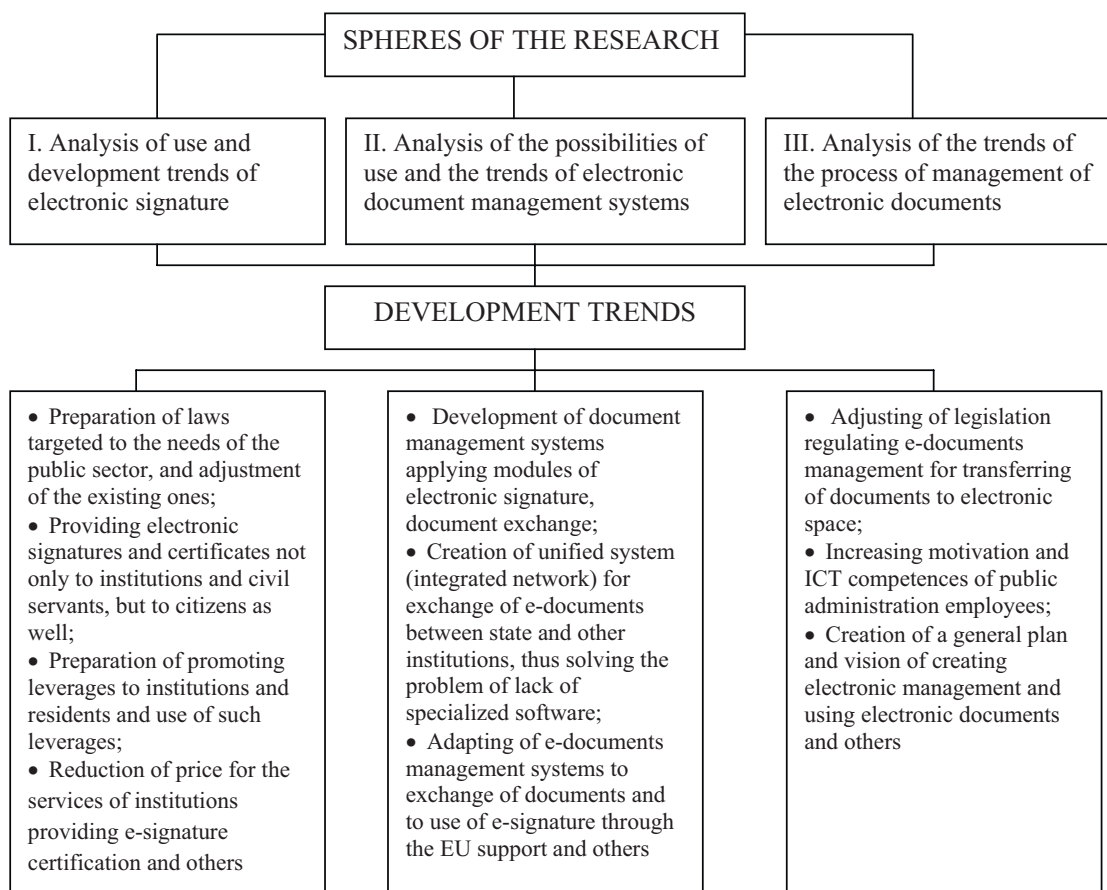
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                    │      SPHERES OF THE RESEARCH        │
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| I. Analysis of use and development trends of electronic signature | II. Analysis of the possibilities of use and the trends of electronic document management systems | III. Analysis of the trends of the process of management of electronic documents |

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                    │        DEVELOPMENT TRENDS           │
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| • Preparation of laws targeted to the needs of the public sector, and adjustment of the existing ones;
• Providing electronic signatures and certificates not only to institutions and civil servants, but to citizens as well;
• Preparation of promoting leverages to institutions and residents and use of such leverages;
• Reduction of price for the services of institutions providing e-signature certification and others | • Development of document management systems applying modules of electronic signature, document exchange;
• Creation of unified system (integrated network) for exchange of e-documents between state and other institutions, thus solving the problem of lack of specialized software;
• Adapting of e-documents management systems to exchange of documents and to use of e-signature through the EU support and others | • Adjusting of legislation regulating e-documents management for transferring of documents to electronic space;
• Increasing motivation and ICT competences of public administration employees;
• Creation of a general plan and vision of creating electronic management and using electronic documents and others |

Figure 2. Trends of development of e-document management in institutions

Conclusions

1. While progressing towards implementation of modern e-government principles, much attention is paid to the use of measures of administration and management of electronic documents in the public sector; therefore the need to solve problems related to theoretical and practical implementation of these measures is particularly relevant in the modern public administration system.

2. The legislative framework is not properly designed for development of e-documents and e-signature. Further enactment of legislation aimed at the public sector remains very important. The legal acts are not detailed enough, so for state and local self-government institutions it is not clear how to apply them in practice. Taking into account the needs of public sector institutions, it would be purposeful to revise and supplement the legal acts and strategic documents.

3. The attitude to the use and management of e-documents in state and local self-government institutions is more formal than strategic. The departments of the surveyed institutions do not pay sufficient attention to the use of electronic signatures and electronic documents in their functions. The tasks of the departments do not set specific activi-

ties to ensure the development of the use of electronic signatures and electronic documents.

4. Institutions do not use e-signature in their activities due to the ill-compatibility of legislation, lack of encouragement from the state and absence of positive examples, and partly due to the employees' resistance to innovation.

5. Employees of institutions are not motivated to use electronic signatures and electronic documents, internal regulations of institutions are not changed, document management systems are not coordinated with the Rules of Management of Electronic Documents.

6. The research identified a problem of technical incompatibility between the concerned institutions: institutions use different electronic document management systems, which makes the exchange of electronic documents between the institutions impossible. To reduce these differences, there should be cooperation: to coordinate legislation, to identify and develop common measures of use of electronic signature and electronic document systems.

7. Most of state and local self-government institutions provide public e-services of the first and the second maturity levels only, because they do not have a possibility to receive electronic docu-

57

ments, i. e. they are not ready to use electronic signature in open systems. In order to receive e-documents according to the 4th level, institutions have to improve the existing document management systems.

8. Institutions have difficulties in implementing transfer of documents and information into the electronic space, they do not demonstrate the initiative and do not see the need to use electronic documents in their activities, they do not take part in state-run (free) projects, they have no valid legislation or other strategic documents that define the processes and development of electronic signature and electronic document use.

9. For Lithuanian public administration system to correspond with the European level of public administration in the near future, a real constant public support should be given to find, coordinate and apply decisions that meet the EU requirements, a closer co-operation should be between business and public administration bodies, scientists and researchers.

References

1. Bitinas, B., Rupsiene, L., Zydžiunaite, V. (2009). *Kokybiniu tyrimu metodologija.* Vadovelis vadybos ir administravimo studentams. Klaipeda: S. Jokuzio leidykla-spaustuve.

2. Cain, P. (2003). MoReq: The Standard of the Future? *The Information Management Journal,* Mar/Apr, Vol. 37, Issue 2, 54–59 (EBSCO Publishing database).

3. Domarkas, V., Lukoseviciene, V. (2006). Elektronine valdzia informacijos teikimo visuomenei aspektu. *Viesoji politika ir administravimas*, 16.

4. Dumortier, J., Kelm, S., Nisson, H. *The Legal and Market Aspects of Electronic Signatures.* Study for the European Commission – DG Information Society. Interdisciplinary Centre for Law & Information Technology (EBSCO Publishing database).

5. *Elektronines valdzios koncepcija*, patvirtinta Lietuvos Respublikos Vyriausybes 2002 m. gruodzio 31 d. nutarimu Nr. 2115 (Zin., 2003, Nr. 2-54).

6. *Elektronines valdzios koncepcijos igyvendinimo priemoniu planas*, patvirtintas Lietuvos Respublikos Vyriausybes 2003 m. lapkricio 25 d. nutarimu Nr. 1468 (Zin., 2003, Nr. 112-5022; 2006, Nr. 36-1284).

7. *Elektronines valdzios Lietuvoje bukle ir perspektyvos* (2006). Studija. Lietuvos laisvosios rinkos institutas ir VU. UNESCO Tarptautinis ziniu ekonomikos ir valdymo centras. [Accessed on 2009-04-01]. Available online at <http://www.lrinka.lt/uploads/files/dir19/17_0.php>.

8. *Elektroninio paraso prieziuros institucijos Lietuvos Respublikos Elektroninio paraso istatymo igyvendinimo metine ataskaita* (2004) [Accessed on 2008-10-20]. Available online at <http://www3.lrs.lt/docs2/SL7KYS5LQX.DOC>.

9. *Elektroninio paraso prieziuros institucijos Lietuvos Respublikos Elektroninio paraso istatymo igyvendinimo metine ataskaita* (2005) [Accessed on 2008-10-20]. Available online at <http://www3.lrs.lt/docs2/LVXJZCFZ.DOC>.

10. *Elektroninio paraso prieziuros institucijos Lietuvos Respublikos Elektroninio paraso istatymo igyvendinimo metine ataskaita* (2006) [Accessed on 2008-10-20]. Available online at <http://epp.ivpk.lt/epp/Dokumentai/2007-04-02_Ataskaita_LRS.pdf>.

11. *Elektroninio paraso prieziuros institucijos Lietuvos Respublikos Elektroninio paraso istatymo igyvendinimo metine ataskaita* (2007) [Accessed on 2008-10-20]. Available online at <http://epp.ivpk.lt/epp/Dokumentai/2008-03-29_ataskaita.doc>.

12. *Elektroninio paraso prieziuros institucijos Lietuvos Respublikos Elektroninio paraso istatymo igyvendinimo metine ataskaita* (2008) [Accessed on 2009-05-14]. Available online at <http://epp.ivpk.lt/epp/Dokumentai/2008_EPI_ataskaita.pdf>.

13. *Elektroninis dokumentu valdymas ir skaitmeninis parasas valstybes institucijose... kaip ir kada* (2006 m. spalio 12 d.) [Accessed on 2009-01-10]. Available online at <http://www.doclogix.lt/index.php?mid= 303& lang=lt>.

14. Frechtling, J., Sharp, L. (1997). *User-Friendly Handbook for Mixed Method Evaluations*. Virginia: National Science Foundation.

15. Garuckas, R., Kaziliunas, A. (2008). E. valdzios ir viesojo sektoriaus saveikos Lietuvoje analize. *Viesoji politika ir administravimas*, *23*, 59–67.

16. Ginevicius, R., Paliulis, N. K., Chlivickas, J., Merkevicius, J. (2006). *XXI amziaus issukiai: organizaciju ir visuomenes pokyciai.* Vilnius: Technika.

17. *Lietuvos informacines visuomenes pletros strategija,* patvirtinta Lietuvos Respublikos Vyriausybes 2005 m. birzelio 8 d. nutarimu Nr. 625 (Zin., 2005, Nr. 73-2649).

18. *Lietuvos Respublikos elektroninio paraso istatymas.* 2000 m. liepos 11 d. Nr. VIII-1822 (Zin., 2000, Nr. 61-1827).

19. Limba, T. (2007). Elektronines valdzios diegimas ir perspektyvos Lietuvoje: visuomenes ir valdzios institucijiu saveika. *Informacijos mokslai,* 42–43, 242–250.

20. Neale, W. E. (2004). *ISO 15489 – Setting the Standard for Records Management.* AIIM E-DOC; Sept/Oct, Vol. 18, Issue 5, 10 (EBSCO Publishing database).

21. Ozaliene, A., Saparniene, D. (2008). Elektroniniu dokumentu valdymas viesajame sektoriuje: pletros galimybiu analize. *Ekonomika ir vadyba: aktualijos ir perspektyvos,* 3 (13). Siauliai. Siaulių universitetas, 2008, 199–205.

22. Paliulis, N. K., Jurkenaite, N. (2007). Elektronines valdzios pletros Lietuvoje problemos ir tendencijos. *Viesasis administravimas*, 3 (15), 48–52.

23. Paliulis, N., Chlivickas, E., Pabedinskaite, A. (2004). *Valdymas ir informacija.* Monografija. Vilnius: Technika.

24. Patton, M. (1990). *Qualitative evaluation and research methods.* SAGE Publications. Newbury Park, London, New Delhi.

25. Petrauskas, R., Malinauskiene, E. (2007). Elektronines valdzios moksliniai tyrimai: Lietuva pasaulio kontekste. *Viesasis administravimas*, 3 (15), 65–71.
26. Raipa, A. (2006). Viesojo administravimo sistemos tobulinimas ir perspektyvos. *Viesoji politika ir administravimas,* 16, 112–113.
27. Sauliunas, D. (2000). Elektroninis parasas: evoliucija ar revoliucija? *Justitia,* 3 (27), 28–29.
28. *Valstybes ilgalaikes raidos strategija*, priimta Lietuvos Respublikos Seimo 2002 m. lapkricio 12 d. nutarimu Nr. IX-1187 (Zin., 2002, Nr. 113-5029).
29. *Viesojo administravimo pletros iki 2010 metų strategija*, patvirtinta Lietuvos Respublikos Vyriausybes 2004 m. balandzio 28 d. nutarimu Nr. 488 (Zin., 2004, Nr. 69-2399).
30. Waldron, M. (2004). Adopting Electronic Records Management: European Strategic Initiatives. *The Information Management Journal,* July/Aug, Vol. 38, Issue 4, 30–35. (EBSCO Publishing database).
31. Zilioniene, I. (2004). Elektronines valdzios pletros planavimas: svarbiausiu dokumentu apzvalga. *Viesoji politika ir administravimas*, 10, 39–45.

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Elektroninių dokumentų valdymas viešajame sektoriuje: plėtros galimybių ir tendencijų analizė

Santrauka

Straipsnyje nagrinėjamas Lietuvos viešojo sektoriaus modernizavimo procesas elektroninių dokumentų valdymo plėtros aspektu. Siekiant išsiaiškinti priežastis, kodėl Lietuvos viešojo sektoriaus institucijos vis dar neryžtingai pereina prie elektroninių dokumentų valdymo ir administravimo priemonių bei nustatyti elektroninių dokumentų valdymo viešajame sektoriuje plėtros galimybes ir tendencijas, atlikta Lietuvos ir užsienio autorių mokslinių publikacijų, paskelbtų tyrimų rezultatų, Lietuvos Respublikos teisės aktų, strateginių planų, ataskaitų, tarptautinių standartų, ES direktyvų, interneto šaltinių analizė, jų sisteminimas ir empirinis kokybinis tyrimas Šiaulių miesto valstybės valdymo ir vietos savivaldos institucijose.

Atlikto tyrimo rezultatai atskleidė elektroninio parašo ir elektroninių dokumentų naudojimo ir plėtros situacijos problemiškumą viešojo sektoriaus institucijose – valstybės institucijos nėra pasiruošusios oficialių elektroninių dokumentų mainams. Įvertinus specialistų-ekspertų nuomonių raišką, identifikuotos pagrindinės elektroninių dokumentų valdymo plėtros problemos ir numatytos jų sprendimo galimybės.

Gauti tyrimo rezultatai leido pastebėti akivaizdų prieštaravimą tarp mokslinėje literatūroje, teorinėse įžvalgose siūlomų lanksčių ir inovatyvių valdymo metodų, pasitelkiant informacines technologijas, taikymo galimybių ir nepakankamai lankstaus viešojo sektoriaus elektroninių dokumentų valdymo teisinio reglamentavimo Lietuvoje.

Atlikus tyrimą paaiškėjo, kad Lietuvos viešojo sektoriaus elektroninių dokumentų valdymo ir informacijos pasikeitimo elektroninėmis priemonėmis šiandieninė sistema įstatymuose ir teorinėse įžvalgose akivaizdžiai skiriasi nuo praktinių sprendimų įgyvendinimo. Todėl siekiant, kad iki 2010 m. Lietuvos viešojo administravimo sistema atitiktų Europos šalių viešojo administravimo lygį, turėtų būti skiriama daugiau dėmesio sparčiam informacijos pasikeitimo elektroninėmis priemonėmis sistemų diegimui, dokumentų perkėlimui į elektronines laikmenas ir elektroninių dokumentų strateginei plėtrai.

Atliktas tyrimas parodė, kad šiandieninės Lietuvos viešojo sektoriaus elektroninių dokumentų valdymo ir informacijos pasikeitimo elektroninėmis priemonėmis sistema, deklaruojama įstatymuose ir teorinėse įžvalgose, skiriasi nuo realių praktinių sprendimų įgyvendinimo.

Pagrindiniai žodžiai: elektroninė vyriausybė, elektroninis parašas, viešojo sektoriaus modernizavimas, elektroninių dokumentų valdymas viešajame sektoriuje