A Development of legislation through electronic support of participation: LEX IS project

Euripidis LOUKIS [1], Maria WIMMER[2] , Anna TRIANTAFILLOU[3], Yannis CHARALABIDIS[4], Georgios GIONIS[5], Rimantas GATAUTIS[6]

[1]*University of the Aegean, Gorgiras str., 83200 Karlovassi, Greece,*
Tel: + 30-22730-82221, Fax: +30-22730-82009, Email: eloukis@aegean.gr
[2]*University of Koblenz-Landau, Universitaetsstr. 1, 56070 Koblenz, Germany,*
Tel: + 492612872646, Fax: + 49 261 287 100 2646, Email: wimmer@uni-koblenz.de
[3]*Athens Technology Center, Rizariou str. 10, 152 33 Athens, Greece*
Tel: + +30 210 6874300, Fax: +30 210 6855564 Email:a.triantafillou@atc.gr
[4] *National Technical University of Athens, Iroon Polytechniou Str., 15773 Athens, Greece,*
Tel: +30-210-7723555, Fax: +30-210-7723550, Email: yannisx@epu.ntua.gr
[5] *National Technical University of Athens, Iroon Polytechniou Str., 15773 Athens, Greece,*
Tel: +30-210-7723555, Fax: +30-210-7723550, Email: gionis@epu.ntua.gr
[6]*Kauno Technologijos Universitetas, Laisves av. 55, 44029 Kaunas, Lithuania,*
Tel: +370 37 300569, Fax: + 370 37 20757, Email: rgataut@ktu.lt

Abstract: The LEX-IS project (its full title being 'Enabling Participation of the Youth in the Public Debate of Legislation' among Parliaments, Citizens and Businesses in the European Union) is part of the 'eParticipation' Preparatory Action of the European Commission (Commission of the European Communities, 2006) aims for contributing to these issues. Its main objective is to improve the legislative process and output in the National Parliaments by enhancing public participation in the preparatory stages (legislation proposal formation stage and public debate of draft legislation), with special emphasis on the youth, using advanced ICT-based tools and methodologies, such as ontologies, metadata, argumentation support, facilitation and visualization methods, process management approaches.

1. Introduction

All over the world, democratic decision-making and participation face a serious crisis; a lack of support by the public to the political system and a negative attitude towards politics can be observed in many countries, one of its symptoms being the low turnout of the voters in the elections (OECD, 2001; OECD 2003; Coleman, 2004; Commission of the European Communities, 2006). The political communication, instead of being a dialogue deliberation, tends to be monological, professionally produced and released for public consumption mainly based to a large extent on marketing criteria. At the same time the social problems have become more difficult and multi-dimensional, and the decision-making at all levels of government more complex, necessitating the involvement of more parties and interests than in the past. In this complicated and difficult context governments aim at designing effective and efficient public policies, which incorporate the knowledge and expertise of many

stakeholders. These pubic policies should be widely supported by the stakeholders and by their societies in general.

However, although in the literature the high potential of ICT for supporting and enhancing public participation im policy making has been recognized and highly emphasized, it has not been sufficiently investigated in more detail: only to a very small extent has been examined how particular ICT can be used for supporting and enhancing particular public participation forms and processes, how useful they can be, what value they can generate in various real-life situations and also which are the main determinants of this value; according to OECD there is 'limited experience to date' in this area [8]. The present paper contributes to bridging this gap by describing an investigation of the potential of two important ICT, argumentation systems and ontologies, for supporting and enhancing public participation in the most important public policy process: the legislation process. The development of legislation for managing the complex and multi-dimensional problems that modern societies face is much more difficult and complex than in the past, and necessitates the involvement of a big number of parties and interests, so it is necessary to support it with advanced ICT. The investigation described in this paper has been performed as part of the LEX-IS project (its full title is 'Enabling Participation of the Youth in the Public Debate of Legislation' among Parliaments, Citizens and Businesses in the European Union) (http://www.eu-participation.eu/lex-is/), which is currently implemented as part of the 'eParticipation' Preparatory Action of the European Commission (http://www.eu-participation.eu). The main research question addressed in this investigation is: which are the best ways of using argumentation systems and ontologies for supporting and enhancing public participation in the two basic preparatory stages of the legislation process: in the legislation proposal preparation stage and in the stage of debate on draft legislation.

2. Objective

The papers aims to explore the importance of eParticipation in modern government activities, the need for innovative eParticipation solutions, technological approach of proposed solution and expected results of such technology implementation

3. eParticipation challenge for the governments

The paradox of contemporary politics is that public access to Parliament has never been greater, but the mood of public remoteness and alienation from the formal democratic process has never been more acute. The noisy vivacity of political speech, characteristic of the ancient agora or the market square, assumes nowadays a distant and romantic quality, while the political speech, witnessed via the broadcast transmission of parliamentary theatre, is regarded as performance.

Electronic participation (e-participation) has hitherto been almost uncritically promoted and emphasized as having great potential of transforming relations between administration and the public, and expected to help reform the classical model of democratic involvement. In this context, Arnstein claims that the involvement of the public in decision-making represents a distribution of power from the authority to the citizens.

As stated in recent eGovernment-related publications, instead of dialogical deliberation, political communication has tended to be monological, professionally produced and released for public consumption as a marketing exercise. For most citizens, political debate has come to be perceived as something to watch – or to switch off.

Recent reports suggest increasing participation across Europe, while proposing an eParticipation Framework to be viewed under three axes:

- *E-information*: The government websites offer information on policies and programmes, budgets, laws and regulations, and other briefs of key public interest. Tools for dissemination of information exist for timely access and use of public information, including web forums, e-mail lists, newsgroups and chat rooms.

- *E-consultation*: The government website explains e-consultation mechanisms and tools. It offers a choice of public policy topics on line for discussion with real time and archived access to audios and videos of public meetings. The government encourages citizens to participate in discussions.
- *E-decision making*: The government indicates that it will take citizen input into account in decision making and provides actual feedback on the outcome of specific issues.

In general, participation in policy-making and the legislative procedures falls into the mission of the National Parliaments. Historically, the foremost responsibility of a Parliament has been the legislative one, principally encompassing voting of Statutes (i.e. legislative Acts, typical laws) and revision of the Constitution. A typical legislation procedure in Parliaments includes discussing, working out and passing typical laws and can be facilitated if the statutory authority collects (and acts upon) evidence, opinions and perspectives from all the interested or affected citizens and associations. By default, the level at which the public can be involved varies with the relevant legislation.

National Parliaments in EU represent citizens dwelling in large and sparsely populated areas, making frequent face-to-face meetings impractical. In addition, the general lack of awareness of the participative options available and the underlying alienation from existing political systems and structures (manifested by a negative attitude towards politics, regarding any public involvement as vain effort, since 'all decisions have already taken') reflect the political view of the vast majority. The situation exacerbates with political disputes and verbose speeches on behalf of the politicians, which discourage citizens from attending the sessions and thus undermine the legal process and the authority of the Parliamentarians. In fact, according to EPRI Knowledge, Parliamentarians and citizens in most developed democracies, seem hopelessly bound together in an "unhappy marriage": Both of them can be said to be on the one hand, dissatisfied and resentful, while on the other seeking for more opportunities to interact, converse, be listened to and in general, more responsiveness. The risk in this situation is not only a potentially acrimonious divorce, but a risk of long term damage to the institution – the parliamentary representative system - itself.

eParticipation potential is still far from being fully realized, as stated by Ake Gronlund: "*e-Democracy IT tools are so far mainly quite simple mainstream systems...*" and "*...more advanced IT tools have to be employed to support the participation*". These mainstream systems include websites, e-mail, FAQ lists, web-based discussion boards, which are recognized as a useful way of encouraging and supporting eDemocracy. Although such systems can indeed encourage participation and debate, they generally provide no structure to the information gathered. There is an imperative need therefore for defining a methodology which addresses the requirement for structured discussion rules in a reflective discussion about a policy issue, creates visualizations of such discussions and eventually eliminates the dependence of the emerging results upon post-hoc analysis.

Based on the above analysis, it is evident that there is a strong need to provide more sophisticated solutions in order to improve the legislative process in the Parliaments by enhancing the public participation in the preparatory stages (legislation formation and debate).

4. Methodology

Taking into consideration the need to improve the legislative LEX-IS project propose to establish eParticipation platform that promotes the use of ICT tools and applications with advanced functionalities (such as modelling capabilities, workflow and role assignment, argument visualisation, enhanced searching, etc) in order to provide the average citizen or NGO with state-of-the-art technologies, and in order to participate actively in the decision-making process by interacting directly with decision-makers', appears to be critical for the providing the citizen with "feel of power" that will push him/her to participate, thus leading to a significant reduction of the democratic deficits.

The actual users of the platform will be Members of the Parliaments (MPs) and other operational staff of the Parliaments, Citizens, with a specific orientation towards the participation of teenagers, Businesses, Non-governmental organisations and collective/representation bodies and independent legal experts and public servants taking part in law formulation.

The development of the platform will be based on following methodological assumptions:

- Analysis of already existing community of users – i.e. Ministries and relevant institutions, Parliaments, citizens, businesses, NGOs and socio-economic groups' needs and requirements. These users groups will be categorized to discrete user groups with specific characteristics and requirements from the system. In parallel a needs model will be enriched and refined where necessary according to the various sets of existing requirements – i.e. legislative process stages and sub-stages, structure of EU and national legislation, argumentation support methods, etc – in order to constitute a semantically annotated repository of models that will "drive" the system's operation.
- Basing on users groups semantic model existing architectural components will be integrated to a fully functional e-Participation platform with specific functional features – i.e. workflow awareness legislative information structuring, retrieval and visualisation, argumentation support, etc.
- The integrated e-Participation platform will be put through a period of pilot operation where all its features and capabilities will be tested and evaluated in a pragmatic environment of real life events.

3. Technology Description

LEX-IS platform aims to bring the following main services to Parliaments, Businesses, Citizens and, especially, youngsters:

- **The ability to query and view** the legal structures and elements (draft laws, legal components, legal documents, supportive information) in multiple levels of abstraction and decomposition, using content management engines and legal metadata schemas already available within the consortium.

- **The ability to view the argumentation structure** of a law that is under formation, using semantic annotation and argument visualisation techniques.

- **The ability to express opinions** around legal components, arguments that are presented by the participating organisations, or opinions of other parties, in a structured way that promotes participative decision-making.

IN order to provide these services LEX-IS platform architecture comprises three main areas, the universal repository, the core functionality subsystems and the participative platform web front end.
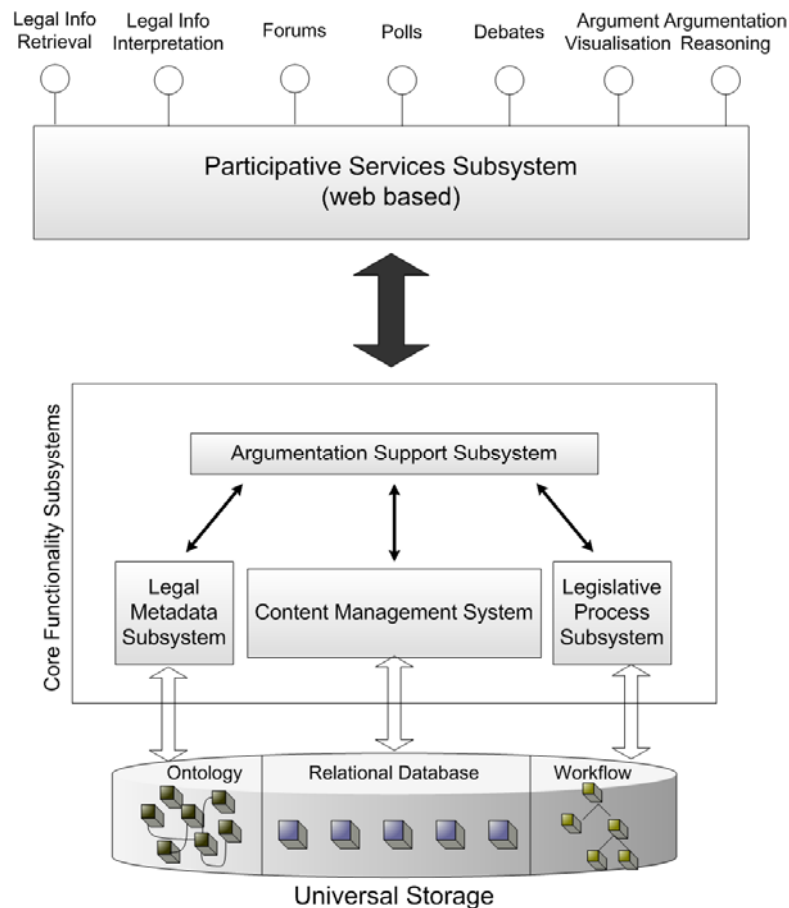

Figure 1: Platform Architecture

The Universal Storage Subsystem is the main storage facility of the system and it comprises three distinct repositories.

1. **The Ontological Repository for Legislation/Legislative Information,** which constitutes the main area for storing legislation and legislative information. This repository is based upon the Legal Framework ontology which is developed by the project consortium and proposes a novel way to organise and structure legal information, using ontological features that enhance content access and content interpretation based on the interrelations among the data entities defined in the ontology. Specifically the Legal Framework ontology embodies the current structure of the EU Legal Framework and the way this relates to National Legal Frameworks. Through this, the ontology not only provides a way for organising legislation and legislative information but additionally it incorporates and represents all the accompanying interdependencies between EU and national frameworks thus allowing for the extraction of valuable conclusion such as the existence of cross-

border issues that connect to EU legislation and local laws, the current implementation status of EU legislation in national framework and the impact of EU legislation to local frameworks. The following figures present the structure of EU legislation and its interrelations to local frameworks and the current status of the Legal Framework ontology:

2. **The Relational Database,** which is a standard database for the storing of all conventional data and information that will be handled through the system – i.e. user profiles, information about polls, discussions, debates, mailing lists, banners, leaflets, news, events, etc

3. **The Workflow Model Repository,** which stores the necessary models regarding the execution flow, related user roles and accompanying actions in the several sub-stages that each on of the two main stages of the legislative process comprises. Up to now the consortium has already developed such a model that, according to the specifications stated in the work programme of the call, separates the legislative process into two discrete stages – the legislation proposal formation stage and the debate on draft legislation stage, each one of which incorporates other individual sub-stages. The entire procedure as it is realized in the workflow that will be executed by the system resembles two cones connected at their bottoms. In the first stage (legislation formation) the system engages a relatively broad user base of (e.g. Ministries and members of the Parliament) in order to discuss upon existing legislation, policies and needs. As we move on into that stage the system enables fewer and more fitted and skilled users (e.g. Parliamentary Committees) to participate in order to proceed to the formulation of the necessary legal elements. The first stage ends with the drafting of the legislation solely by the authorized parties (e.g. a national Parliament or Public Administration). The second stage starts taking as input the draft legislation and gradually engages more and more users in the debates around it. Primarily NGOs and collective bodies participate in order to finalize the legislation's description and as we move on the user base becomes even broader by enabling business and citizens to participate. At every stage and sub-stage the system is fully aware of the user groups that are allowed to participate and provides them with the necessary support through a series of specially customized services – information retrieval, argument visualisation, argumentation reasoning, etc – according to their profile. The following figure presents the workflow model at its current state:
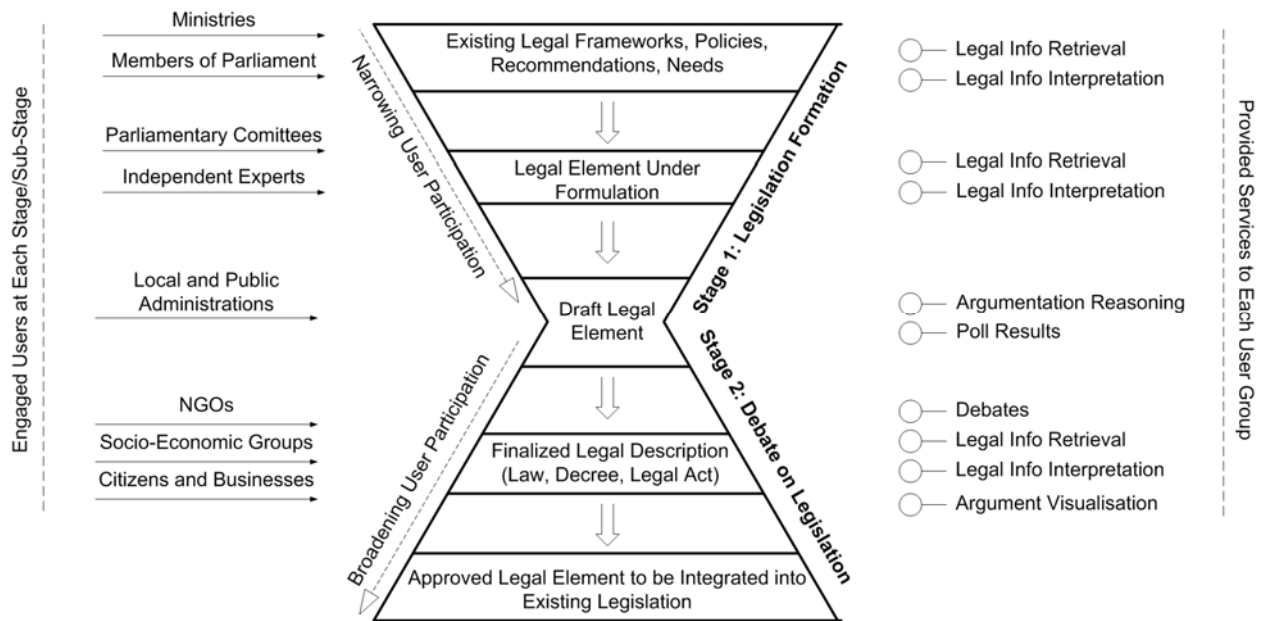
Figure 2: Legislative Process Workflow Model

The group of subsystems implements the basic functionalities of the system, it comprises four distinct subsystems:

1. **The Legal Metadata Subsystems,** which utilizes the Legal Framework ontology in order to store and retrieve legislation and legislative information. The subsystem incorporates the various interrelations defined among the several entities of the ontology and based on this logic performs two basic tasks: Accepts *Retrieve Requests* and Accepts *Store Request.*

2. **The Content Management Subsystem.** The content management subsystem based on ATC's DOC ASSET, is a web based document management solution that will allow the stakeholders / policy makers to capture, store and manage digital content, in any format (documents, images, excel files, PDFs), offering a complete and secure electronic environment for storage, management and delivery of information. The content management system will support **Collaboration, Document management and Workflow Management.**

3. **The Legislative Process Subsystem.** The current subsystem enables the platform to be state aware. Particularly this subsystem implements the Legislative Process Workflow model in order to be able to differentiate between the two discrete stages of the legislative process, and their included sub-stages, to allow access to the proper categories of user groups and provide them with the appropriate services to match their needs at each stage. An relevant example of a "live workflow" that will indicate the process followed by the legislation bodies is depicted in the following Figure.

4. **The Argumentation Support Subsystem.** The current subsystem is responsible for providing the necessary argumentation support to every category of users. To achieve this it implements a specific methodology that determines the best course of action for every user request based on the nature of the user and the current state of the legislative

process. To achieve this, it communicates with every other subsystem in order to retrieve the required information to make the best possible decision in each situation, for example it connects to

- the Content Management Subsystem in order to get information about the profile of the user who is making the request.

- the Legislative Process Subsystem in order to get information that determine the exact stage in the legislative process that the system is in and provide the corresponding form of argumentation support – e.g. argument visualisation, argumentation reasoning, etc

- the Legal Metadata Subsystem in order to retrieve the necessary information to be represented.

5. Results

LEX-IS promotes a shift toward greater direct public involvement, having impact on all the involving parties, that constitute the LEX-IS targeted chain (from citizens, businesses, youth and NGOs to National Parliaments and the policy-making procedure), with the long term objective of strengthening representative democracy. The LEX-IS intends to provide value at an institutional, communicative and technological level, and spins around the following axes:

- Producing better quality policy with visualization capabilities.

- Building trust and gain acceptance of policy by giving NGOs, citizens, businesses and the youth the means to supervise government and policy implementation and balancing the power of lobby organisations.

- Sharing responsibility for policy-making which is accomplished by fostering active citizenship.

LEX-IS innovative process will facilitate citizens, businesses, youth, NGOs and Parliamentarians in adapting to an electronic-digital era and to claiming a further freedom of expression. With LEX-IS Platform, NGOs mainly, but individual citizens as well, have the potential to involve themselves directly in the resolution of problems, contributing opinions and ideas that will allow for an improvement in the knowledge of the decisional process followed by the National Parliaments (the term that has recently emerged and corresponds to that definition is e-cognocracy[1]). By fostering the commitment of the average citizen or juvenile for issues of public welfare, LEX-IS shall help citizens and the youth explore issues regarding the discourse on political issues and consensus finding, deepen their knowledge and enhance their ability to participate in the political, technical, and administrative decisions that affect them. Besides, they have demonstrated this capability when they have been given the chance.

6. Conclusions

LEX-IS project aims to use and evaluate advanced state-of-the-art ICT-based tools and methods, such as ontologies, metadata, argumentation support, facilitation and visualization methods, advanced process and workflow management, etc., for improving the legislative

---

[1]

process in National Parliaments through enhancing public participation in its first two preparatory stages (legislation proposal formation and public debate of draft legislation). This project aims at addressing quite interesting (both from the scientific and the practical application viewpoint) research questions: which are the best ways of using these advanced ICT-based tools and methodologies for supporting - enhancing public participation in the preparatory stages of the legislation process, how useful they are and what value they generate, which are the main factors that determine this value (quantitatively and qualitatively) and which are the main barriers to their wide use by the public. LEX-IS platform will ensure transparency and openness of the policy process, without discriminating against any minority, since all citizens, as well as young people, more or less attuned to the issues of the poor, minorities or those left out of the policy process are included in the innovative participation model supported by the project. Deliberation in LEX-IS may also bring a new legitimization and basis for political decision making, since better legislation that will express citizens' opinions, make rational decisions in the public interest and ensure equal and equitable processes and outcomes is envisaged to be the project's major impact.

References

[1] COLEMAN S. Connecting Parliament to the public via the Internet - Two case studies of online consultations. Information, Communication & Society Vol. 7, No. 1, March 2004, pp. 1–22

[2] COMMISSION OF THE EUROPEAN COMMUNITIES, eParticipation in the context of legislative processes – Work Programme 2006, DG Information Society and Media.

[3] COMMISSION OF THE EUROPEAN COMMUNITIES, i2010 eGovernment Action Plan: Accelerating eGovernment in Europe for the Benefit of All, COM (2006) 173, Communication from the Commission to the Council, the European Parliament, the European Economic and Social Committee and the Committee of the Regions, Brussels 2.04.2006.

[4] EPRI Knowledge Deliverable D102: Study 2 What citizens want: How young citizens are behaving in the digital era and what parliamentarians need to know to respond, May 2006/

[5] GIONIS G., CHARALABIDIS Y., ASKOUNIS D., Capturing Legal Issues: A Methodological Framework to Serve All Needs, Workshop on Enterprise Software Application Interoperability for Businesses and Governments (ISBG 2006), in Conjunction with PAKM 2006, 29-30 November, 2006, Vienna, Austria.

[6] GORDON, T. F., RICHTER, G, Discourse support systems for deliberative democracy, Proceedings of EGOV 2002 International Conference, September 2-6, 2002, Aix-en-Provence, France.

[7] GRONLUND A., e-Democracy: in search of tools and methods for effective participation, Journal of Multi-Criteria Decision Analysis vol. 12 (2-3), 2003.

[8] KARACAPILIDIS, N., LOUKIS, E., DIMOPOULOS, ST., A Web-based System for Supporting Structured Collaboration in the Public Sector, Proceedings of EGOV 2004 International Conference, August 30 – September 3, 2004, Zaragoza, Spain.

[9] KARACAPILIDIS, N., LOUKIS, E., DIMOPOULOS, ST., Computer-supported G2G collaboration for public policy and decision-making, Journal of Enterprise Information Management, Vol. 18, No. 5, 2005, pp. 602-624.

[10] LOUKIS, E., An Ontology for G2G Collaboration in Public Policy Making, Implementation and Evaluation, Artificial Intelligence and Law, Special Issue on e-Government, e-Democracy & e-Governance (accepted for publication).

[11] LOUKIS, E., Electronic Government-to-Government (G2G) Collaboration, chapter of Anttiroiko, A., Malkia, M. (editors), Encyclopedia of Digital Government', Idea Group Publishing, July 2006.

[12] MAKEDON, F., LOUKIS, E., FORD, J. Electronic Support of Government-to-Government Negotiation and Collaboration for the Design and Implementation of New Policies, International Journal of Applied Systemic Studies (accepted for publication)

[13] MORENO-JIMENEZ J.M., POLASEC W. e-Democracy and Knowledge. A Multicriteria Framework for the New Democratic Era. Journal of Multi-Criteria Decision Analysis, vol.12, pp. 163-176, 2003

[14] Online Availability of Public Services: How is Europe Progressing? Web Based Survey on Electronic Public Services, Report of the Sixth Measurement, June 2006. Available from http://europa.eu.int

[15] ORGANIZATION FOR ECONOMIC CO-OPERATION & DEVELOPMENT (OECD), Citizens as Partners: Information, Consultation and Public Participation in Policy Making, Paris, France, accessible from www.oecd.org (2001).

[16] ORGANIZATION FOR ECONOMIC CO-OPERATION & DEVELOPMENT (OECD), Promises and Problems of e-Democracy: Challenges of Online Citizen Engagement, Paris, France, accessible from www.oecd.org (2003).

[17] UNITED NATIONS Global e-Government Readiness Report, New York. 2005. Available from http://unpan1.un.org