

A Framework for Assessing eParticipation Projects and Tools

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Abstract

An increasing number of governments worldwide understand the importance of electronic participation (eParticipation) i.e. the importance of the use of Information and Communication Technologies (ICTs) to more actively engage citizens in democratic processes. As a result, the number of eParticipation projects and relevant tools is rapidly growing. This makes the need for recording and reviewing such projects and tools both timely and critical. In this paper we present a framework for assessing eParticipation projects and tools. The proposed framework is based on distinguishing between participation areas and ICT support for these areas and suggests assessment to be performed using specific templates that are developed for this purpose. We further apply this framework in order to assess 19 relevant European Commission co-funded research projects. The preliminary results suggest that research in the domain of eParticipation is at its early stages. More specifically, the results suggest that projects focus on the more elementary eParticipation areas, such as information provision and opinion polling, while there is a trend for using multiple access channels, e.g. mobile technologies.

1. Introduction

In the literature, there are a number of definitions for public participation. A widely-used definition suggests that ‘public participation is the process by which public concerns, needs and values are incorporated into governmental and corporate decision making’ [1]. In this context, public participation is seen as an interaction between governments and citizens (G2C) having the overall aim of better decisions that affect the life of the citizens.

According to the AmericaSpeaks report ‘Millions of Voices’ [2], ‘it is time to build democratic participation

on a whole new scale since democracy should return to the hands of the citizens’. Democratic institutions, as well as democratic processes, should be reinvigorated since experience has shown that a participatory approach to problems can lead to positive results even in the most complex community problems [3].

Building consensus for democratic processes and finding the participation methods/tools to do so is important. By implementing the appropriate methods/tools, participatory decision-making can lead to empowering citizens and democracy itself.

ICTs have a role to play in such tool building. For example, by exploiting technological opportunities and applying ICT, the problem of ‘consultation fatigue’ [4] that often appears in political decision making can be addressed.

Currently, eParticipation projects and tools are increasing since the effort of governments to actively engage citizens in democratic processes is also intensifying. In addition, a number of research projects have been funded worldwide to pave the way. Despite this investment, however, it is recognized that the research field is still highly fragmented [5].

As the initiatives and projects concerning eParticipation are expected to grow, a framework to record and assess eParticipation projects and tools becomes vital. For example, according to a consultation paper to the UK Government on electronic Government, ‘as citizens, representatives and government become more confident about e-participation, its contents and methods will need to be continually assessed’ [6]. In addition, eParticipation tools show a great variety, for example by employing a variety of available access channels [7].

Consequently, it is important to assess relevant research projects and tools in order to understand better the field of eParticipation. Through this understanding one can benchmark and also find the right tool for a specific process. Thus, practitioners can

select the right tool taking into account that their specific objectives as well as time and budget restrictions are important parameters in order to succeed [8].

The main objective of this paper is to present a framework for assessing eParticipation projects and tools and to make use of it in order to evaluate relevant European Commission co-funded research projects.

This paper is organized as follows. Section 2 presents the rationale and methodology of the approach we adopted, while section 3 introduces the project and the tools assessment template respectively. Finally, section 6 presents preliminary results from utilizing the framework to assess 19 research projects, while in section 7 the conclusions are drawn and future work is proposed.

2. Rationale and Methodology

The main problem we faced when attempting to propose a framework for assessing eParticipation projects and tools is that the field of eParticipation is a new and rapidly evolving one. As any other new field it is still not clear which are the important areas of eParticipation, which tools exist and which are the underlying significant technologies.

As a result, we had to propose a methodology that would enable us to categorize efficiently eParticipation projects and tools in a simple and efficient manner.

The methodology we finally adopted suggests that we explicitly distinguish between two domains: the “traditional” participation domain (no ICT is employed) and the ICT support for this domain.

Distinguishing between these two domains allows us:

- To study the participation domain (i.e. domain requirements) without being biased by specific technologies and their capabilities.
- To concentrate only on those ICTs that support participation or could potentially do so, thus staying focused in this rapidly-evolving technological field.

The methodology we have used to conduct the assessment framework contains the following steps:

1. Determine the main areas of participation in the democratic process. This should include all traditional participation areas, without caring about any ICT support.
2. For each participation area, determine the relevant ICT support in terms of tool categories

and technologies. The use of these tools and technologies in the domain of participation will actually constitute what we term as eParticipation.

This second step is again not trivial. As eParticipation is still at an early stage, our literature search suggested that it is very difficult to distinguish between eParticipation applications, tools, components and technologies. In a well-established domain (e.g. office automation), one would expect that there are a number of applications and tools for each specific area (e.g. word processing). Then, one can identify components that make up applications and tools and also relevant underlying technologies.

Due to the immaturity of the eParticipation field, we decided to employ only two levels of analysis for each area of participation. We therefore distinguish between “categories of tools” and “technologies”. These serve the needs of this paper and we believe that as the eParticipation domain matures, distinguishing between applications, tools, components and technologies will become more obvious.

3. Framework

The proposed framework suggests that there are three main layers of analysis as shown in figure 1.

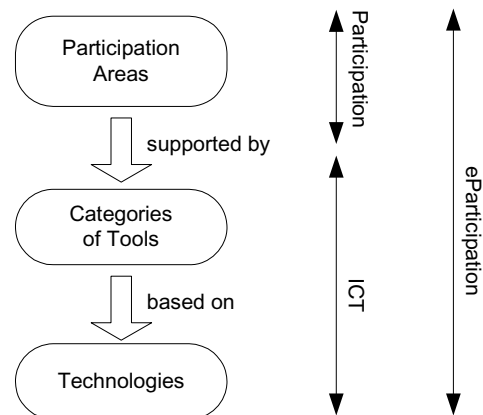


Figure 1. The three levels of analysis

In the next sub-sections, we present the results of our work for each layer.

Furthermore, in the next two sections, we present two templates: one that can be used for assessing participation projects (including eParticipation projects) and another one that can be used for the assessment of eParticipation tools.

3.1 Participation Areas

Participation areas have to do with the specific area or areas of citizen engagement and involvement in the democratic process. Participation is governed by a number of fundamental aspects of the democratic process. For example,

- making the views of politicians known,
- assessing the acceptance of these views on the side of constituents,
- making the views/objections on a political decision known,
- ensuring transparency of political action,
- offering the opportunity to co-formulate political decision making in certain cases, etc.

While we intend to start from such fundamentals in order to thoroughly delineate the participation areas, at this stage we have employed citizen participation areas that are based mainly on [10]. The citizen participation areas that have been adopted are the following:

- *Community Informatics*: this is the area investigating the use of ICT for enabling the achievement of collaboratively-determined community goals.
- *Community Building*: This involves the support to individuals in order to come together and form communities as well as the empowerment of such communities.
- *Collaborative Environments*: This area has to do with supporting collaborative team working in order to progress shared agendas.
- *Citizenship Education*: This area addresses young people in particular by encouraging them to participate in decision-making and providing the necessary information and material.
- *Cultural Politics*: This area is mostly a research field that takes into account a broader conception of ‘politics’ by considering cultural life in general. Cultural politics is apparent in the debate about globalization.
- *Discourse*: This area covers conversations and dialogue between citizens (C2C) and between elected representatives and citizens (G2C).
- *Deliberation*: This area addresses the participation in a public exchange of opinions and the formation of solutions in order to achieve consensus on politics developed from this exchange.
- *Consultation*: This area covers the process of

seeking views of individuals and groups (usually between those proposing a course of action and those likely to be affected by it).

- *Polling*: The use of surveys to measure public opinion and/or sentiment by using sampling.
- *Voting*: This area refers to the method of decision making where the final selection comes from counting the number of people in favor of each alternative.
- *Campaigning*: This area addresses lobbying, protesting, petitioning and other forms of activism in order to form a collective action.
- *Electioneering*: This area studies the actions of candidates and political parties in the context of election campaigns.
- *Inclusion/Exclusion*: This area includes the act of involving all citizens and giving equal opportunities to all groups of people irrespective of ethnicity, gender, etc.
- *Information Provision*: This area has to do with providing access to information to the public.
- *Service Delivery*: This area has to do with providing governmental or community services to citizens.
- *Policy Processes*: This involves the participation of the public in the policy cycle, i.e. agenda setting, analysis, creating, implementing and monitoring the policy.
- *Participatory Law-Making*: This area refers to citizen participation in the process of law creation, during the initial formation stage, in the debate of draft legislation, during implementation and at the monitoring level.
- *Citizen Journalism*: This area involves the act of citizens who are voluntarily engaged in collecting, reporting, analyzing and disseminating news and information.
- *Mediation*: The process where a third party intervenes to resolve a dispute or a conflict.
- *Participatory Spatial Planning*: The process of acquiring the opinion of the public or specific stakeholders in decisions related to the development and the use of land.

It should be noted that the above list is by no means exhaustive. We have selected the above-mentioned areas mainly based on work reported in [10]; however, we acknowledge that other areas exist and furthermore different descriptions of the listed areas might be used.

3.2 Tool Category

A number of software applications, products, tools and components have been used in eParticipation projects [7][10][17][18]. These range from weblogs and web portals to the more sophisticated consultation platforms, argument visualization tools and natural language interfaces. We have reviewed these tools and categorized them as follows:

- Weblogs
- Web Portals
- Search Engines
- Webcasting / Podcasting
- Mailing Lists / Newsgroups
- Chat Rooms
- Wikis
- Online Survey Tools
- Deliberative Survey Tools
- Content Analysis Tools
- Content Management Tools
- Collaborative Management Tools
- Computer Supported Cooperative Work (CSCW)
- Collaborative Environments
- Consultation Platforms
- Argument Visualization Tools
- Natural Language Interfaces

As already noted, some of the above-mentioned categories are actually more mature than others. In terms of the levels presented in figure 1, we may say that some categories are closer to the participation areas level, while some others are closer to the technologies level. This is understandable in an emerging field, such as eParticipation, where the participation areas have still not been settled, while technologies are rapidly evolving.

3.3 Technology Categories

eParticipation tools are based on a number of diverse technologies [7][10][16][18][21][22]. In our analysis, we conclude that the following technologies are particularly important for the domain of eParticipation:

- E-mail
- Instant Messaging
- File Sharing
- RSS Syndication
- Streaming Media Technologies
- Computer Supported Collaborative Work (CSCW) / Groupware
- Semantic Web Technology

- Web Services
- Extensible Markup Language (XML)
- Security Protocols (e.g. SSL)
- Agent Technologies
- Data Mining
- Ontological Engineering
- Computational Linguistics
- Natural Language Processing (NLP)
- Identity Management
- Filtering Technologies, including
 - profile filtering,
 - collaborative or social filtering,
 - psychographic filtering and
 - adaptive filtering [7].

When referring to a specific tool, a combination of technologies can be used to offer an innovative approach to a participatory need.

4. Projects Assessment Template

In this section, an assessment template for participation projects and initiatives is introduced. In order to develop this template we considered various relevant templates. These include:

- Approaches that have been used for recording general-purpose metadata (e.g. Dublin Core).
- The projects template that has been used for describing European Research Projects [9].
- The templates that have been used in the eEurope 2001, 2003 and 2005 awards (www.e-europeawards.org).
- The template that is used for recording good practices in the European eGovernment Good Practice Framework (www.egov-goodpractice.org).

The proposed template is presented in Table 1.

Table 1 - Project Assessment Template

Project Full Name	
Project Acronym	
Funded under the:	e.g. 5 th or 6 th Framework Programme for Research and Development
Type of project	e.g. Integration Project, Network of Excellence etc.
Objective:	
Participation Area:	Collaborative Environ. <input type="checkbox"/> Community Informatics <input type="checkbox"/> Community Building <input type="checkbox"/> Citizenship Education <input type="checkbox"/>

	Cultural Politics <input type="checkbox"/> Discourse <input type="checkbox"/> Deliberation <input type="checkbox"/> Consultation <input type="checkbox"/> Polling <input type="checkbox"/> Voting <input type="checkbox"/> Campaigning <input type="checkbox"/> Electioneering <input type="checkbox"/> Information Provision <input type="checkbox"/> Service Delivery <input type="checkbox"/> Policy Processes <input type="checkbox"/> Participatory Law-Making <input type="checkbox"/> Citizen Journalism <input type="checkbox"/> Mediation <input type="checkbox"/> Particip. Spatial Planning <input type="checkbox"/> Other _____ <input type="checkbox"/>
Methods employed for Participation	Traditional Methods only (e.g. Charrette, Citizen's juries etc.) <input type="checkbox"/> ICT only <input type="checkbox"/> Mixed use of traditional methods and ICT <input type="checkbox"/>
ICT Areas Utilized (if applicable)	Social Informatics <input type="checkbox"/> Knowledge Management <input type="checkbox"/> Citizen Relationship Management (CRM) <input type="checkbox"/> Geographical Information Systems (GIS) <input type="checkbox"/> Visualization <input type="checkbox"/> Speech Technologies <input type="checkbox"/> Semantic Web / Ontologies <input type="checkbox"/> Other _____ <input type="checkbox"/>
Start date	
End date	
Amount of funding	
Total Cost	
Tools Utilized	
Results Achieved	
Website	
Contact Details (if available)	
Coordinator (organisation)	

Most of the fields that are used in this template are straightforward in terms of significance and meaning (e.g. start date, end date and so on). In addition to the field 'Citizen Participation Areas' that has been already presented in section 3, there are two more interesting fields, namely:

- Methods employed for participation
- ICT areas utilized

These are explained in more detail in the following sub-sections.

4.1 Methods Employed for Participation

Since there is an evolutionary link between the traditional citizen participation and eParticipation, the particular methods employed for participation within a project or an initiative are important in understanding how traditional methods have been adapted by the introduction of ICT as well as relating the participation areas with the methods they often employ.

For analysis purposes, the methods are divided into three categories. These include traditional methods (i.e. without any use of ICT), methods that use ICT and, finally, mixed utilization of traditional and ICT methods.

The traditional methods that can be found world-wide in the citizen participation arena are charettes, citizens' juries, citizens' panels, focus groups, consensus conferences, public hearings, deliberative polls etc. [10][11]. There are a lot of resources available that explain the different traditional tools that can be applied in citizen engagement (for a detailed description of public participation and consultation methods see [12][13][14][15]). Some of these tools are yet to be implemented using ICTs and others cannot be implemented by using ICTs since face-to-face interaction is required.

3.3 ICT Areas Utilized

ICT areas that are covered in the project or initiative are recorded next. Since the project template can be used in participation as well as eParticipation projects, this dimension has a meaning in eParticipation projects or initiatives (i.e. only when some use of ICT is employed). The ICT areas that have been found to play a role in eParticipation tools and initiatives are the following:

- Social Informatics
- Knowledge Management
- Citizen Relationship Management
- Geographical Information Systems (GIS)
- Visualization
- Speech Technologies
- Semantic Web / Ontologies

These ICT areas continue to increase as new technologies emerge.

5. Tools Assessment Template

In this section, an assessment template for eParticipation tools is introduced. This template is presented in Table 2.

Table 2 - Tool Template

Name	
Tool Category	<input type="checkbox"/> Weblogs <input type="checkbox"/> Web Portals <input type="checkbox"/> Search Engines <input type="checkbox"/> Webcasting / Podcasting <input type="checkbox"/> Mailing Lists / Newsgroups <input type="checkbox"/> Chat Rooms <input type="checkbox"/> Wiki <input type="checkbox"/> Online Survey Tools <input type="checkbox"/> Deliberative Survey Tools <input type="checkbox"/> Content Analysis Tools <input type="checkbox"/> Content Mgt Tools <input type="checkbox"/> Collaborative Mgt Tools <input type="checkbox"/> Computer Supported Cooperative Work (CSCW) <input type="checkbox"/> Collaborative Environments <input type="checkbox"/> Consultation Platforms <input type="checkbox"/> Argument Visualization Tools <input type="checkbox"/> Natural Language Interfaces <input type="checkbox"/> Other _____
Level of participation addressed	<input type="checkbox"/> e-Inform <input type="checkbox"/> e-Consult <input type="checkbox"/> e-Involve <input type="checkbox"/> e-Collaborate <input type="checkbox"/> e-Empower
Stage in the Policy Making Process	<input type="checkbox"/> Agenda Setting <input type="checkbox"/> Analysis <input type="checkbox"/> Policy Creation <input type="checkbox"/> Implementation <input type="checkbox"/> Monitoring
Technology Categories Used	<input type="checkbox"/> e-mail <input type="checkbox"/> Instant Messaging <input type="checkbox"/> File Sharing <input type="checkbox"/> Streaming Media Technologies <input type="checkbox"/> RSS Syndication <input type="checkbox"/> CSCW / Groupware <input type="checkbox"/> Semantic Web Technology <input type="checkbox"/> Web Services <input type="checkbox"/> Agent Technology <input type="checkbox"/> Data Mining <input type="checkbox"/> Ontological Engineering

	<input type="checkbox"/> Computational Linguistics <input type="checkbox"/> Natural Language Processing <input type="checkbox"/> Mobile Technologies (e.g. WAP) <input type="checkbox"/> Social Informatics <input type="checkbox"/> Identity Management <input type="checkbox"/> Filtering Technologies <input type="checkbox"/> Other _____
Purpose of Use	
Actors	Facilitators / Moderators of the Tool <input type="checkbox"/> Expert Administrators <input type="checkbox"/> Elected Representatives <input type="checkbox"/> Private Company <input type="checkbox"/> Civil Society Organisations (CSOs) <input type="checkbox"/> Other _____ Users of the Tool <input type="checkbox"/> Expert Administrators <input type="checkbox"/> Elected Representatives <input type="checkbox"/> Professional Stakeholders <input type="checkbox"/> Lay Stakeholders <input type="checkbox"/> Randomly Selected Recruits <input type="checkbox"/> Non-Randomly Selected Recruits <input type="checkbox"/> Self-selected Participants
Rules of Usage	
Licensed Model	
Outreach	
Special Concerns (Security Authentication, etc)	
Key Features	

In the next sub-sections some of the more significant fields are explained with the exception of the Tool and Technology Categories that were presented in section 3.

5.1 Level of Participation Addressed

In this field we record the level of participation addressed by the tool. With respect to level, there are a number of different classifications schemes proposed for eParticipation in the literature. The more well-known are briefly presented below.

According to the OECD [8] there are three levels of participation, namely Information, Consultation and Active Participation. Information is a one-way channel that informs citizens about a variety of resources available, consultation is a limited two-way channel

while active participation is a more enhanced two-way channel where citizens have more power over policy formulation, for example by proposing certain policies [7].

Meyer in the IBM report [15] proposes the use of four levels of public involvement which are adapted from the OECD report. These are namely information, consultation, engagement and collaboration.

Macintosh [19] proposes three different levels of participation: e-enabling, e-engaging and e-empowerment. E-enabling refers to supporting those who would not typically access the internet and take advantage of the information available there by addressing the issues of accessibility and understandability of the information presented. E-engaging has to do with allowing deeper contributions from a wider audience in order to support mainly deliberative debates on policy issues [19]. Finally, e-empowerment is more concerned with active two-way participation as is mentioned by OECD.

In our template, we decided to adapt the IAP2 participation spectrum [20] (initially proposed for traditional participation) to accommodate five eParticipation levels. As a result, the spectrum consists of e-Inform, e-Consult, e-Involve, e-Collaborate and e-Empower.

E-Informing is more about the one-way channel that provides citizens with important information concerning policies and citizenship online.

E-Consulting is a limited two-way channel that has the objective of collecting public feedback and alternatives.

E-Involving is about working online with the public throughout a process to ensure that public concerns are understood and taken into consideration.

E-Collaborating is a more enhanced two-way channel between citizens and government since partnering with citizens in each aspect of the decision is essential while citizens are actively participating in the development of alternatives and the identification of preferred solutions.

Finally, *e-Empowerment* is the placement of the final decision in the hands of the public, thus implementing what citizens decide.

We believe that these five stages form a coherent and well-defined eParticipation spectrum on the level of citizen engagement.

5.2 Stages in the Policy-Making Process

In this field we record the stages in the policy-life cycle that the tool is associated with. The first stage is agenda setting, which is about establishing the need for a policy or change in an existing one. It is also about

defining the problem that the policy addresses [19]. The second stage is analysis, which includes gathering evidence and knowledge, as well as understanding the context in which the policy will be applied. The third stage is creating the policy, the fourth involves implementing the policy and the final stage refers to monitoring of the policy.

It is expected that pilots and tools already developed are more associated with some of these stages and not all. For example, consultation platforms are usually more about analyzing the proposed policies than with other stages. Of course, consultation can extend to agenda setting if proposals from citizens in regard to policy formulation are asked for. Consultations can also extend to creating the policy. It is less common in the present democratic environment to find tools and initiatives that address the implementation of the policy.

5.3 Actors

In this field we record both the actors that benefit from using the tool and those who are responsible or moderating/administering the tool.

In the case of users of the tool, the categories were identified by examining the participation area. As a result, the following categories were identified, which are presented from the more exclusive to the more inclusive [23]:

- *Expert Administrators*: This category of users refers to technical experts selected by the politicians.
- *Elected Representatives*: This obviously refers to those elected to represent citizens' interests.
- *Professional Stakeholders*: These participants are paid representatives of organized interests and public officials.
- *Lay Stakeholders*: This category refers to unpaid citizens who have a deep interest in a public concern and are willing to represent those having similar interests or perspectives but choose not to participate.
- *Randomly Selected Recruits*: This group addresses the problem of descriptive representativeness of the general population.
- *Non-Randomly Selected Recruits*: This group is used in exercises to enhance participation especially among subgroups that are less likely to participate.
- *Self-selected Participants*: This means that a participation exercise is open to all those wishing to participate. Although this is the most

frequent case, it fails to represent the larger public since wealthier and better-educated people tend to participate more.

Fung [23] also proposes the diffuse public sphere as another category which in the case of eParticipation tends to collide with self-selected participants. This is due to the fact that although the eParticipation exercise is diffused by mass media and informal venues of discussion, the users participating are still those who wish to participate and have the ability to access the channels required.

The categories of the facilitators and moderators of the tool include expert administrators, elected representatives, private companies and civil society organizations.

5.4 Rules of Usage of the Tool

In this field we record information on what personal information will be gathered as well as to what citizens are allowed to do while using the tool.

5.5 Outreach

In this field we record the extent of the tool as to how many people are addressed and how many citizens have used the tool. This dimension provides valuable information in regard to the adoption rate of the tool.

5.6 Special Concerns

In this field we record special characteristics of the tools. These for example include privacy and the level of awareness of citizens in regard to personal information that is used by the tool. If specific technologies are used to ensure authentication of the user or security of personal information, these are also described here.

5.7 Key Features

In this field we record key features of the tools, which are considered important. These for example include requirements from the users' side in order to use the tool (e.g. having a PC and an internet browser).

6. Analysis of Research Projects and Preliminary Results

Using the proposed framework we have assessed 19 European Commission co-funded projects [24][25], which have a strong eParticipation angle. These are:

AGORA2000 [24], AVANTI [26], CENTURi21 [24], CYBERVOTE [27][28], DEMOS [29], E-COURT [30], EDEN [31], E-PARTICIPATE [32][33], E-POLL [34], EURO-CITI [35], E-POWER [30], E-VOTE [24], INFOCITIZEN [36], INTEL CITIES [37], QUALEG [38][39], TRUE-VOTE [40], VISUAL ADMIN [24], VSIIS [24] and WEBOCRACY [24].

It should be noted that the assessment is still in progress and as a result, in this paper, we only present results in regard to the participation area, tool category and employed technologies. Nevertheless, the preliminary analysis already provides some interesting findings.

First, we observe that the European research projects are currently more focused on one-way information provision and on opinion polling (Table 3). E-informing the citizens is the first of the levels in the participation scale discussed in section 5.1. This focus can be partly explained from the fact that e-informing is a prerequisite for reaching the other levels of participation (e-consult, e-involve, e-collaborate and e-empower). After all, informed citizens are more likely to contribute to policy-making. Information provision is mentioned even in projects where the central focus is not on e-informing.

Finding secure voting systems is also a focus of the current eParticipation research as seen in Table 3.

Finally, it should be noted that from this sample of European RTD eParticipation projects, certain participation aspects seem to be neglected, including Community Building, Campaigning, Electioneering and so on. This indicates a gap that should be further looked into.

Table 3 – Number of projects per participation area

Participation Area	Number of Projects
Information Provision	9
Opinion Polling	9
Voting	5
Deliberation	3
Service Delivery	3
Spatial Planning	3
Consultation	2
Inclusion/Exclusion	2
Mediation	1

Tools mostly belong to the tool categories of Knowledge and Content Management Systems as well as to the web portals category (Table 4). This is in agreement with the previous table, which shows that many projects are involved in the information provision aspect of eParticipation.

Table 4 – Number of tools per category

Tool Categories	Number of Tools
Content Management Systems	3
Knowledge Management System	3
Web Portal	3
Citizen Relationship Management Systems (CRM)	2
Geographical Information Systems (GIS)	2
Natural Language Programming	2
Opinion Analysis Tool	1

As far as technology categories are concerned, it seems that a number of research projects put an emphasis on mobile technologies (Table 5). This can point to a research direction towards mParticipation tools in addition to the eParticipation tools. XML, security technologies and ontologies are also widely used in the eParticipation tools. The security technologies are important especially in projects addressing the voting aspect of eParticipation, since the procedure of voting involves sensitive data.

Table 5 – Technologies employed

Specific ICT	Number of Projects
Mobile Technologies	7
XML	5
Security Technologies (e.g. SSL)	5
Ontologies	4
Smart Cards	3
Data Mining	2
Agent Technology	2
Cryptographic Technologies	2
Biometrics	2
Open Source	2
Public Key Infrastructures (PKI)	2
Web Services	2
Voice Recognition	2
Groupware	1
Streaming Media Technologies	1
Open Standards	1
Middleware	1
Wireless Protocols	1
Filtering	1
Semantics	1

6. Conclusions and Future Work

In this paper we propose a framework for assessing eParticipation projects and tools. The assessment starts at the project level and mainly investigates the participation area supported, the participation methods employed and the ICT areas that are used within the project. If ICTs are used, we further record the tool category and the specific technology categories that are applied in the project or tool under discussion.

We should note that the purpose of this paper is not to provide a comprehensive, all-inclusive review of public participation areas and eParticipation tools and technologies. Therefore, a number of significant public participation theories, and possibly tools and technologies, might be missing. Indeed, our objective was rather to propose a simple framework that can be practically used for analysis purposes.

Future work includes the use of the framework in order to analyze fully a larger number of eParticipation projects and tools. This task is carried out within the DEMO-net network of excellence [5] and will enable us to obtain more accurate results and also to refine the framework if needed.

Acknowledgements

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