NÁRODNÁ BANKA SLOVENSKA

E-GOVERNMENT

WEBOCRAT - A SYSTEM FOR SUPPORTING KNOWLEDGE MANAGEMENT IN AN ORGANISATION

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The economy's development, both at the national as well as the regional level, is conditional upon the efficient functioning of public administration at all levels. This article deals with several current trends in public administration related to the implementation of information and communication technologies. These trends are termed "e-government" (electronic government). The main aims of e-government are to increase the efficiency and transparency of public administration, to increase the quality and accessibility of public administration for citizens as well as businesses. Achieving these aims will, naturally, have a positive effect also on the economy's development. The implementation of programmes focused on e-government is however important also with regard to the Slovak Republic's accession to the European Union.

e-Government

The manner in which public administration is performed and the services it provides for citizens and the business sector are undergoing significant changes in Europe as well as in other developed countries around the world. Information and communication technologies (ICT) are contributing substantially to this. Evidence of how important the digitisation of public administration is viewed by EU Member State governments and the European Commission is the fact that e-government has been made one of the priorities of the eEurope Action Plan 2005[1]. This action plan links to the new common political framework for a knowledge economy, agreed at the European Council's Lisbon Summit in March 2000, which is aimed at increasing competitiveness, ensuring permanently sustainable economic growth, increasing employment and the social cohesion of EU Member States. The acceding countries, including the Slovak Republic, have adopted the eEurope Action Plan[2], which is expanded by the construction of the basic building blocks of an information society. Unfortunately, the fulfilment of the eEurope Action Plan's tasks (where the Plan defines the tasks and deadlines for fulfilment also for the field of the digitisation of public administration) so far can hardly be considered as satisfactory.

Closely connected with e-government is electronic democracy (e-democracy). "Electronic democracy" means the use of information and communication technologies to strengthen democratic processes, or to be more precise – strengthening the participation of citizens in the democratic processes of a society [Dutton, 1999].

Within the framework of e-government applications we can differentiate three user groups: citizens, elected representatives (politicians) and public administration staff. The aim of e-government applications is to improve communication between all these groups. Besides the advantages of improved communication between the individual user groups (without restriction on place and time), e-government brings also other advantages, for new types of services – the electronic provision of certain services (e.g. the registration of businesses, payment of taxes and fees, disbursement of social benefits, handling various applications – change of residence, car registration, issuing of a driver's licence, etc), it improves access to an extensive volume of information in the framework of public administration, the creation of electronic forums intended for the discussion of various public and professional problems, the realisation of online voting and public opinion polls, or local referenda, public procurement via the Internet, etc. In exploiting the advantages of ICT in the public sector there is also expected support for modern forms of work and subsequently also a change in the way of managing information and knowledge in public administration institutions. The implementation of e-government systems should improve all aspects of communication and support the decision-making process as the basis of political activities. Since every decision is based on knowledge and since public administration institutions (similarly, as for example also financial and banking institutions) are typical knowledge-based organisations, a new quality in e-government applications is brought by

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[1]http://europa.eu.int/information_society/eeurope/index_en.htm
[2]http://europa.eu.int/information_society/topics/international/reg ulatory/eeuropeplus/action_plan/index_en.htm

the use of knowledge management techniques. One of the definitions of knowledge management says that it is a "process of gaining and providing the right information, by the right (authorised) people, in the right format and at the right time".

In general, e-government applications are aimed at strengthening democratic processes. It is however necessary to emphasise that e-government type projects and e-democracy do not mean the development of direct democracy. On the contrary, they should primarily support the existing system of representative democracy.

In the framework of reforming public administration in Slovakia, citizens' rights are growing and thus also local authorities are becoming more accountable. In this respect, e-government application systems at the local government level are acquiring an ever greater importance.

Organisational and social aspects of e-government projects

In the implementation of e-government applications we can identify four areas of problems:

1. The transformation of public administration into cost-effective, dynamic, productive organisations.

2. The provision of interactive services on a user-needs driven basis for citizens and businesses with the required degree of security and reliability.

3. The use of ICT in the structure of public administration organisation so as to guarantee their openness, transparency and flexibility.

4. The support of general government and public administration tasks in ensuring economic development of society, and one that is socially just and cohesive.

If an e-government project is to be successfully realised, several other requirements must be met:

• The existence of a clear vision, a management strategy in the e-government field, which is supported by the organisation's top management.

• The project is planned on the basis of demand-driven needs, and is not motivated merely by existing technology (the so-called "technology push project").

• A user-friendly interface to the system – the user's interaction with the system should be friendly, simple, intuitive. This must apply for all user groups.

• The technical solution must guarantee security, protect user_s privacy and trust.

• A component of the project is a human resources development programme for the organisation's staff.

• The existing organisational culture supports the e-government project.

• Key staff in the organisation are identified in the framework of the project (with regard to position, knowledge and skills) and these must be brought on board for the project – for ensuring the project's success a sense of project ownership within this group is inevitable.

• Adoption of suitable legislation supporting e-government applications (e.g. an act on free access to information, electronic signatures, personal data protection, etc).

• General access to the Internet.

E-government, besides changes related to contact with users (front office), requires also change in the organisation of support services (back office). In essence, the following problem areas are involved:

1. Re-engineering of processes within the organisation of public administration.

2. Re-engineering of processes between organisations jointly. Here we can differentiate: (a) vertical integration (i.e. integration of public administration organisations at various levels – e.g. local authority, regional authority, central state administration), (b) horizontal integration (integration of public administration organisations at the same level and partner organisations).

3. Re-engineering of existing technologies, but in particular processes, staff skills, the organisational culture in the framework of the given organisation.

It is necessary to mention that the current trend in the creation of e-government systems is an integral part of a broader trend – the development of a virtual society. The term "virtual society" represents all components of culture based on functionality rather than on their physical existence. Culture, which was once founded exclusively on physical contact is in the process of transforming into a culture, where goods and services are available without the need for direct contact with people [Igbaria, 1999]. An important phenomenon of a virtual society in the business sector is the introduction of e-business as well as e-banking. Some e-business models are relevant also for e-government systems (e.g. using e-business principles for operating public procurement).

Modern technologies, in particular ICT, enable this transformation of society and are an essential condition for the development of a virtual society. Nonetheless, a virtual society is not merely some sort of sophisticated linking of computers and ICT, what is important is also the impact of these technologies on the individual, groups, organisations and society. The technology itself does not guarantee the functioning of a virtual society. Although technology is becoming ever better and more intelligent, it is clear that social and economic forces will be the determining factor in the development of a virtual society [Igbaria, 1999].

The Webocracy Project

An example of an e-government project is the project "Web technology supporting direct participation in democratic processes (Webocracy)", which is financed by the European Commission in the framework of the 5th Framework Programme (contract number IST-1999-20364) and which is co-ordinated by the Technical University in Kosice, the Faculty of Electronics and Information Tech-

nology. **Project partners:** Wolverhampton University (Great Britain), Regensburg University (Germany), JUVIER, s.r.o. (Slovakia), CITEC Information Oy Ab (Finland), Kosice Town Quarter Tahanovce (Slovakia), Kosice Town Quarter Dargovskych Hrdinov (Slovakia), Wolverhampton City Council (Great Britain).

Main Project Aim: a web system has been developed in the framework of the project, providig citizens with innovated tools for communication with public administration, enabling them access to information in public administration organisations, voting – public opinion polls on the Internet, whereby the participation of citizens in democratic processes in general is supported and the transparency of public administration is increased.

Organisational Aims of the Project:

• To facilitate communication between citizens, deputies of local authorities and their staff, and thereby to increase the opportunity for citizens to influence the work of public administration.

• To provide for all user groups simple access to information available in public administration organisations.

• To support discussions on important issues of the public interest and to increase the professional level of these discussions (through providing references to documents relevant to the given issue). To provide citizens the opportunity to express their opinion (concerning important issues of the public interest), the opportunity to formulate alternative solutions to these issues and possibly also to vote on them.

• To support public consultation concerning legal problems.

• To increase the transparency of public procurement through the publication of tenders on the Internet.

• To increase the quality of public services and the effectiveness of handling public funds through enabling citizens to monitor their use and through requesting feedback from citizens.

• To support cooperation between local authorities, regional co-operation and organisational learning, and in the end also the accession of acceding countries to the EU.

The Webocrat System is composed of the following modules:

1. Discussion Forum – for the support of intelligent communication of citizens, deputies and local authority staff in several fields:

a) discussion between citizens and deputies,

b) public discussion – inputs and opinions of citizens, interest groups, professional associations on budgets under preparation, organisational and legal measures, etc.

2. Web Content Management (WCM) module – supports the publication of documents that are a subject of interest not only for citizens, but also for businesses, co-operating organisations and possibly other interest groups. Various types of documents (draft measures, decisions, budgets, reports, etc.) are published in the pub-

lication zone. A part of this module is also a navigation and browser tool. A relatively separate part of the WCM module is the sub-module for electronic public procurement – supporting the publication of tenders (the publishing of all documents and directives necessary for applying for a tender) the sub-module however supports only publication, not the whole public procurement cycle.

3. Voting Booth – enables electronic voting (public opinion polls) on issues published in the WCM module and discussed in the Discussion Forum module. This module has the respective security features (e.g. ensuring anonymity in voting in the case of selected types of voting/polling etc.).

4. Information Module – users can ask questions by means of a user interface. As an answer, the system offers a set (one or more) of documents that are relevant to the given issue (this may concern files of a various type and format – HTML, Word documents, e-mails, etc.).

5. Bulletin Module – this module closely cooperates with the Discussion Forum and Voting Booth modules and provides the means for personalisation (the user may define his/her field of interest), the notification of users of new activities in the Webocrat system that are relevant to their profile, the generation of system use summaries (e.g. contributions in the Discussion Forum, voting results, comments on documents, etc).

6. Knowledge Module – functions supported by other modules are supported by the knowledge management module (ensuring the intelligent behaviour system features). The knowledge module meanwhile ensures the integration (interconnection) of all the other modules.

The Webocrat system developed was tested within the project by partner local authorities in Slovakia and Great Britain in the framework of pilot applications. Experience from the pilot applications points to the utility and versatility of the Webocrat system, which may be effectively employed for the diversified support and expansion of services provided by public administration to citizens and other user groups.

Since the pilot applications were carried out in two different countries, it was interesting to monitor the differences in the culture and work style at the individual localities. For example in Wolverhampton[3] (Great Britain) they have a long tradition of consultative activities focused on public opinion polls concerning current issues and decisions that the public administration is adopting. For these purposes strategic partnerships have been created with various interested non-governmental agencies, educational, healthcare and other institutions. During the pilot application, for example, the process of the draft "Wolverhampton Local Strategic Partnership" was underway, the aim of which was to create a ten-year development plan for the local community. With the help of consultancy acti-

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[3] The pilot application in Wolverhampton can be found at the address: http://www.wolforum.org

vities with citizens and interested institutions (stakeholders) a higher level of public services provided by agencies in Wolverhampton should be achieved. For this purpose in particular the Discussion Forum, the Voting Booth and the publication module (WCM) of the Webocrat system were all used to great effect.

An interesting example of a new type of service provided is the possibility of electronic submissions, which has been realised and tested at the request of the Kosice Town Quarter Dargovskych Hrdinov[4]. It is currently possible to send selected forms as well as non-form submissions electronically via the Webocrat system, where the sender has the possibility to track the current status of how their submission is being handled. Significant interest was shown by citizens in this service and has even led to a shortening of the average period for handling a submission from 21 days before in the case of submissions sent by mail to 6 days in the case of electronic submissions now. An interesting feature is also the linking of this Webocrat system function with the existing system for the registration of mail, which has been implemented at the authority for some time. In this way, submissions received electronically are actually automatically registered and distributed within the original system in the local authority.

The pilot application in the Kosice Town Quarter Tahanovce[5] has brought an interesting piece of information, namely that the implementation of progressive technology can positively influence changes in organisational processes within an organisation. At the Tahanovce Quarter, they focused on using the publication module, where the publishing of documents is a use of the Webocrat system now available to regular staff of the local authority, and so it has been possible to transfer responsibility for individual information groups on the web directly on to the departments in charge. Besides this, they became a favourite communication channel for discussion, where citizens have, for example, the opportunity to address even the mayor directly.

In 2003, the system underwent various adjustments, that have recently, after achieving full system functionality, been aimed in particular at fine-tuning the user interface, as several users of the system had commented on this. Whereas the majority of the mentioned functionality of the system was handled well by users, that part focused on the most advanced technology (knowledge module, definition of personal profiles, intelligent browsing) has for the time being been used only by a small group of users. The last changes in the user interface should however bring a simplification in the understanding and use of these system elements, which could become a stepping-

stone into an era of real implementation of knowledge management in an e-government environment.

Overall it can be said that the Webocrat system provides a very useful and versatile technology for supporting e-government. Nevertheless, its successful implementation and utilisation is dependent upon strong commitment on the part of mayors and the responsible public administration staff, who must make a sincere effort and take decisive steps in the framework of their competence to bring elements of e-government into everyday life.

Conclusion

This article deals with the issue of the application of information and communication technologies in public administration, with a focus on supporting democratic processes. It briefly outlines e-government and e-democracy applications, the aims of and requirements for their successful realisation. These applications are directed towards fulfilling the aims of the eEurope Action Plan and are one of the foundations for building a knowledge economy. The article also introduces the aims of the Webocracy project, which has been carried out in the framework of the Information Society Technologies programme (IST programme) of the 5th EU Framework Programme. The project is coordinated by the Technical University in Kosice and involves partners from Great Britain, Germany, Finland and Slovakia.

The aim of the project is to develop a web knowledge system supporting the following functions: discussion, the publication of papers on the web, public opinion polls, processing various summaries and statistics, an intelligent system of acquiring information, as well as knowledge management. More information on the Webocracy project can be found at http://enrich.feituke.sk/webocracy/.

A Webocrat type system can be used also by types of organisation other than public administration institutions, in particular for improving communication and cooperation with their customers or partners.

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[4] The pilot application of the Kosice Town Quarter Dargovskych Hrdinov is at the address: http://www.kosice-dh.sk

[5] The pilot application of the Tahanovce Town Quarter in Kosice is at the address: http://www.tahanovce.sk/mutah