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**Interdisciplinary framework to address the socio
technical and political challenges of eParticipation**

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Abstract:

A step-by-step interdisciplinary framework, including elements introduced in former deliverables, is developed in order to address the socio-technical and political challenges facing eParticipation. The proposed methodology will then be demonstrated and evaluated through exemplary cases.

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Table of contents

TABLE OF CONTENTS	3
EXECUTIVE SUMMARY	4
1 SCOPE OF SOCIO-TECHNICAL AND POLITICAL CHALLENGES OF EPARTICIPATION	6
1.1 INTERDISCIPLINARY CLUSTERS OF EPARTICIPATION CHALLENGES	6
1.2 SOURCES OF EPARTICIPATION CHALLENGES AND BARRIERS.....	8
2 INTERDISCIPLINARY FRAMEWORK	10
2.1 CONCEPTUAL FRAMEWORK.....	10
2.2 HEURISTICS TO SUPPORT CATEGORISATION OF CHALLENGES	12
2.2.1 FOUR-CATEGORY SCHEME.....	13
2.2.2 BASIC CONCEPTUAL MAP.....	14
3 APPLYING THE FRAMEWORK TO SOME EXAMPLES	20
3.1 SCIENTIFIC APPROACH.....	22
3.1.1 INCREASED INVOLVEMENT OF ELECTED REPRESENTATIVES IN CITIZEN PARTICIPATION PROCEDURES.....	22
3.1.2 SUPPORTING INTERACTION BETWEEN DIFFERENT ACTORS THROUGH TECHNOLOGICAL MEANS	28
3.1.3 MOBILE TECHNOLOGY AS IMPORTANT KEY TECHNOLOGY FOR EPARTICIPATION	32
3.1.4 “IMPROVING THE QUALITATIVE DIMENSIONS OF EPARTICIPATION (E.G. INFORMED REASONING, RATIONAL ARGUMENT)”	37
3.1.5 EVALUATION OF EPARTICIPATION INCLUDING THE DEFINITION OF MEASUREMENT CATEGORIES AND OPERATIONAL CRITERIA	44
3.2 OUTLINE OF MAIN POINTS OF FURTHER CHALLENGES AND BARRIERS	52
3.2.1 LACK OF POLITICAL SUPPORT.....	52
3.2.2 NEED TO EXPLOIT AND MANAGE PROPER COMMUNICATION STRATEGIES FOR EPARTICIPATION	55
4 CONCLUSIONS AND RECOMMENDATIONS	57
REFERENCES	60
ANNEX A: THE 120 ORIGINAL PHRASES	63
ANNEX B: THE ORIGINAL ERASMUS MUNDUS SUBJECT AREA CODE	69
ANNEX C: QUESTIONNAIRE TO POTENTIAL STAKEHOLDERS	72

Executive Summary

This is the second deliverable of WP6 “Joined eParticipation socio-technical research”. The core objectives of this workpackage are to identify existing approaches to eParticipation; the relevant areas or topics of research involved in researching eParticipation as a multidimensional phenomenon; and the contributions that various research disciplines can make to these different research themes and activities. Altogether, this workpackage will deepen and widen our understanding of the complex, multi-dimensional nature of eParticipation.

Deliverable D6.1 documented the various research disciplines covered by the network, and the theoretical and methodological approaches they adopt, and developed a map that charts the research field as a whole. In D6.1 and D4.2, we illustrated which academic fields and disciplines are well represented in eParticipation research in Europe and in the DEMO-network: Political Science, Political Sociology, Media/Communication Science, Public Policy Analysis, Social Informatics, and Information Management. Meanwhile, we found that other approaches are less prevalent: Cultural Studies, Political Communications, Public Policy Analysis, Social Shaping of Technology, Participatory Design, Knowledge Management, Environmental Management, Innovation Studies, Computational Linguistic, Knowledge Engineering, Software Engineering, and Information Extraction.

In this deliverable, we focus on the political and socio-technical challenges and barriers of eParticipation, as encountered by various non-academic stakeholders and as identified in eParticipation research. The goal is to develop an interdisciplinary research framework that addresses the socio-technical nature of eParticipation challenges, and which specifies research themes and activities that will help realise the desired objectives and results of eParticipation.

More specifically, our conceptual framework is divided into five stages or steps. It begins with ‘phrases’ that are defined and identified as ‘barriers’, ‘challenges’ and ‘needs’. These have been systematically identified in earlier deliverables (D1.1, position papers of D6.1) or have been extracted from existing reports, such as by the OECD and by a study about local eDemocracy in the UK. These phrases are then checked against existing ‘good practices’ or ‘research studies’. After these ‘knowledge transfer’ activities, the next step is to specify ‘research themes’. Two heuristics are used to support this process: A four-category scheme is used to analyse each eParticipation challenge in terms of the specific actors involved, the relevant stage in the policy cycle, the area of eParticipation, and the level of engagement. In the stage of checking needs against existing knowledge and practice, an updated version of the basic conceptual map is used to specify the types of research or practice that will be required. (Originally, this conceptual map was introduced in D6.1 (DEMO-net, 2007b) to explain the areas of research within DEMO-net.) At this stage, we list all the research disciplines that are relevant to answering the research question. To group the research themes, we use the inter-disciplinary clusters or categories that were initially introduced in WP 1. The endpoint of our conceptual framework is the expected results and objectives of eParticipation.

The application of the whole methodology will then be demonstrated and evaluated with exemplary cases that cover a range of barriers, challenges and needs. We present the descriptions of the cases in two formats: a critical analytical version, which goes into detail and stays on a propaedeutic level, and a short outline of the main points more practical oriented, which can be taken as initial description to the case in question. We concentrate on the following phrases:

- Stronger involvement of elected representatives in citizen participation procedures
- Supporting interaction between different actors through technological means

- Potential of mobile technology as an important technology for eParticipation is not well understood
- Improving the qualitative turnout of eParticipation (e.g. informed reasoning, rational arguments)
- Evaluation of eParticipation, including the definition of measurement categories and operational criteria
- Lack of political support
- Need to exploit and manage proper communication strategies for eParticipation

Finally, we conclude by illustrating how the framework can be used as an effective instrument to address the complex socio-technical and political challenges facing eParticipation.

We have four main recommendations:

- In order to avoid wasting time and resources ‘re-inventing the wheel’, a comprehensive process of knowledge transfer, including the study of practice cases and research studies, is required.
- To support this process, a database should be installed that is easily accessible to all stakeholders (not just research institutions, but also governments, industry and NGOs). The results of WP 5 can be used for this purpose, starting with case studies included in deliverable D5.3, which is being developed at the same time as the present deliverable.
- A further task of research is to update existing data and information about cases in the data base in a critical way: mechanisms should be installed to evaluate cases and to avoid providing information only from the providers’ viewpoint or from scientists who benefit from results (see our critical remarks about the relationship of researchers and conductors of eParticipation activities in D4.2). The database should not only include so-called “best” or “good” practice because such evaluations often depend on the environment of the cases in question. Implementation of both these recommendations is a question of resources.
- The methodology suggested by our framework is knowledge intensive and time-consuming. To get a better understanding of the whole field, however, this instrument is invaluable and we expect that any research results gathered in this way will be widely spread and used. (We recognise that it is not reasonable and feasible to expect that every small eParticipation project perform such an extensive study.) Lessons and results based on this framework should be publicly shown. In so doing, DEMO_net would make a very significant contribution to the whole eParticipation community.

1 Scope of socio-technical and political challenges of eParticipation

1.1 Interdisciplinary clusters of eParticipation challenges

eParticipation is a complex socio-technical field of research and practice. It spans various research areas and academic disciplines (e.g., DEMO-net deliverables D4.1 and D6.1; see (DEMO-net, 2006b, 2007b), and different tools and technologies (e.g., DEMO-net deliverables D5.1 and D5.2; see (DEMO-net, 2006d, 2007a). In D1.1 (DEMO-net, 2006a), we introduced a categorisation of the challenges and barriers facing eParticipation, which will be used here to develop an interdisciplinary research framework. The categories are:

- political-strategic issues
- organisational issues (also covering legal considerations)
- public value generation issues
- social issues
- socio-economical issues
- socio-technical issues
- technological issues
- deployment issues.

The categories derive from sophisticated, cross-disciplinary approaches to understanding eGovernment and eParticipation research (see DEMO-net, 2007b; Wimmer, 2003, 2007; Wimmer & Bicking, 2006). They were also used in a DEMO-net stakeholder workshop to stimulate a discussion of eParticipation challenges and barriers (DEMO-net, 2006a). Our aim here is to develop an interdisciplinary research framework by assigning appropriate academic disciplines to each category.

Well-known research foundations, such as the European Science Foundation¹, Deutsche Forschungsgemeinschaft², and Erasmus Mundus³, provide useful categorisations of academic disciplines. However, no existing science code lists adequately reflects the multidisciplinary and specific topics involved in eParticipation research and implementation. For instance, while the ESF list proves too general in several respects, the list of the German Science Society (DFG) is not specific enough in terms of the technical disciplines it covers. Hence, we have taken the Erasmus Mundus code list as our main source list, whilst removing irrelevant categories (e.g., “01 Agriculture”)⁴. The list that will be used in DEMO-net is shown in Table 1⁵. Since some specific disciplines relevant for eParticipation are not included, the list will be amended and extended with suitable research fields, as identified in the first year’s DEMO-net activities (DEMO-net, 2006b, 2006c, 2007b).

¹ <http://www.esf.org/>

² http://www.dfg.de/dfg_im_profil/struktur/gremien/fachkollegien/liste/fk_liste_wibe.html

³ http://ec.europa.eu/education/programmes/mundus/index_en.html

⁴ It is to be noted that the subdisciplines have not been modified, even if some sub-disciplines will not be relevant for eParticipation (such as “02.2 Interior Design”). The reason is that a discussion about which discipline is useful or not would go beyond the aims and scope of this deliverable.

⁵ see ANNEX B: The original Erasmus Mundus subject area code list

<p>02 ARCHITECTURE, URBAN AND REGIONAL PLANNING</p> <p>02.0 Architecture, Urban and Regional Planning</p> <p>02.1 Architecture</p> <p>02.2 Interior Design</p> <p>02.3 Urban Planning</p> <p>02.4 Regional Planning</p> <p>02.5 Landscape Architecture</p> <p>02.6 Transport and Traffic Studies</p> <p>02.9 Others Architecture, Urban and Regional Planning</p>	<p>10 LAW</p> <p>10.0 Law</p> <p>10.1 Comparative Law, Law with Languages</p> <p>10.2 International Law</p> <p>10.3 Civil Law</p> <p>10.4 Criminal Law, Criminology</p> <p>10.5 Constitutional /Public Law</p> <p>10.6 Public Administration</p> <p>10.7 European Community/EU Law</p> <p>10.9 Others Law</p>
<p>04 BUSINESS STUDIES AND MANAGEMENT SCIENCES</p> <p>04.0 Business Studies, Management Science</p> <p>04.1 Business Studies with languages</p> <p>04.2 Business Studies with technology</p> <p>04.3 Accountancy, Financial Management</p> <p>04.4 Tourism, Catering, Hotel Management</p> <p>04.5 Industrial Relations and Personnel Management</p> <p>04.6 Secretarial Studies</p> <p>04.7 Marketing and Sales Management</p> <p>04.9 Others Business Studies, Management Science</p>	<p>11 MATHEMATICS, INFORMATICS</p> <p>11.0 Mathematics, Informatics</p> <p>11.1 Mathematics</p> <p>11.2 Statistics</p> <p>11.3 Informatics, Computer Science</p> <p>11.4 Artificial Intelligence</p> <p>11.5 Actuarial Science</p> <p>11.9 Others Mathematics, Informatics</p>
<p>05 EDUCATION, TEACHER TRAINING</p> <p>05.0 Education, Teacher Training</p> <p>05.1 Teacher Training</p> <p>05.2 Primary Education</p> <p>05.3 Secondary Education</p> <p>05.4 Vocational and Technical Education</p> <p>05.5 Adult Education</p> <p>05.6 Special Education</p> <p>05.7 Educational Science, Comparative Education</p> <p>05.8 Educational Psychology</p> <p>05.9 Others Education, Teacher Training</p>	<p>14 SOCIAL SCIENCES</p> <p>14.0 Social Sciences</p> <p>14.1 Political Science</p> <p>14.2 Sociology</p> <p>14.3 Economics</p> <p>14.4 Psychology and Behavioural Sciences</p> <p>14.5 Social Work</p> <p>14.6 International Relations, European Studies, Area St.</p> <p>14.7 Anthropology</p> <p>14.8 Development Studies</p> <p>14.9 Others Social Sciences</p>
<p>06 ENGINEERING, TECHNOLOGY</p> <p>06.0 Engineering, Technology</p> <p>06.1 Mechanical Engineering</p> <p>06.2 Electrical Engineering</p> <p>06.3 Chemical Engineering</p> <p>06.4 Civil Engineering</p> <p>06.5 Electronic Engineering, Telecommunications</p> <p>06.6 Manufacturing Sciences (including CAD, CAM, CAE)</p> <p>06.7 Materials Science</p> <p>06.8 Aeronautical Engineering</p> <p>06.9 Others Engineering, Technology</p>	<p>15 COMMUNICATION AND INFORMATION SCIENCES</p> <p>15.0 Communication and Information Sciences</p> <p>15.1 Journalism</p> <p>15.2 Radio/TV Broadcasting</p> <p>15.3 Public Relations, Publicity, Advertising</p> <p>15.4 Library Science</p> <p>15.5 Documentation, Archiving</p> <p>15.6 Museum Studies, Conservation</p> <p>15.9 Others Communication and Information Sciences</p>

08 HUMANITIES 08.0 Humanities 08.1 Philosophy 08.2 Theology 08.3 History 08.4 Archaeology 08.9 Others Humanities	
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Table 1: Extraction of Subject Area Code – Erasmus Mundus Programme

Table 2 indicates how the single thematic categories/clusters map on to different academic disciplines.

<i>Categories/clusters from D 1.1.</i>	<i>Scientific disciplines investigating relevant research in the category</i>
political-strategic	14 SOCIAL SCIENCES 15 COMMUNICATION AND INFORMATION SCIENCES
Organisational	04 BUSINESS STUDIES AND MANAGEMENT SCIENCES 10 LAW 15 COMMUNICATION AND INFORMATION SCIENCES
public value	02 ARCHITECTURE, URBAN AND REGIONAL PLANNING 04 BUSINESS STUDIES AND MANAGEMENT SCIENCES 05 EDUCATION, TEACHER TRAINING 14 SOCIAL SCIENCES 15 COMMUNICATION AND INFORMATION SCIENCES
Social	02 ARCHITECTURE, URBAN AND REGIONAL PLANNING 04 BUSINESS STUDIES AND MANAGEMENT SCIENCES 05 EDUCATION, TEACHER TRAINING 08 HUMANITIES 14 SOCIAL SCIENCES
socio-economic	04 BUSINESS STUDIES AND MANAGEMENT SCIENCES 14 SOCIAL SCIENCES
socio-technical	06 ENGINEERING, TECHNOLOGY 11 MATHEMATICS, INFORMATICS 14 SOCIAL SCIENCES
Technical	06 ENGINEERING, TECHNOLOGY 11 MATHEMATICS, INFORMATICS
Deployment	06 ENGINEERING, TECHNOLOGY 11 MATHEMATICS, INFORMATICS

Table 2: Mapping thematic categories/clusters of eParticipation research and assignment to scientific disciplines

1.2 Sources of eParticipation challenges and barriers

In phase I of DEMO-net, we systematically identified the main barriers and challenges facing eParticipation (see upper part of Figure 1):

- Deliverable D 1.1 (DEMO-net, 2006a) reported the results from a panel discussion on eParticipation challenges⁶ (this dialogue among stakeholders was conducted on 16th June 2006 in Edinburgh);
- Within WP 6, DEMO-net partners produced “position papers” that outline the eParticipation challenges that have emerged in their academic and practical work. These position papers provided better internal understanding within the network and also contributed to D 6.1 ((DEMO-net, 2007b)).

To help conceptualise the barriers and challenges of eParticipation, we also drew on other existing reports, such as the OECD study (A. Macintosh & Coleman, 2004) and the UK local eDemocracy study (Pratchett, 2004).

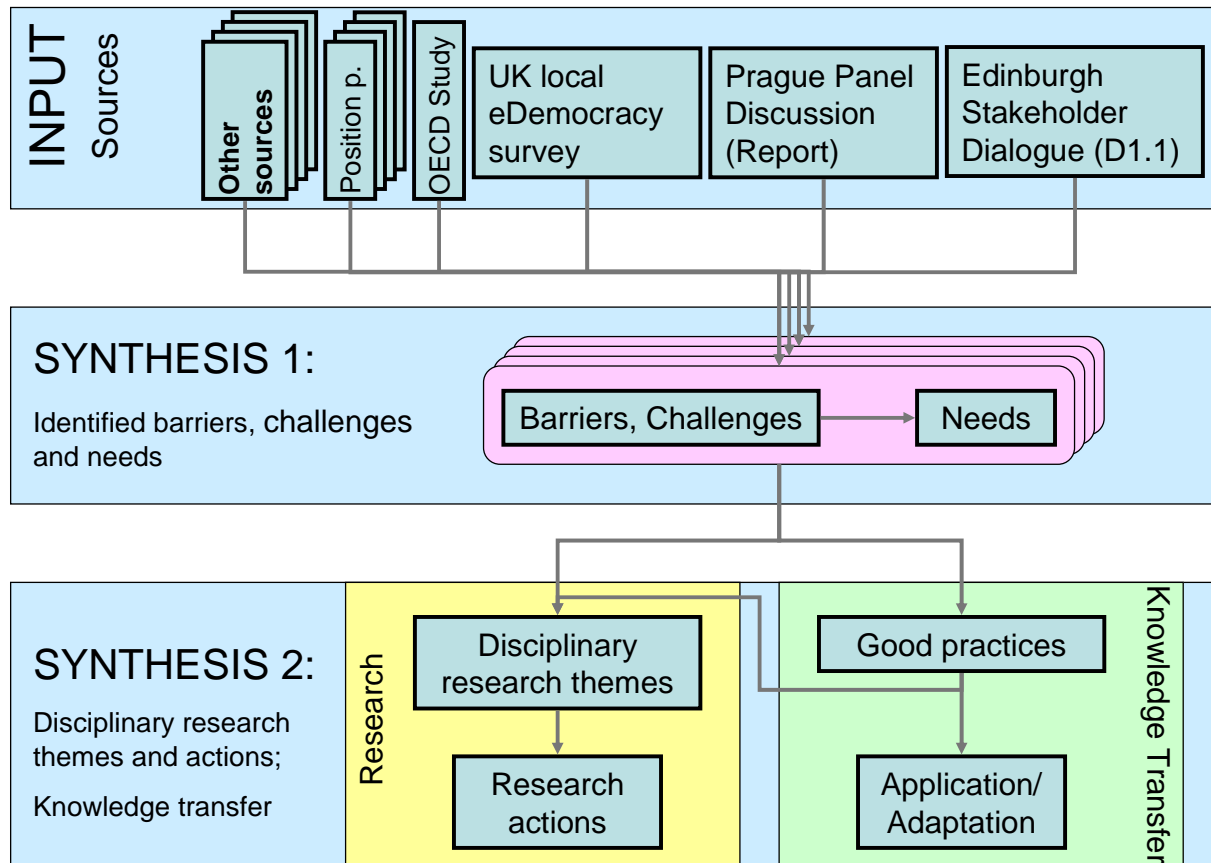


Figure 1: Synthesis of barriers and challenges to identify themes and activities in eParticipation research

⁶ Within the eGov days 2006 in Prague, in cooperation with DEMO_net a panel discussion was held about eParticipation research

2 Interdisciplinary framework

As described in section 1.1., eParticipation is a complex field drawing on political, technological, social, economic, legal and many other areas of study. The political and socio-technical challenges and barriers to eParticipation are similarly diverse and the resulting research challenges often involve knowledge of various disciplines and approaches. Even though eParticipation has been a key focus in recent strategic documents of the EC (European Commission, 2005a, 2005b) and national funding programs, the challenges of research and implementation in the field are not always as clear as they could be. In DEMO-net, we investigated these challenges in a more systematic way. We have developed an interdisciplinary framework that combines schemes previously developed within the network, which are used here as heuristics, with a new approach to interrelate eParticipation barriers, challenges and needs. These barriers, challenges and needs are then adapted into either research themes or into actions to apply or adapt existing knowledge from practice cases.

2.1 Conceptual framework

Our conceptual framework begins with phrases that are identified as barriers, challenges and needs. These are then adapted either into good practices and knowledge transfer activities, or into research themes and actions. The endpoint is the expected results and objectives of eParticipation.

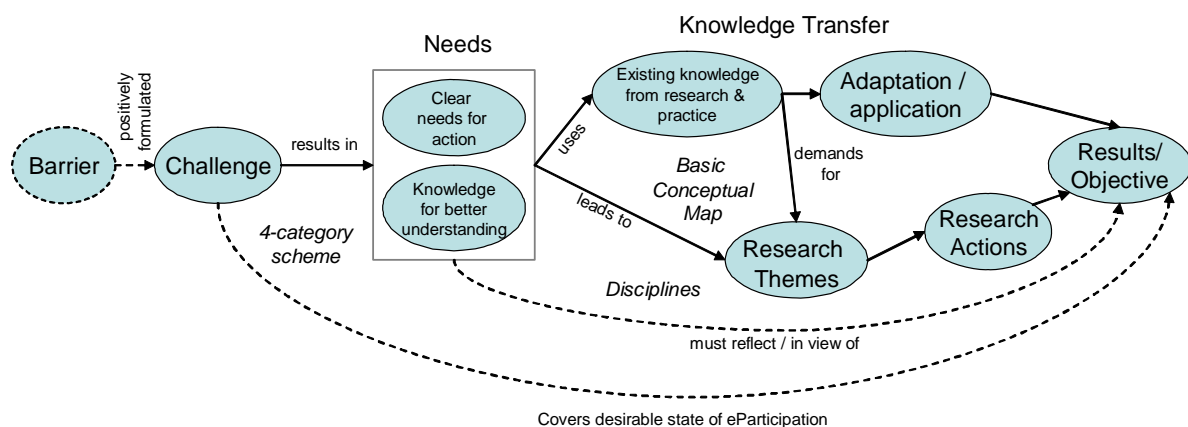


Figure 2: Conceptual framework

The key components of this conceptual framework are defined as follows:

A *barrier*, in an obvious sense, refers to a hindrance or obstacle that prevents progress in a given situation or circumstance. eParticipation barriers hinder progress or development in the field and must be overcome if eParticipation is to be successful.

A *challenge* refers to a desired goal (A. Macintosh & Coleman, 2004). A challenge can be derived from a barrier, where a barrier is formulated positively to pave the way for successful eParticipation (see example in section 4.2.1).⁷

⁷ While a barrier for instance is “lack of political support”, in the resulting challenges this is formulated positively: “How to motivate political support” and “Understand why political support is lacking”.

Challenges and barriers are based on descriptions of circumstances, situations or objectives. A *need* is related to challenges and barriers, but refers, more specifically, to the actions that are necessary to achieve the objectives of eParticipation. Some needs follow clearly from challenges. In some cases though, challenges require better understanding. For example, given a concern about the “low engagement of people in politics” (barrier), the challenge would seem to be to “increase citizens’ engagement in politics”. A clear need could be to attain higher voter turnout at local or European elections. But a closer look shows that this challenge is formulated very generally and does not take into account the various ways citizens participate in ‘politics’. While citizens may no longer be interested in participating in traditional organisations, such as political parties or unions (Westholm, 2003), they may opt for different types of political participation – supporting a petition, joining a demonstration or participating at specific elections (Forschungsgruppe Wahlen Telefonfeld, 2004). This means that a resulting need is to find out which means of political participation citizens prefer and for what reasons.

For both kinds of “needs” it is necessary to identify “*what already exists*” and to benefit from knowledge transfer. In the case of identifying already existing cases or research studies, the task is to first describe the knowledge, and to then assess it as a *good practice*.⁸ For this, methods for analysis, evaluation and ordering of the cases will need to be developed.⁹ Subsequently, good practice cases need to be stored and made accessible to a wide range of interested parties (i.e., an eParticipation good practice repository needs to be implemented). Finally, interested parties need to be made aware of the resource in order to ensure usage and transparency (i.e., culture of learning from existing solutions and the use the knowledge by potential addressees needs to be established).

Knowledge transfer concerns the spread of knowledge (e.g., of a good practice) to a larger group or to another social setting (e.g., the communication of specialized knowledge developed in one participation process to stakeholders of another participation process). In the area of eParticipation, this involves both the use of practical (e.g., technical or organisational) solutions developed in one environment in a different context and the use of empirical evidence generated in scientific studies. Knowledge transfer thus means:

- (1) Identifying socio-technical solutions, tools and technologies elaborated in research, governmental and industrial development contexts¹⁰, and analysing their suitability and relevance for eParticipation needs according to specific criteria;
- (2) Applying/adopting the knowledge or adapting it (larger changes required to suit the knowledge to the needs) to solve or implement the need that results from an eParticipation challenge;¹¹

⁸ Good practices can also be defined as efficient (least amount of effort compared to similar applications) and effective (good results) ways of accomplishing a task, often but not automatically based on repeatable procedures that have proven themselves several times. We avoid the term “best practice” because it gets people to believe that the one specific solution is the best of all existing. It was found that especially in social contexts, differences in (political) culture and in socio-economic frameworks, and in national other priorities, make it difficult to describe “best practice” in a neutral (quasi “objective”) way across all states without taking these differences into account (PRISMA, 2002). Meanwhile, it makes less sense to assume that one template or form fits very well for every social context because it would ignore differences in terms of e.g. population as well as organisational, constitutional cultural, political, economic or legal contexts. Besides, we are cautious because in this emerging field it is difficult to have an overview about all developments in various countries, on different levels of government and with different actors in diffuse social areas.

⁹ A research theme emerges from this approach, namely to develop a methodology for eParticipation good practice case analysis, assessment and monitoring, cf. also section 3.1.5.

¹⁰ Finding creators of knowledge such as case studies, empirical studies or industrial applications that are not specific to eParticipation but relevant for it; they can belong to all stakeholder groups already mentioned (administrations & policy makers from all levels of government, NGO’s, academia, industry)

- (3) Describing the specific research questions and, subsequently, the research theme in the case the good practice does not lead to a proper knowledge application or adaptation.

Our methodology also proposes turning needs into supportive and more concrete research questions. These research questions should focus research activity to achieve a desired goal or state. *Research themes* describe a context within which a need (with some research questions) can be transformed into a desired result or objective of eParticipation. Finally, a *research action* describes the measures needed to transform a need into a desired result in order to attain the intended objectives.¹²

To group the research themes, the categories that we introduced in section 1.1. are used. Beside that, heuristics to support the categorisation and transformation of aspects are used. For example, Figure 3 indicates a 4-category framework in the development of challenges into needs. It is used to analyse a certain challenge of eParticipation under the focus of specific actors, specific stages in the policy cycle, areas of eParticipation or levels of engagement (see section 2.2.1). In the transformation of research themes or of good practices, an update of the basic conceptual map to indicate the types of research or practice aspects is used. Originally, it was introduced in D6.1 (DEMO-net, 2007b) to explain the areas of research within DEMO-net (see section 2.2.2).

The application of the whole methodology is demonstrated in chapter 3, where we will evaluate the overall methodology with exemplary cases. Before that, the next section completes the scientific framework introduced and examined in this report. A discussion of the whole process of turning the challenges and barriers identified in eParticipation into research themes or good practice knowledge transfer activities shall be made available at a later stage at the virtual resource centre of DEMO-net.

2.2 Heuristics to support categorisation of challenges

Within our conceptual framework, we use two heuristic schemes which were developed in WPs 4, 5 and 6. These heuristics were introduced in earlier deliverables, and improved and updated after discussion. These schemes are useful to generate needs from the challenges (4-category scheme) and to deduce research themes from the needs and the knowledge transfer (basic conceptual map). Both are described in more detail in the following subsections.

¹¹ In some cases, the “good practice” can directly (1:1) be used in another context, although this is seldom the case for comprehensive solutions. It is sometimes possible especially with (standardised) technical solutions that a software can be used in different contexts - “only” content or design has to be changed. In these cases, we use the term “adoption”. In most cases, however, an “adaptation” of good practice will happen. It takes place when the solution is transferred from one location or purpose to another with major changes; i.e. analysis of the original source and of the new circumstances has to be done and the good practice solution has to be fitted to the new case.

¹² Since this final step is not part of the focus of this deliverable, we did not work it out for all examples described in chapter 3.

2.2.1 Four-category scheme

An updated brief sketch of the analytical 4-category-scheme as introduced in D 5.1 (DEMO-net, 2006d) is provided in Figure 3.¹³ All four categories should be investigated to understand:

- Which participation areas the challenge relates to? Which stakeholders should be involved to find a solution for the challenge? For instance, the “consultation”-area of eParticipation relate mainly to top-down approaches (governments request and gather opinions from citizens) while “campaigning” is often bottom-up and initiated by NGO’s, citizen groups or industry (in the form of demands for policy change or specific actions). Other areas of eParticipation, such as “collaborative environments”, relate to both approaches and to intra-sectoral cooperation or to inter-sectoral networking. In addition, different stakeholders will have different views of a challenge and how it can be solved.
- Which level of engagement is required or assumed by the addressees, and to which stage(s) of policy making can the challenge normally be assessed? For instance, “collaboration” makes more sense in the early stages of the policy cycle than after a decision has been taken.
- Is the challenge relevant for all areas of eParticipation? For instance, can we learn from practice in one specific area and transfer this knowledge to another? Or do we have to distinguish the need?

“Heuristic”, in this context, means to understand the scheme as a means to better focus the challenge from different points of view. Different academic disciplines may be needed to investigate the challenge as well.

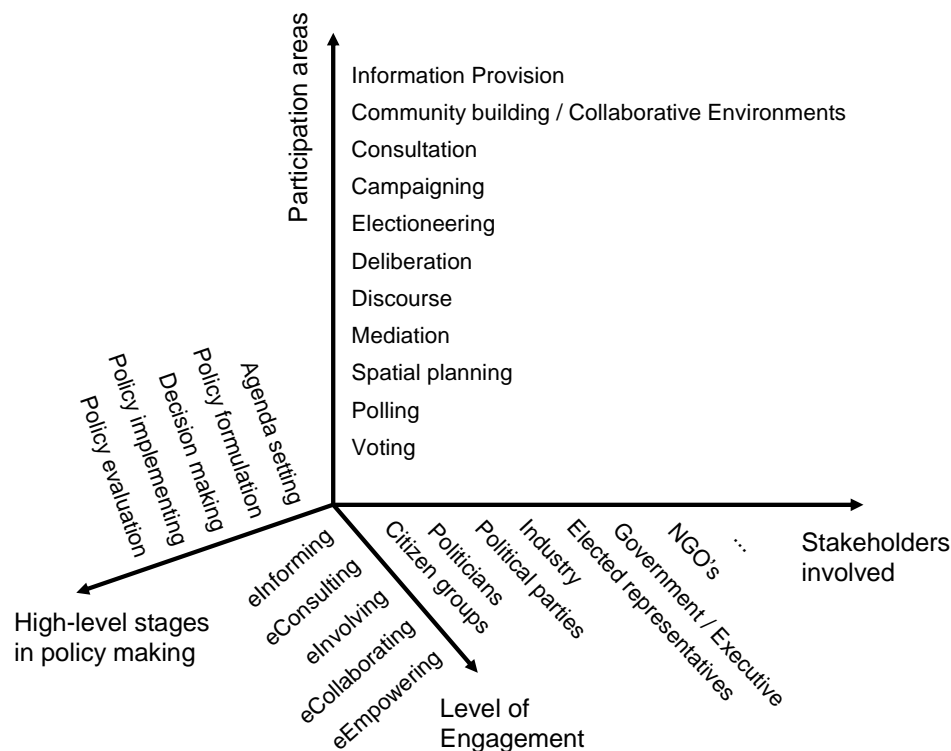


Figure 3: Draft analytical scheme to characterise eParticipation research and application

¹³ To avoid duplication of texts in different deliverables, we don’t explain the terms in the four categories here again.

2.2.2 Basic conceptual map

eParticipation, as a complex field of research, involves several disciplines and employs a wide range of theories, concepts and methods. Socio-technical research is not simply a subset of eParticipation research, but a comprehensive label that can be used to cover almost all the heterogeneous approaches that can be found within the whole field. This heterogeneity makes communication and cooperation quite difficult. However, this is also one of the field's strengths, and almost all issues of practical concern can be dealt with. To exploit this potential strength, it is necessary to identify both the commonalities and differences between approaches.

Within WP 6, we mapped elements that were recognized as objects of research that are relevant across disciplines and research approaches. Differences in views were then identified by defining the relevant attributes of these elements. For this deliverable, the basic conceptual map of eParticipation developed in D6.1 has been further elaborated to increase clarity and to bring the map in line with current results and jointly revised concepts from the DEMO-network (see figure 4).

The term "mapping" is used to illustrate the fact that the basic conceptual scheme only puts together objects of research which are subject of different research issues coming from different research approaches. The elements selected and the way they are ordered does not represent a particular theory or approach. Instead, the map allows different approaches to be allocated and localised and thereby can be used to illustrate commonalities and differences between these approaches as well as different degrees of coverage.

How to read the map

eParticipation in socio-technical research is conceived as the development and use of ICT-based tools and procedures in processes of opinion building or decision making by governments and policy makers as well as among citizens and within NGOs. Participation processes and ICT tools are developed in different contexts and have different objectives and effects. With regard to describing and explaining these differences, research approaches focus on different aspects and influencing factors.

Adopting elements of a contingency approach, which is quite prominent in organisation studies, the conceptual framework defines a set of dependent elements, i.e. variations in the development and use of ICT-based tools can be explained by contextual factors which influence the kind of eParticipation offered and/or the mode of its use.

On the one hand, the basic model uses four different categories of elements represented by different symbols:

(1) Actions and Results (single-lined ellipses)

The main focus is on actions resulting in the development of eParticipation and the use made of eParticipation by different actors.

(2) Actors (single-framed boxes)

The main actors are governments and policy makers on different levels from local municipalities up to the European Union, as well as individual citizens, NGOs and communities. There are some other actors present in the eParticipation field, involved either in the use, provision or development of eParticipation. Therefore, "industry" is mentioned twice, as both a developer/provider of tools and technologies and as a user of eParticipation.

(3) *Contextual/Influence Factors (double-framed boxes)*

Certain contextual factors influence the action of actors, and often these factors are the results of the actions of other actors. However, in any particular analysis, a decision has to be taken as regards what shall be explained and what is taken for granted. In order to explain the actions of the actors mentioned, the technological context as well as the specific socio-cultural and legal context (i.e. democratic values, legal frameworks, individual behaviours etc.) should be considered. This subject-related, immediate context is embedded in a broader socio-economic context.

The contextual aspects are of particular relevance if cross-sectoral and/or cross-national comparisons are to be made.

(4) *Effects (double-lined ellipses)*

The development and the use of eDemocracy should have effects on the actors involved, their actions and on the contextual factors. They may be further differentiated into output, outcome and impact of eParticipation processes.

Generally, the relations between the above mentioned categories of elements can be described as follows: the basic actor-action pattern assumes that participation opportunities developed by governments, NGO's or others are made against the background of specific contextual conditions (legal, socio-cultural, technical), embedded in broader socio-economic conditions, and/or in response to certain demands made by particular stakeholders. Parts of these participation opportunities are supported by ICT procedures and tools developed out of the existing technological pool and combined with non-technical resources, procedures, methods and competences, i. e., the social elements in the socio-technical systems. These tools and procedures are used by different stakeholders and in different ways. And their usage has effects on the users, the institutions/actors that provide the eParticipation opportunity, and on the specific eParticipation context. However, the map at it stands does not show relationships between the elements. Since such links would be based on theoretical assumptions and research questions, which are particular to each research approach, they cannot be integrated in to one chart here. Rather each research approach can individually draw the lines and qualify the kind of relationship it is looking at.

To point out which of the single elements of the map are closely related, they were clustered into nine subject areas:

- I. Offerings of eParticipation by ICT-based tools and procedures or via other channels and their usage;
- II. Political administrative system, i.e. governments, administrations and political bodies;
- III. Civil sector, i.e., individual citizens, (virtual) communities; NGOs (Non-Governmental Organisations), CSOs (Civil Society Organisations)
- IV. Specific socio-cultural and broader socio-economic context, including legislation with regard to participation;
- V. The technological pool containing available ICT-based tools and technologies, the ICT infrastructure, relevant actors such as ICT companies and software developers as well as software development;
- VI. Cultural capital, i.e., human resources (competences) as well as non-technical procedures and methods for participation;
- VII. (Mass) media reporting on participation offerings, uses and effects;
- VIII. Effects of participation;
- IX. Industry, i.e., private sector companies, agencies and institutions;

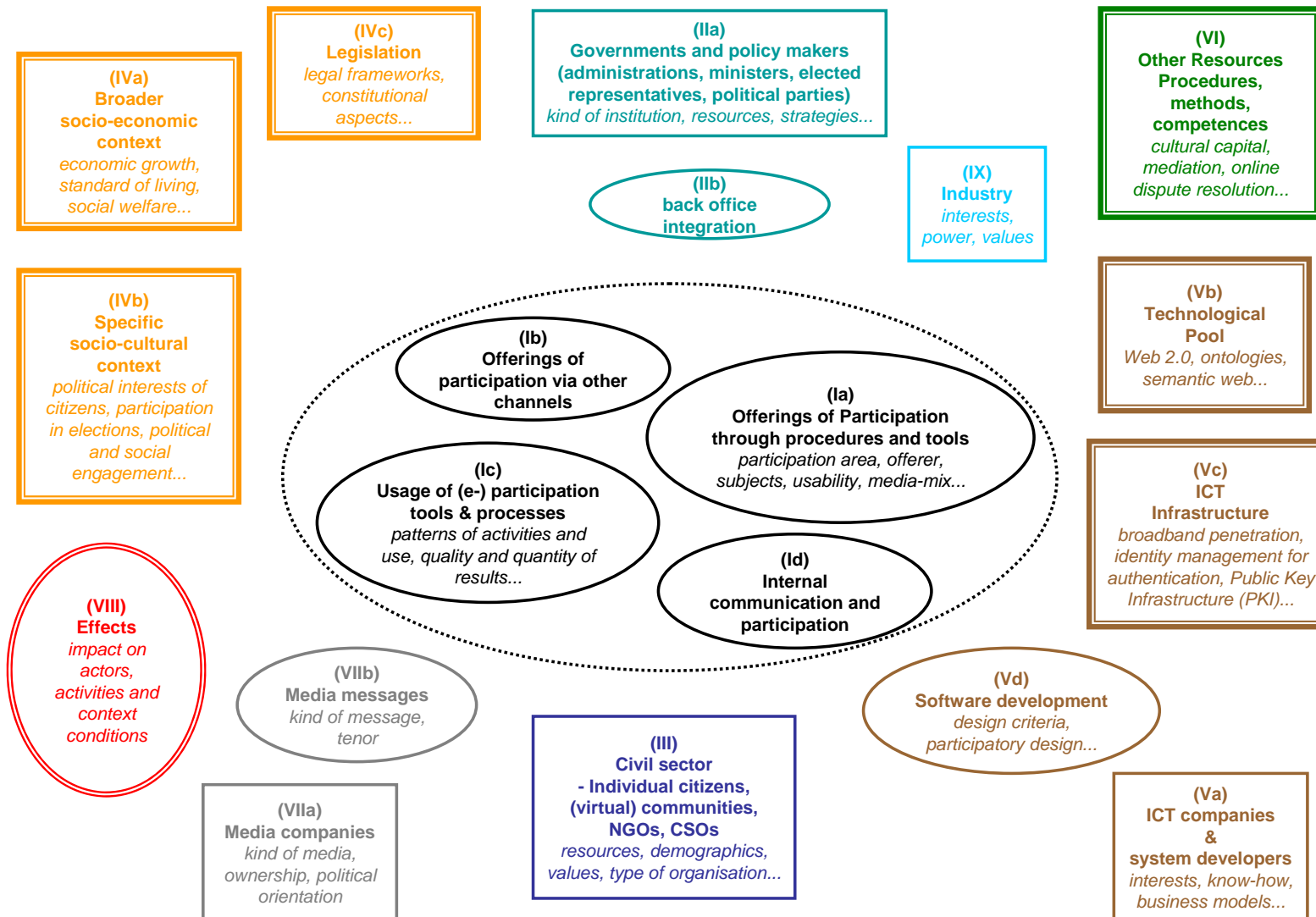


Figure 4: Basic conceptual map of eParticipation

How to use the map in the interdisciplinary framework

The map should be used in the process of knowledge transfer, analysis of gaps between existing practice and theories and the respective needs. Often, for needs derived from a challenge there is a process, activity, technique, method, incentive or reward that is more effective at delivering a particular outcome than other processes, techniques, methods, etc. that are used for a similar purpose. The idea is that with proper analysis, a desired outcome can be streamlined and delivered with fewer problems and unforeseen complications. Good practices can also be defined as efficient (least amount of effort compared to similar applications) and effective (good results) ways of accomplishing a task, often, but not automatically, based on repeatable procedures that have proven themselves several times.

The map here works as a second loop to analyse the needs and to find out research themes. Therefore, at first the map is checked for relevant elements related to the needs. The respective elements in each area are further described by relevant attributes (see Table 3). Attributes are assigned to elements in order to point to relevant aspects of interest. These attributes emerge from different disciplinary perspectives. Scientific disciplines and theories are selective "views" that focus both on specific elements of the scheme and distinguished attributes of its elements. For example, with regard to the offerings of eParticipation, computer science and informatics may highlight such attributes as *tools*, *privacy and security* or the *usability*, political science the *policy cycle* and *level of engagement*, sociology *social integration* and communication and media science may focus on the particular *media-mix* in each offering. Meanwhile, we can also expect examples where different scientific disciplines focus on the same attribute in different ways.

The map proves to be a useful heuristic, giving ideas about what has to be taken into account when research themes and questions are derived from needs so that the different disciplinary points of view are included. In a joint socio-technical research on eParticipation the range of attributes assigned to an element can help to develop boundary-crossing interdisciplinary views on the subject of interest. Some of the attributes, such as *embeddedness* already refer to a more interdisciplinary view (Westholm, 2003). As a particular type of eParticipation is embedded into different contexts, e.g. political, cultural, legal, political etc., different disciplines will be required in order to understand and analyse it. Thus, in developing research themes and questions, the relevance of the respective attributes can be examined from different disciplinary perspectives. This should become clearer when the framework is applied to some examples in chapter 4.

Table 3: Elements and attributes used in the basic conceptual map

▪ Area – Element	▪ Attributes
▪ I a - Offerings of eParticipation through procedures and tools	▪ participation area ▪ policy cycle ▪ level of engagement ▪ offerer and stakeholders involved ▪ subjects ▪ addressees ▪ scope ▪ social integration ▪ usability ▪ accessibility ▪ privacy and security ▪ quality standards ▪ embeddedness

	<ul style="list-style-type: none"> ▪ tools ▪ media-mix
<ul style="list-style-type: none"> ▪ I b - Offerings of participation via other channels 	<ul style="list-style-type: none"> ▪ see relevant attributes from I a
<ul style="list-style-type: none"> ▪ I c - Usage of (e)Participation tools & processes 	<ul style="list-style-type: none"> ▪ patterns of activity and use ▪ exclusiveness / social inclusion ▪ quality and quantity of results ▪ acceptability and acceptance ▪ ethical issues
<ul style="list-style-type: none"> ▪ I d - Internal communication and participation 	<ul style="list-style-type: none"> ▪ communication culture ▪ knowledge management ▪ tools ▪ level of engagement
<ul style="list-style-type: none"> ▪ II a - Governments and policy makers 	<ul style="list-style-type: none"> ▪ kind of institution ▪ level ▪ resources ▪ power ▪ vision ▪ strategies ▪ participation culture ▪ skills (of staff) ▪ process management
<ul style="list-style-type: none"> ▪ II b - Back Office Integration 	<ul style="list-style-type: none"> ▪ seamless integration ▪ interoperability and standardization
<ul style="list-style-type: none"> ▪ III - Civil sector - Individual Citizens, (Virtual) communities; NGOs (Non-Governmental Organisations), CSOs (Civil Society Organisations) 	<ul style="list-style-type: none"> ▪ resources ▪ values ▪ motivation ▪ demographics ▪ social capital ▪ views of citizenship ▪ roles ▪ type of organisation ▪ power ▪ strategy ▪ distribution model ▪ skills
<ul style="list-style-type: none"> ▪ IV a - Broader socio-economic context 	<ul style="list-style-type: none"> ▪ economic growth ▪ standard of living ▪ social welfare ▪ poverty
<ul style="list-style-type: none"> ▪ IV b - Specific socio-cultural context 	<ul style="list-style-type: none"> ▪ political interest of citizens ▪ participation in elections ▪ political and social engagement ▪ public communication culture (open, formal, liberal) ▪ regulation of access to public information (Freedom of Information) ▪ trust/mistrust in government institutions and politicians ▪ privacy regulations and culture ▪ responsiveness of government ▪ eParticipation research

	<ul style="list-style-type: none"> ▪ political efficacy ▪ co-governance
<ul style="list-style-type: none"> ▪ IV c - Legislation 	<ul style="list-style-type: none"> ▪ constitutional aspects ▪ formal location of power (e.g. centralisation – decentralisation) ▪ legal frameworks (norms and regulations, e.g. for decision making)
<ul style="list-style-type: none"> ▪ V b - Technological pool 	<ul style="list-style-type: none"> ▪ ontologies ▪ semantic web ▪ web 2.0
<ul style="list-style-type: none"> ▪ V c - ICT infrastructure 	<ul style="list-style-type: none"> ▪ broadband penetration (cable, DSL ...) ▪ identity management for authentication ▪ Public Key Infrastructure (PKI) ▪ pseudonymity and anonymity (privacy enhancement) ▪ digital divide ▪ interoperability and standardization
<ul style="list-style-type: none"> ▪ V d - Software development 	<ul style="list-style-type: none"> ▪ design criteria ▪ participatory design ▪ TA transfer
<ul style="list-style-type: none"> ▪ V e - ICT companies ▪ & system developers 	<ul style="list-style-type: none"> ▪ interests ▪ power ▪ know-how ▪ business models ▪ software distribution models (e.g. open source, application service provider (ASP) etc.) ▪ portal development
<ul style="list-style-type: none"> ▪ VI - Cultural capital, i.e. human resources (competences) as well as non-technical procedures and methods for participation 	<ul style="list-style-type: none"> ▪ cultural capital ▪ mediation ▪ online dispute resolution ▪ facilitation
<ul style="list-style-type: none"> ▪ VII a – Media companies 	<ul style="list-style-type: none"> ▪ kind of media (newspaper, radio, tv) ▪ ownership ▪ political orientation
<ul style="list-style-type: none"> ▪ VII b – Media messages 	<ul style="list-style-type: none"> ▪ kind of message (announcement, interim report) ▪ tenor (advertising, criticising) ▪ scope / audience ▪ type
<ul style="list-style-type: none"> ▪ VIII – Effects 	<ul style="list-style-type: none"> ▪ impact on actors, activities and context conditions
<ul style="list-style-type: none"> ▪ IX – Industry 	<ul style="list-style-type: none"> ▪ interests ▪ Power ▪ Values

3 Applying the framework to some examples

In previous chapters, we introduced a scientific framework for socio-technical research, and explained the need for such a framework. This chapter demonstrates the applicability and validity of this conceptual framework by applying our methodology to a number of eParticipation barriers, challenges or needs.

The transformation of phrases¹⁴ into either research actions or good practice knowledge transfer activities can be described step by step as follows:

Step 1: Source, classification, description

- explain the source of the phrase,
- classify it as a barrier, challenge or need
- provide a brief description for better understanding

Step 2: Using heuristic of 4-category scheme to get needs

- work through the elements within each category and decide whether they are relevant
- extract needs after assessing the relevance of the categories' elements
- classify the needs into “clear needs for action” or “needs for knowledge to achieve understand” (if such a distinction is possible)

Step 3: Knowledge transfer and identifying existing practice and theory

- checking existing knowledge bases of good practice cases in eParticipation (such as Deliverable 5.3, forthcoming),
- checking literature.

Step 4: Using heuristic of the basic conceptual map to generate research questions and themes

- work through the elements of the map and decide whether they are relevant and design appropriate research themes
- work through the attributes of the chosen elements and decide whether they are relevant and for which scientific discipline they are relevant (if possible: Include scientists from different disciplines in this step)

Step 5: Assignment to clusters and disciplines

- assign the research themes found out in the previous step to the clusters of section 1.1.
- compile the research disciplines and find out whether disciplines have specific preferences.

We present the descriptions in two formats, a comprehensive academic version which tries to go into detail and remains at a propaedeutic level (section 3.1) and a short summary of the main points which can be taken as initial versions (section 3.2).

The phrases chosen are the following (in each case we also indicate how the phrase is classified):

¹⁴ We are using the term “phrase” to describe the original expressions we generated from the sources mentioned in section 2.2. A phrase can be a barrier, challenge or need.

Comprehensive descriptions in section 3.1:

- Increased involvement of elected representatives in citizen participation procedures (challenge) – section 3.1.1.
- Support interaction between different actors through technological means (challenge) – section 3.1.2.
- Potential of mobile technology as a key technology for eParticipation is not well understood (barrier) – section 3.1.3.
- Improve the qualitative dimensions of eParticipation (e.g. informed reasoning, rational arguments) (challenge) – section 3.1.4.
- Evaluation of eParticipation including the definition of suitable measurement categories and operational criteria (challenge) – section 3.1.5.

Brief descriptions in section 3.2:

- Lack of political support (barrier) – section 3.2.1.
- Need to exploit and manage proper communication strategies for eParticipation (need) – section 3.2.2.

The first review of the DEMO-net project recommended that we focus more on the demands of non-academic stakeholders. We aimed initially, therefore, to contact external stakeholders and request their feedback about our framework. We intended to do this on a qualitative basis, by contacting "easy-to-access" stakeholders, (from industry, NGO's, different levels of government, parliaments from local/region via national to European) from different European regions (East, South, West, North & Central), and eliciting opinions regarding the political and socio-technical challenges of e-participation. For this purpose, we developed a 8/5-grid with 40 boxes¹⁵. One part of this survey would allow stakeholders to express their own opinion about the importance of the challenges already isolated (in a 5-value scale) and allow them to amend the list as appropriate (see annex C). The second stage would involve sending stakeholders a brief version of the framework description in order to gain their general feedback and assessment of the framework's relevance. In order to conduct the survey, an extension of the delivery date of this deliverable would have been required. We requested this extension with the new workplan, but since we were not sure whether this would be approved, and because the future of the project was uncertain after June, this survey was not conducted.

¹⁵ "Easy-to-access" meant that only those individuals should be addressed as stakeholders, who are known very well by one of the partners – because of three reasons: We had less (response-) time, we wanted to be sure to have most boxes of the 8/5-grid filled in, and we wanted to receive serious and enough responses.

We chose several regions within Europe because we expect that the relevance is assessed differently depending on emergence of democracies, internet penetration rate, political culture (such as freedom of information legislation and implementation) and eParticipation practice.

3.1 Scientific approach

3.1.1 Increased involvement of elected representatives in citizen participation procedures

Step 1: Source, classification, description

The challenge “Increased involvement of elected representatives in citizen participation procedures” was deduced from two phrases articulated at the stakeholder workshop: “Understand that eParticipation represents a social benefit which does not involve a loss of political power”; and “clarify why a stakeholder should participate”. A preliminary description of the phrase looks as follows:

Official participation procedures are mostly organised and conducted by administrations, whether formal (i.e. legally laid down) or informal. But while policy makers often initiate committee meetings, they are seldom so visible during online events. From the point of view of citizens, participative events could be improved significantly if elected representatives were more visible, communicative and accountable online.

Step 2: Using heuristic of 4-category scheme to get needs

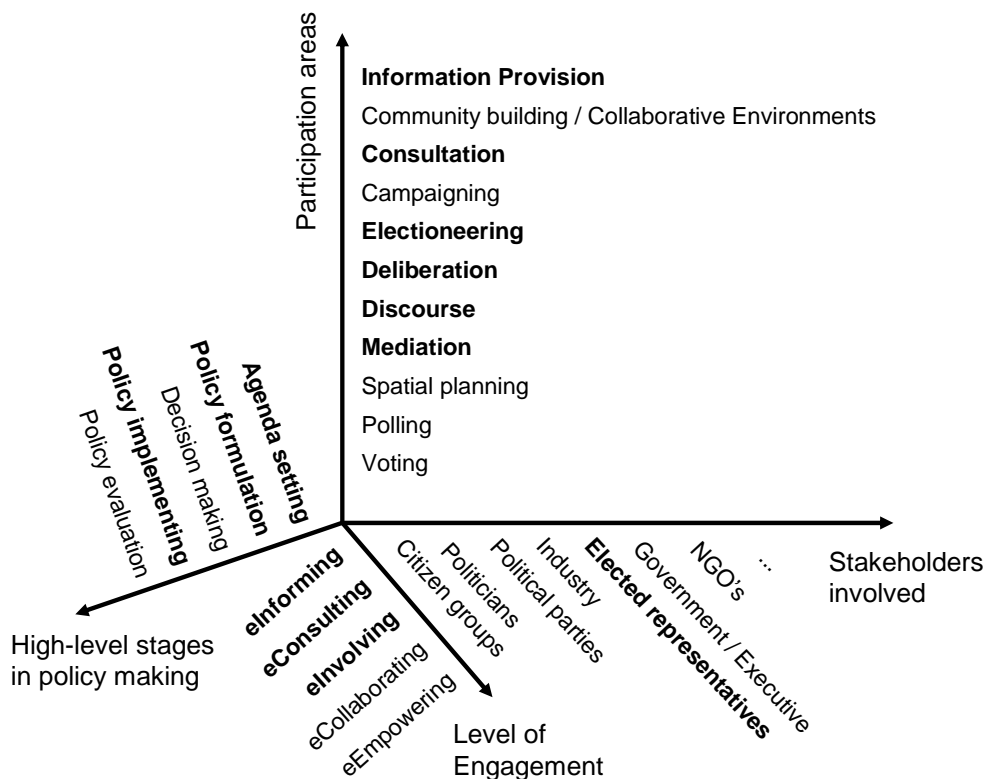


Figure 5: 4-Category scheme to investigate eParticipation challenges applied for the challenge “Stronger involvement of elected representatives into citizen participation procedures”

Though selective, rather than comprehensive, Figure 5 illustrates (in bold) some of the aspects that are involved in moving from challenge to needs in this case:

- Some aspects in the category “participation area” are more directly relevant for elected representatives than others. “Electioneering”, for instance, is clearly an important incentive insofar as existing and would-be political representatives seek to be elected/re-elected. Likewise, “information provision” gives representatives an opportunity to reach the public directly, bypassing the traditional mass media. On the other hand, “consultation”, by definition, is an activity (from the point of view of the elected representatives) used by the administration and parliamentarians to elicit the opinions of citizens; unlike “discourse” or “mediation”, it is not designed as a dialogue [between representatives and represented?]. These statements suggest a need to specify the participation area before generalizing this challenge.
- In the various stages of policy-making, elected representatives have different roles. In the “agenda setting” stage, “listening” is important, whereas in the “policy formulation” stage it is “interacting/discourse”, and in the implementation stage “feedback/responding/reporting/informing” that is important. A resulting need is to better understand what “involvement” really means – listening, reporting or discussing, for instance, or simply being “visible” or “accessible” to citizens.
- The category of “level of engagement” for this challenge has a similar meaning as the areas of participation and underlines the same need as described there.
- The category of “stakeholders” for this challenge illustrates the different possible addressees of eParticipation. Some of these addressees are diffuse (citizen groups) and some are more specific (NGO’s, industry). “Involvement” in the first case means listening to, and interacting or discussing with, various individuals and receiving a range of different opinions; the latter enables the elected representatives to listen to the more focussed and aggregated interests of a group of individuals but discussing with representatives/lobbyists (of an NGO or industry). Also, a resulting need here is to better understand what “involvement” means.

To summarise, examples of “clear needs for action” are

- elected representatives should listen and respond to citizens in an open and transparent way (Macintosh, 2003) and
- they should get engaged in online debates and other eParticipation activities and interact with citizens.

The following are examples of “needs for knowledge for better understanding”:

- specify among participation areas before generalizing the challenge
- clarify what “involvement” really means – listening, reporting or discussing, for instance, or simply being “visible” or “accessible” to citizens.
- understand what the motivation and incentive structures are for elected representatives to get more involved.

Step 3: Knowledge transfer and identifying existing practice and theory

In the next step, “knowledge transfer”, we look for both good-practice examples of elected representatives involved in participation procedures and for studies about this issue. We assume, on the basis of our 4-category heuristic scheme, that it will be easier to find good examples in the participation areas of “electioneering” and “information provision”. The following examples take into account the needs “Listen and respond to citizens in an open and transparent way” and “Get engaged in online debates and other eParticipation activities...”:

Example website www.abgeordnetenwatch.de

In the election campaign for the German Bundestag in 2005, a website was launched by a political party-independent NGO to enable both citizens and candidates to communicate about

party programmes and individual opinions. The candidates had an opportunity to provide a photograph, a short CV, their contact details and further information about themselves; meanwhile, the party programmes have been tailored into readable sections to inform the users. The highlight was that the users could ask individual candidates questions? directly and that all visitors to the website can follow whether the elected representative takes the request seriously or if he or she gets rid of it. In the six weeks leading up to the elections, more than 200.000 citizens used the system and put 12.000 questions to about 1.200 candidates. Approximately 8.500 questions were answered (cf. Gardiner, 2006). A team of facilitators filtered out questions that had a racist, fascist or otherwise insulting content (such questions, though, were rare). Originally, the system was developed with the parliament of the German state of Hamburg. Finally, the voting behaviour of each elected representatives in the parliament was listed too.

The advantages of the system for elected representatives is that they have a channel to publish their opinions, sharpen their political profile and directly reach citizens, without the filters typical of press-agencies or of their political parties.

This example raises further questions for research. For example, are elected representatives with specific attributes (related to a political parties, technical skills, being well/little known) most likely to prefer and use this tool (actor-driven approach)? Or else, is participation by representatives more a question of particular contextual factors (whether there are more activities in the run up to an election, whether participation levels depend on the subjects raised by users, etc.) (action-driven approach)?

Example weblogs of elected representatives

With blogs, elected representatives can reach the public directly, bypassing the filters and influence of the mass media. Since the author of the blog has control of content, the voice of the blog author appears more authentic and distinctive. By presenting a story-telling environment and focusing on the elected representative's experiences, weblogs help representatives appreciate other perspectives and form their own opinion (Evoice, 2007). It enables them to be visible by presenting themselves and their opinions at least by listening and by discussing and maybe also by deliberating.

Clive Soley, a member of parliament in the UK, published a paper "Why MP's should get blogging" that describes his experience of running a weblog. He reported having received 14 comments from his readers in a constructive discussion on the issue of university tuition fees. "It is easier to exchange views on subjects like this than by conventional letter and it [the weblog] has the added advantage of allowing the correspondents to see and comment on other people's views." (Soley, 2006) The Dutch city of Groningen is an example of how individual blogs can be combined on a city website in a form that helps citizens to easily search for "their" representatives.

In this example, similar research questions arise to those in the case described above. A further research question is whether the level of participation is affected by the nature or scope of the readership that is being addressed by blog: are constituents reading the blog or is the blog only addressing some indefinite global population in cyber space?").

Example of an academic discussion about the role of stakeholders

The challenge, as formulated above, starts from a specific understanding of the role of representative as being in permanent contact with their electorate. But this is not the meaning the term "representation" has always had. In the liberal tradition of democracy, candidates for elections make promises to constituents who then assess these claims in terms of their indi-

vidual interests or preferences. The election of a candidate is thought to initiate a contract between voters and the benefits promised by the elected candidate. Between election times elected representatives are free to act in accordance with their own view of what is right, though, if they fail in the view of voters, they will not be re-elected. So, in this view of representation, election campaigns in the time leading up to an election are more important and decisive than political processes that occur between election times.

Within the last 40 years, following changes in political culture and in response to the new demands of contemporary governance, there has been an evident shift from contractual to permanent representation. New technologies such as the Internet, interactive digital TV or mobile communications are well suited to permanent representation, because, unlike traditional modes of mass communication, such as broadcasting and newspapers, these new channels can enable interactivity and bi-lateral and multi-lateral communication.

Some political scientists therefore suggest new models of representation: by including means of direct democracy into the political processes in order to empower the citizens (Barber, 1998; Etzioni, 1992), or by reconceptualising democratic representation, based upon new notions of accountability, plurality and authentic reality (Coleman, 2005).

Coleman relates the transformation of mediation (from analogue to digital) to the transformation in our understanding of political representation (from contractual to permanent). Reconnection is the answer to a profound sense of disconnection some politicians feel towards constituents. For them, “connectedness is a route to consent and legitimacy... To connect is to have unmediated and undistorted access to the represented, to be better understood, to nurture public consent” (Coleman, 2005, p. 189). Ways how this mutually beneficially communicative collaboration can be facilitated are enabling a more expansive and interactive kind of accountability, an accommodating of a pluralistic network of representations, and by creating new spaces of public self-representation (cf. Coleman, 2005, p. 190).

Arguments against Coleman’s approach come from theorists of democracy in the tradition of Scharpf (1970) who raise concerns about scale, complexity and technocracy.

The research themes that result from this discussion are: What are realistic new roles for political representatives and for those they represent? How well do the media present representatives and represented to one another? This research should not only be driven by political science but should be also influenced by communication studies, cultural studies and applied informatics.

Step 4: Using heuristic of the basic conceptual map to generate research questions and themes

At this stage (and at the previous, too), the basic conceptual map should be used to generate research questions and to identify the academic disciplines involved in research.

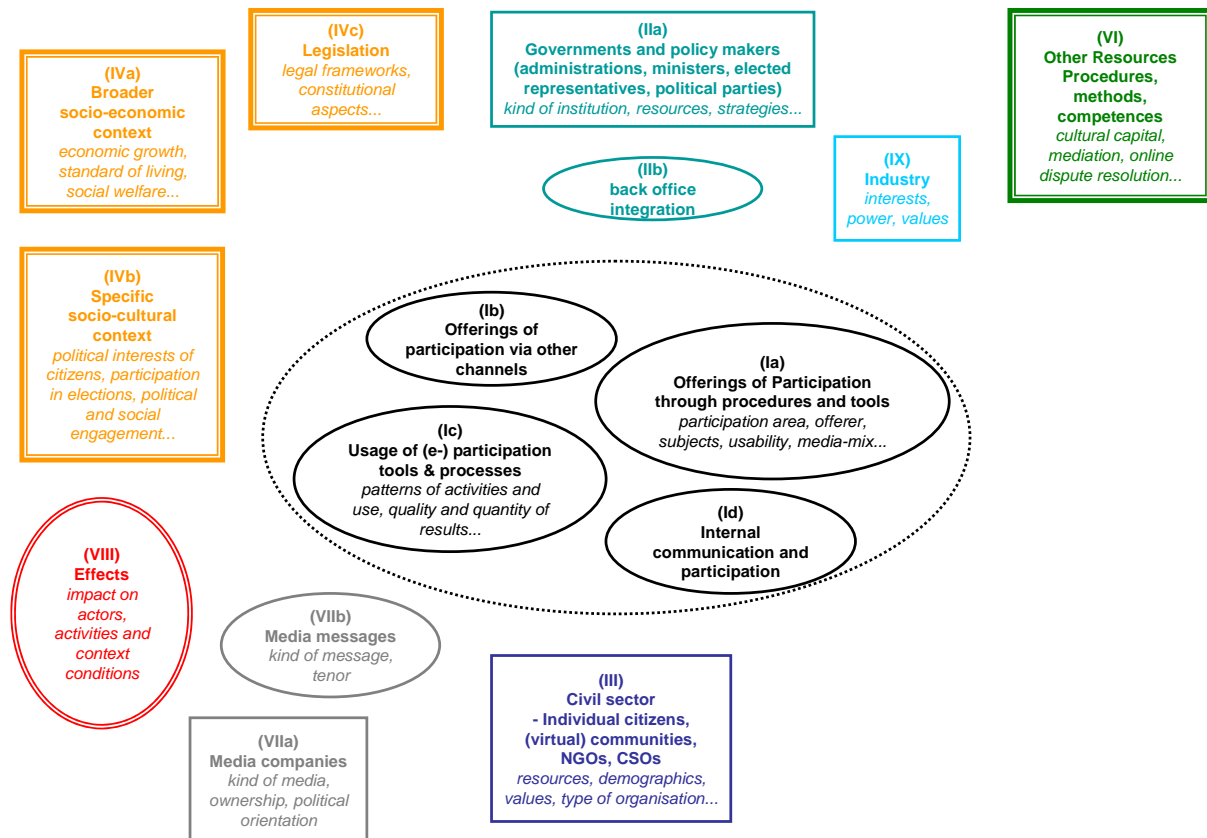


Figure 6: Important elements of the basic conceptual map for eParticipation concerning the challenge „stronger involvement of elected representatives into citizen participation procedures“

1. II a – “governments and policy makers”: Regarding all the needs listed above, “elected representatives” (or, more generally, “politicians”) are mentioned as important actors in this element of the map. The current attributes listed are: *kind of institution; level; resources; power; vision; strategies; participation culture; and skills*. This can help to arrive at research themes and questions:
 - a. Level: This depends on the scientific point of view adopted. A political scientist, for example, is likely to view the level of government (e.g., local, national, or international) as salient. Participation by local politicians may have different advantages to those of politicians at the European level. A resulting research question would be: “What difference does the governmental level of the decision-making institution in question make to the involvement of politicians?” (cf. also the example “Blog”).
 - b. Power: Exploring the need “Motivations of elected representatives...”, the attribute “power” can result for the political scientist in the question of whether citizen participation results in a loss of elected representative’s power, and whether the lack of involvement can be explained by an elected representative’s fear of losing power?
 - c. Resources & strategies: An economist might stress that it is necessary to introduce added value (in the sense of gratification, incentives) in order for elected representatives to become more involved.
 - d. Skills & resources: For scientists from applied informatics, the attributes “skills” and “resources” could be more interesting because they assume that lack of skills in using the Internet in general, or specific eParticipation applications in particular, might explain non-use. A psychologist, under the attribute

“skills”, might be interested in the skills required to interact with citizens and negotiate and cope with conflicts when they arise.

Attributes such as “process management” or “visions” might not play a role but can later become important (though this is not automatic).

2. I c –: Usage of (e)Participation tools & processes
 - a. Social inclusion: A sociologist, for instance, would be interested in understanding whether elected representatives are more attracted by the number of users involved (including the socially excluded) or the quality of participation, which might be inversely related to the number of participants (and may not include the socially excluded).
 - b. Acceptability and acceptance: For social scientists (psychology, political science, sociology), comparative case studies regarding the question whether results of procedures elected representatives were involved are better accepted than others can be helpful.

Nearby elements illustrate that there seem to be two different approaches to the challenge. The first includes the top-down-approach from bureaucracies and politics to civil society with the elements described in IIa and Ic; each of them represents the side of the government that conducts and offers a participation procedure. But there is also the bottom-up-view from civil society:

3. Iii – “Citizens or interest groups”. They might demand political participation, for instance, when they mistrust the bureaucracies or policy makers or believe that a specific topic is not being adequately considered – this can be both part of the stage of “agenda setting” in the policy cycle (e.g., as “campaigning”) and during a consultation phase before “decision making”. Here, elected representative must take on the role of listener and responder.
 - a. Values, type of organisation, power: Resulting research themes, especially from a social science point of view, can be derived from these attributes — is the responsiveness of representatives and their willingness to get involved in discussions a question of power or values (including the political orientation)?

Step 5: Assignment to clusters and disciplines

The research themes of this challenge can be mainly assigned to the clusters “organizational issues“, but also to the cluster of “political strategic issues”. Some elements of “socio-technical issues” also play a role.

We have described research questions and themes that derive from the usage of our basic conceptual map. We have illustrated that this challenge is mainly an issue for the social sciences (e.g., political science, sociology, psychology); only one example involved applied computing science.

3.1.2 Supporting interaction between different actors through technological means

Step 1: Source, classification, description

This challenge was articulated at the DEMO-net stakeholder workshop with the following phrase: "High percentage of administrations/politicians are not yet prepared to interact with citizens via ICT".

First of all, there is an explicit link to social interaction in the challenge "Supporting interaction between different actors through technological means", as opposed to other concepts, such as human-computer interaction. Furthermore, there is also an explicit reference to technological means acting as mediators; this means, in our context, information and communication (ICT) based tools.

Step 2: Using heuristic of 4-category scheme to get needs

Using the 4-category-scheme to define the needs that result from the challenge, two categories seem to be useful: *eParticipation areas* and *levels of engagement*. As interaction can be found in all high-level stages in policy making and concerns all stakeholders involved in certain participation processes, these two categories seem to play a minor role in differentiating needs.

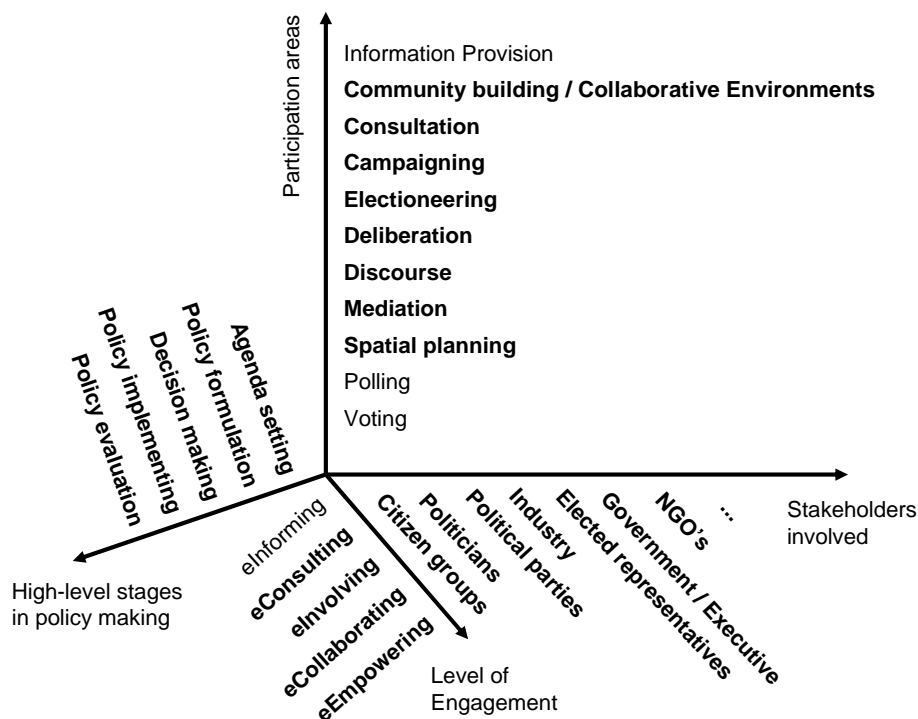


Figure 7: Relevant categories for the challenge "Supporting interaction between different actors through technological means"

Several needs can be identified which derive from the different eParticipation areas.

Interaction is an integral part of community building, deliberation, discourse and mediation. Here the emphasis is placed on the need to provide appropriate online tools to support the fundamental interactive structures of such processes.

In several participation areas, such as consultation, campaigning, electioneering and spatial planning, the importance of (full) interaction has been recognized, raising the need to include

interactive elements in order to improve the relationships between the actors and the intended outcomes.

Regarding the levels of engagement, the implications of the challenge are similar to those described above: eInvolving, eCollaborating, and eEmpowering are the main levels of engagement where interaction between actors plays a crucial role. With regard to all levels of engagement, supporting interaction means that more eParticipation offerings should feature a higher level of engagement.

Resulting “clear Needs for action” are:

- provide appropriate tools to support interaction
- include interactive elements in participation procedures in some participation areas
- increase the level of engagement in eParticipation offerings

“Needs for knowledge for better understanding of the challenge” are:

- Clarify what the concept of interaction through technological means in the context of eParticipation
- Explore when and why eParticipation should be interactive
- Explore when and why participants are willing/unwilling to interact with other participants/stakeholders involved
- Compare offline and online interaction to better understand how eTools can support eParticipation processes, and identify the advantages and disadvantages of computer-mediated communication/interaction.

Step 3: Knowledge transfer and identifying existing practice and theory

In what follows, the *need to provide appropriate tools to support interaction* will be further elaborated in the case of deliberation. The main questions required in order to identify good practices are: What do we already know about online tools which have the potential to support interaction? And more specifically for the selected area of eParticipation: Which tools are already deployed in these areas and work well? Deliberation can be defined as a certain kind of decision making process, distinct from coercion, voting and bargaining. As deliberation is characterised by group discussion, allowing reflection and consideration of issues (see DEMO-net, 2006c), the required mode of communication is two-way. All participants contribute to the discussion actively, presenting their own ideas, proposals, and arguments, and referring to the contributions of others. Appropriate technological means must be found to support group communication and interaction. In general, the minimum standards for interactive communication are reciprocity, and regarding especially (asynchronous) computer-mediated communication, the possibility to view and respond to all contributions made by other participants. First trials with discussion forums in the early stage of eParticipation research and deployment suggest that structuring and facilitation are important parts of online deliberation. As a consequence, more attention has been paid to the development and trials of more sophisticated technological means for online deliberation, including moderation, and combining discussion forums with other tools to support different stages in opinion-building and decision-making processes.

One good practice example in this area is a technical platform for public online discussion developed within the DEMOS (Delphi Mediation Online System) project (a RTD project under the 5th Framework Programme of the EU (IST)). The tool has been successfully tested several times in different European countries. The German trials include, amongst others, the Hamburg trial “Metropolis Hamburg – Growing City”, conducted in 2002. Here, the citizens of Hamburg were invited to develop their own ideas on how to improve the attractiveness and living conditions of the City of Hamburg and discuss this issues with each other (Lührs, Albrecht, Lübcke, & Hohberg, 2003). Another project was conducted in 2005, offering all

citizens from Hamburg the opportunity to discuss and develop ideas on how to make Hamburg more family friendly. Furthermore, this project aimed to include all relevant stakeholders in the discussion: citizens, owners of houses, planners, architects and politicians (Lührs & Hohberg, 2007).

Both project were conducted on an ICT platform, guided by moderators and the underlying methodology. The underlying methodological concept, the so called DEMOS-approach or – process, provides support for three phases of online discourses: broadening, deepening and consolidating debate. This process is supported by a number of technical features: surveys, discussion forums and wikis, and ranking and rating tools. The projects were able to attract many citizens to actively participate in a political online debate, discussing most of the relevant aspects of the issues in detail within short-time periods (the discussions were run for about one month). The ideas that were developed were enriched by the individual expertise of the participants.

In addition to the good practice example of the DEMOS-tool, the results of the project offer some clarification of the *need to explore when participants are willing/unwilling to interact*: that is, actively participate in the discussion by listening and responding to other participants. The experience within the DEMOS project has shown that participants are more likely to play an active part in the debate if the process appears rewarding in at least three different respects (Lührs et al., 2003):

1. Expected impact on real life politics.
2. Immediate and beneficial results (instant reward).
3. Communicative behaviour of other participants (i.e. participation is more interactively rewarding when one's own contributions are considered and discussed by other participants).

The DEMOS-tool proved to support interaction in deliberation processes, and so might be applicable to similar processes elsewhere. However, the underlying participation methodology for the DEMOS-approach contains some specific assumptions which may not fit other online debates. In such cases, the methodology would need to be adapted to suit the context.

The following two research themes can be deduced from this good practice case:

- Deeper understanding of different participation processes in terms of phases, procedures, methods, rules etc. as structuring forces of interactive communication
- Role of facilitation/facilitators for supporting (full) interaction, e.g., summarizing, ensuring reciprocity of contributions etc.

Knowledge transfer means identifying existing academic debates that provide useful empirical studies, concepts, frameworks and so on. One formulated need is to clarify the concept of interaction through technological means in the context of eParticipation. Two closely related concepts for understanding the challenge emerge in the literature in this area and seem to be important:

a) *Interaction* between different actors refers to an iterative process in which actors act on each other, jointly producing meaning. The concept refers to the basic mechanisms of community building and has a strong link to interpersonal communication, though there is no consensus in the scientific world about the relationship between these concepts, e.g., whether communication can be considered as a part of interaction or vice versa (Neuberger, 2007).

b) *Interactivity* refers to the process of interaction and the potential of communicative situations (face-to-face or mediated through technological means) to allow different levels of interaction. Rafaeli & Sudweeks (1997) conceive interactivity as varying along a continuum; they place declarative (one-way) communication at one end, reactive (two-way) communication in the middle, and fully interactive communication at the other end. Going beyond reactive communication, fully interactive communication means that “later messages in any se-

quence take into account not just messages that preceded them, but also the manner in which previous messages were reactive”.

Step 4: Using heuristic of the basic conceptual map to generate research questions and themes

The interaction/interactivity concepts mentioned in step 3 are useful to understand, that especially regarding the communication aspect of interaction, situations and tools are not either interactive or not. Rather they can be described in terms of different levels of interactivity. However, taking into account that interaction occurs in the context of eParticipation, the elements and attributes of the basic conceptual map provide additional guidance as to how to generate precise research themes and questions from the point of view of different disciplines¹⁶:

1. I a & b - Offerings of Participation through procedures and tools & via other channels: Here further clarification of the concept leads to the following possible research questions resulting from the respective attributes:
 - a. Participation area: Here social sciences or psychology and behavioural sciences may be interested in the structures of interaction in different participation areas. Communication sciences may emphasise the structures in mediated communication and interaction. Resulting research question can be formulated as follows: Which structures of interaction (mediated or face-to-face) can be found in different participation areas?
 - b. Subjects: Psychology and communication studies may ask: To what extent do subject characteristics (e.g. complexity, conflict potential) influence the interaction?
 - c. Scope: The aspect of the scope can be investigated from a sociological and psychological point of view posing the question: Is there a negative correlation between group size and interactivity? Is there an optimal size of groups? To what extent can technological means support interaction in large groups?
 - d. Usability: Applied informatics could ask, to what extent the design of tools and user interfaces can positively/negatively influence interaction?
2. II a – Governments and policy makers:
 - a. Skills: Applied informatics may focus on this aspect asking: To what extent do skills of politicians, especially computer literacy, positively/negatively influence their use of e-participation tools for interaction with citizens? From a psychological point of view human and interpersonal skills of politicians may be more of interest.
3. III – Civil sector: individual citizens, (virtual) communities, NGOs, CSOs:
 - a. Skills, social capital: To what extent do skills or social capital of civil sector actors influence their interaction patterns? Here applied informatics and psychology may emphasise the skills and sociology the social capital aspect.
4. Vc – ICT infrastructure:
 - a. Pseudonymity and anonymity: How do pseudonymity and anonymity influence interaction between actors? How can tools be design to support both privacy enhancement and interaction? The first question imply a psychological perspective on the attributes, the second one is of a more technical nature and may interest both applied informatics and informatics.

For other relevant elements of the map see figure 8.

¹⁶ This list is only a selection of elements and attributes with possible questions and is not exhaustive.

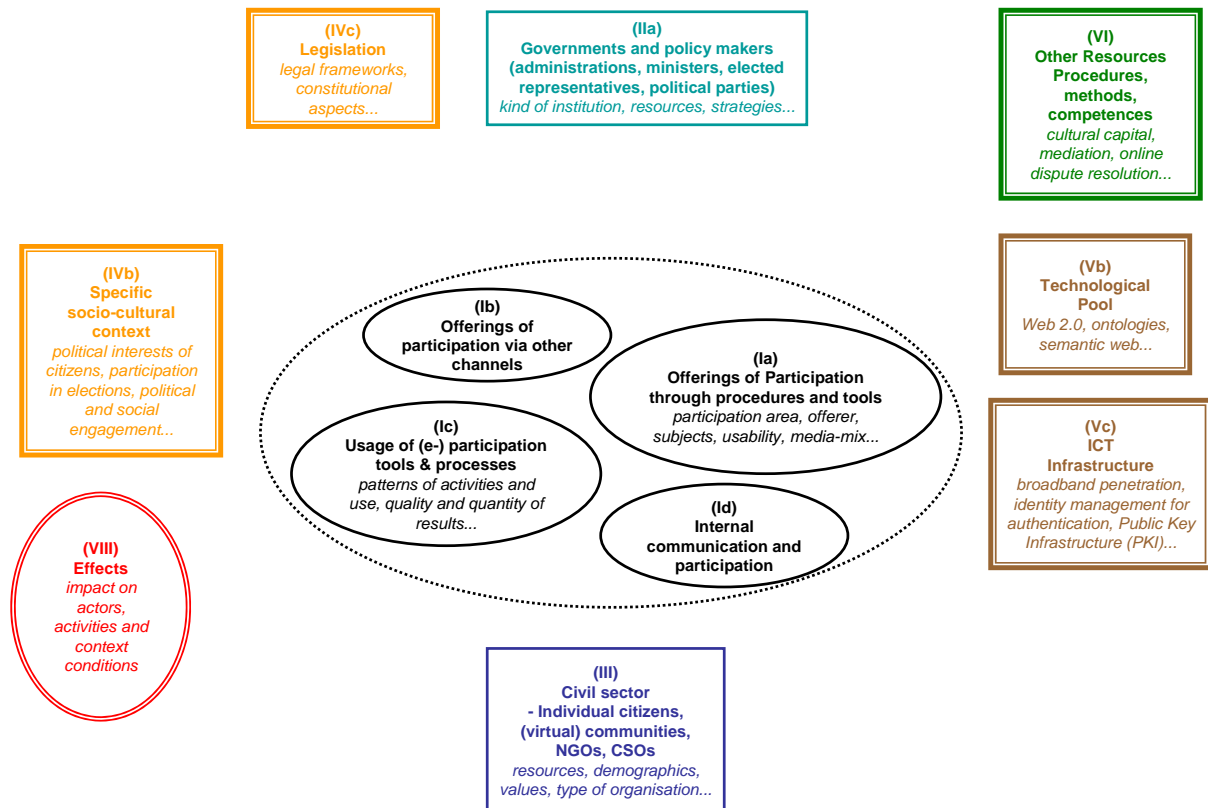


Figure 8: Relevant elements of the basic conceptual map regarding the challenge

Step 5: Assignment to clusters and disciplines

The research themes and questions developed in Step 4 can on the majority be assigned to the categories: social and socio-technical. Main disciplines involved seem to be the social sciences (media studies, psychology, sociology), mostly partly informatics and applied informatics.

3.1.3 Mobile technology as important key technology for eParticipation

Step 1: Source, classification, description

The phrase „Mobile technology as important key technology for eParticipation” emerged in the DEMO-net Stakeholder workshop (DEMO-net, 2006a). The stakeholders mentioned, amongst others, the problem of engaging the citizens. It was concluded that mobile technology will play an important role to get through to the citizens easier. The relevance of mobile technologies for eParticipation was addressed also in (DEMO-net, 2007a).

Until now the potentials of mobile technology and devices are not well understood. So the usage thereof is limited. This is formulated as a barrier for eParticipation.

Step 2: Using heuristic of 4-category scheme to get needs

Three challenges have been extracted from the barrier:

- Exploiting mobile devices and channels in eParticipation cases (Challenge 1)

- Providing convenient eParticipation applications via mobile technology in distinct eParticipation areas (Challenge 2)
- Stakeholders using eParticipation offerings based on mobile technology (Challenge 3)

In general all categories of the 4-dimensional framework seem to be useful for defining the needs from the above mentioned challenges. The aspects of the category “Participation areas” have nearly all the same relevance for mobile technologies. Certainly there are limitations in some areas for simple display based instruments. On the other hand there still exist unused potentials. This analysis of the use, the benefits and the influence of existing and new technologies can be exploited as a need. The same applies for the categories “High-level stages in policy making” and “Level of Engagement”. There are generally no limitations for the user group of mobile technologies. Thus the needs for usability and usefulness concern all possible stakeholders.

A detailed analysis of each individual challenge would blow up the framework here. Therefore the definition of needs is short described for the challenge “stakeholders using eParticipation offerings based on mobile technology”:

The aspects of the category ‘*participation area*’ are of different relevance for the different involved stakeholders. So the participation areas of possible offerings may be different. As mentioned above in 3.1.2, “Information Provision” is very important for “elected representatives”. Therefore corresponding offerings (for information provision with mobile technology) could be useful for them. Voting and polling with mobile technology are certainly interesting areas for citizens and politicians. But at the moment they have less relevance because of security and administrative aspects which complicate the realisation. These statements result in the need to develop convenient mobile eParticipation tools and applications.

As mentioned above, all *stakeholders* of the 4-category scheme are involved. The different persons and groups have different technical knowledge. So the mobile eParticipation tools and applications have to be user friendly. This ensures that they will be used by many stakeholders.

In the *stages of policy making*, the involved stakeholders have different roles. These different roles need different mobile offerings. E.g. elected representatives have the role “listening” (see 3.1.2) and citizen groups and industry the role “informing/reporting” in the stage “agenda setting”. To ensure the participation of all these parties with complementary roles in “mobile policy making”, there is additionally the need to ensure take up of mobile eParticipation tools and application offerings.

The differences between the *levels of engagement* also result in the need to develop convenient mobile eParticipation tools and applications. The reason is that e.g. eInforming needs other activities from the involved stakeholders than eCollaboration. The software has to be conformed to the corresponding levels that it will be used.

The following needs were extracted from the challenges:

- Need to understand what kind of mobile technology and devices can be used in which eParticipation areas and at which stage of the policy cycle (Need 1)
- Need to develop user friendly and convenient mobile eParticipation tools and applications (Need 2)
- Need to ensure take up of mobile eParticipation tools and application offerings (Need 3)
- Understanding the benefits of certain technologies for eParticipation (Need 4)

The 4-category scheme helped also to generate the needs from the other two challenges. The result is briefly summarized: Need 1 was only extracted from the first challenge. The need to develop user friendly and convenient mobile eParticipation tools and applications (Need 2) was identified in challenge 2 and in challenge 3. The last challenge embodies also the need to

ensure take-up of mobile eParticipation tool and application offerings (Need 3). Need 4 is relevant for all three challenges.

Step 3: Knowledge Transfer and identifying existing practice and theory

Two projects were identified as practice examples for the need “Identify good practice cases”.

Example mobile phones for youngsters

The evoice project¹⁷ researches the combined usage of multi media instruments for eParticipation. The members of the project are of the opinion that eParticipation tools properly can support political participation if they are combined with other media in a well defined way¹⁸. The project analyses ‘old’ media like newspapers as well as ‘new’ instruments (internet, email, mobile phones etc) and the possibilities for interaction. This project included the pilot study ‘mobile phones for youngsters’¹⁹: Young citizens of a Dutch village got mobile phones for free. In exchange they agreed to answer weekly a question about the village. The municipality as well as the young participants were content with the initiative. The participation of the youth citizens was not as high as originally assumed and resulting questions have been how to make pressure and how to give incentives to the youngsters that they participate in a valuable way (Kubicek, Lippa, & Westholm, 2007, forthcoming). This pilot project shows ideas for citizen engagement via mobile phones that provides lessons learnt for other environments.

Also the “transfer of the multi media concept” should be analysed for the purpose of knowledge transfer. These initiatives result in the challenge formulated as “Exploiting mobile devices and channels in eParticipation cases”.

Example open service platform for mobile users

The use-me.gov project²⁰ has the aim to ease the access of eGovernment services with mobile and internet techniques. The project researches the development of a service platform for mobile users that can be shared by networked institutions. It has the following objectives:

- Open platform for mobile services
- User-friendly mobile interfaces
- Recommendations for mobile services

The research results and developed standards of this project should be adopted in eParticipation contexts and should result in the exploitation of mobile technologies. The use-me.gov Project as good practice case is located in the research elements I. and V.

Step 4: Using heuristic of the basic conceptual map to generate research questions and themes

From the conceptual map, the following elements and attributes can be used to extract research themes:

¹⁷ <http://www.evoice-eu.net/>

¹⁸ See: <http://134.102.220.38/evoice/content/sections/index.cfm/secid.6>.

¹⁹ http://www.evoice-eu.net/content/newsletter/evoice_nl4_1.htm and <http://www.heelhetdorpzwaagwesteinde.nl>

²⁰ USability-drivEn open platform for MobilE GOVernment (<http://www.usemegov.org/>)

V – “The technological pool containing available ICT-based tools and technologies, the ICT infrastructure, relevant actors such as ICT companies and software developers as well as the software”: Regarding needs, ICT companies and system developers are important actors. Their interests and know-how influence the results of the software development process. The technological pool and the ICT infrastructure give important attributes for the research questions.

- a. Web 2.0, ontologies, and semantic web: Exploring need 1 and need 2 can result in the questions for the potentials of the combined usage of new semantic web or knowledge management and mobile technologies. Social networks can expand the contact of different user groups for eParticipation.
- b. Identity management for authentication: Security management is very important to provide confidence. But the identification process has to be easy for usability reasons.
- c. Interests: An economic perspective, combined with a focus from administration science, would centre on the interests that technology providers might have to support such projects and what influences the administration’s willingness to cooperate with technology providers.
- d. Interoperability and standardization: From the perspective of (applied) informatics, the interoperability between messages via mobile phones and the internet as a storage technology is another research question that emerged out of this project.

I – “Offerings of eParticipation by ICT-based tools and procedures or via other channels and usage”: There might be differences in the use of channels, procedures and tools for different participation areas.

- a. Patterns of activities and use, quality and quantity of results: The analysis of existing eParticipation activity patterns and the development of new ones will play an important role in develop new standards for mobile technologies.
- b. Provider, subjects, and usability: Different eParticipation offerings and subjects require different uses of the technology.
- c. Addressees: From the point of view of applied informatics, a resulting research question is under which conditions the usage of new technologies such as mobile phones in “normal life” can be applied to eParticipation.
- d. Social integration: A sociologist’s research question is whether the contributions of young citizens (in the evoice-case) differ depending on demographic background.
- e. Usability and embeddedness: From a social science point of view in general, a research question is whether the technology helps to create the expected results – are contributions relevant to the political process?
- f. Media-mix: Another research question, from communication studies, is how this technology can be combined with other methods of citizens’ involvement to strengthen the usefulness of the application.

III – “Civil sector - Individual Citizens, (Virtual) communities; NGOs, CSOs”: Mobile technologies for eParticipation can have different participation areas for different stakeholders. Also, the users have different experiences with mobile technologies. Regarding needs 1 and 2, the following must be considered.

- a. **Motivation:** From the point of view of psychology, the motivations of the young people (in the first example) are relevant aspects of research – what would encourage this target group to join eParticipation activities, is it, for instance, the free delivery of the most modern technology?
- b. **Social capital:** From social science, an interesting research question is whether and how technology enables addressees such as young people, who are not normal included in participation procedures, to provide their own specific knowledge and experience of their environment to the general public.
- c. **Skills:** The evoice-case showed that the providers were very interested in learn from the skills of the youngsters how to use the technology to provide photographs (which is not as easy as sending a text message along).

VIII – “Impact on actors”: Research questions for need 3 should focus on the possible users of the technologies.

IX – “Industry”: Do potential benefits? for industry result from eParticipation mobile technologies?

With the help of our map, need 1 and need 2 result in the research theme “Analyse specific user needs for user friendly and convenient mobile tools and applications for eParticipation areas and supporting distinct policy life-cycles”. The following two research activities were formulated:

- Implement tools and mechanisms for engagement in pilot projects.
- Studies (including surveys, impact analyses, etc.)

The research theme “Develop user friendly and convenient mobile tools and applications for eParticipation areas and supporting distinct policy life cycles” refers to the needs 2 and 3. The concrete development of mobile tools and applications leads to the following two research activities:

- Measure the success of the framework through studies and surveys.
- Implement tools and mechanisms for engagement in pilot projects.

Step 5: Assignment to clusters and disciplines

Both research themes have a public value and can also be classified as socio-technical and technical. The public value should lead to a better and intuitive usability of mobile tools and applications.

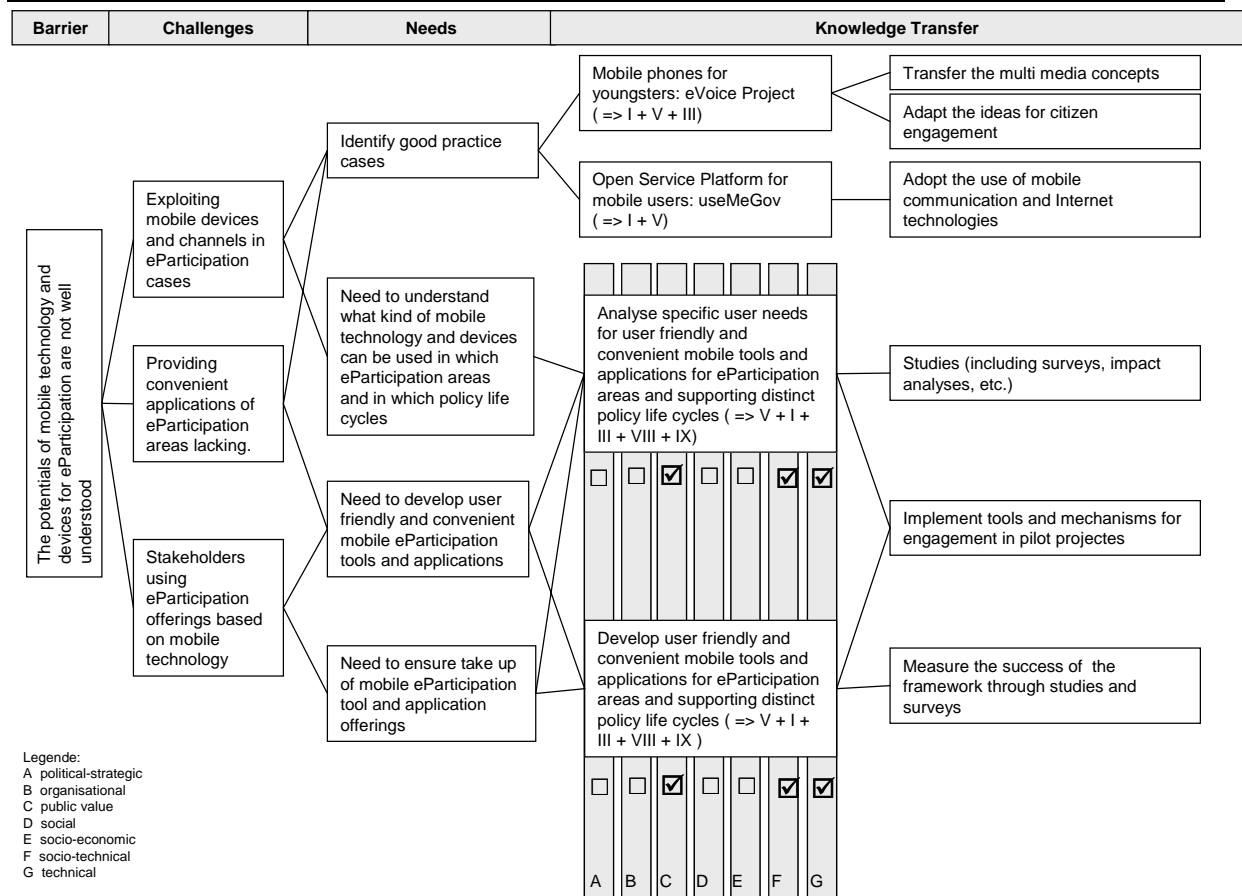


Figure 9: Argumentation trace for the phrase "Mobile technology as important key technology for eParticipation"

Based on the research clusters (see sect. 1), the following scientific disciplines of the Erasmus Mundus code can be assigned to the research themes:

- Mathematics, Informatics
- Engineering, Technology
- Social Sciences Communication and Information Sciences

3.1.4 “Improving the qualitative dimensions of eParticipation (e.g. informed reasoning, rational argument)”

Step 1: Source, classification, description

This challenge was articulated in WP-6-research papers.

The basic underlying question asks about the extent to which eParticipation is successful.

In this context we illustrate it at the method of online debates which is often used to generate new qualitative inputs. Generally, online debates take place on ‘a website for an online discussion group where users, usually with common interests, can exchange open messages. It typically shows a list of topics people are concerned about. Users can pick a topic and see a

‘thread²¹’ of messages and replies and then post their own messages’ (Macintosh, Coleman, & Lalljee, 2005, p. 13). However, there are also online discussions, which are undertaken via e-mail lists (see for instance the discussions of the German-speaking technology assessment network (NTA), <http://www.netzwerk-ta.net>). While the former does not necessarily require users to register (e.g. with a valid e-mail address), an e-mail discussion presupposes that discussants apply for participation. To position online debates within a range of participation methods, online debates would fall between face-to-face meetings and traditional paper-based consultations. The main advantage associated with online debates is their potential to involve a larger number of discussants than is possible in traditional meetings. Online debates can also run for a longer period of time, which makes it possible, in turn, to analyse the discussion in more depth. Furthermore, all online contributions are available (e.g. via a thread system or an e-mail list) and discussants can respond at any time and from anywhere to the messages of other participants (Pearce, 2001, p. 2).

Types of online debates

Discussion Forums	Depending on the type and content of the forum, comments can be sought in order to gauge opinion or solicit ideas. Example: http://www.tellparliament.net
E-Panel	Comments are sought in order to gauge opinion and solicit ideas. Example: http://www.askbristol.com
E-Deliberative polling	Providing informed deliberative debate on specified issues. Example: http://communityconnections.heinz.cmu.edu/picola/index.html

Source: (Ann Macintosh et al., 2005)

As to the qualitative aspects of online debates (in terms of interaction amongst participants and the rational character of the discussions), a review of selected empirical studies shows that several authors tend to be sceptical about the deliberative potential of online debate. Most online discussion forums fall short of the potential to establish an (online) environment in which interactive and critical-rational communication among participants prevail. ‘Recent research has shown that online discussions do not always follow the high ideals set for deliberative democracy. Speech is not always so rational, tolerance towards those who hold opposing views is at times wanting, and the forms of interaction are not always so civil’ (Dahlgren, 2005, p. 156).

Step 2: Using heuristics of 4-category scheme to identify needs

The figure 10 (next page) illustrates (in bold) those aspects that are of particular importance for the challenge described in this chapter. It is important to consider that the following descriptions primarily refer to online debates.

²¹ A thread involves a series of messages that have been posted as replies to previous discussion contributions (see Macintosh 2003, 130).

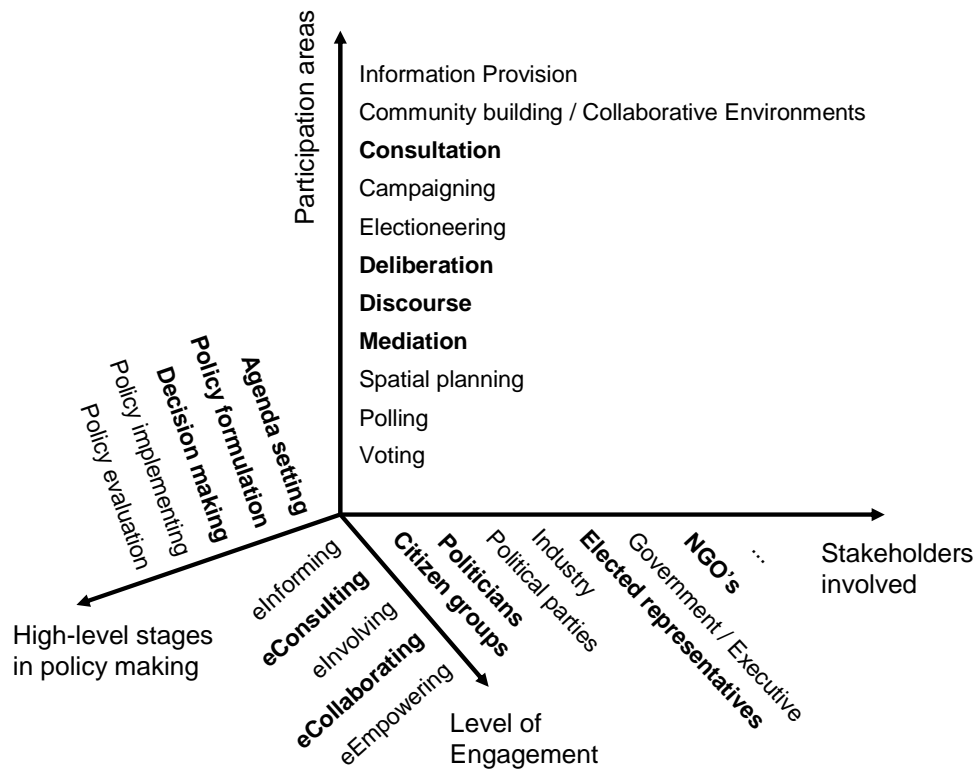


Figure 10: Relevant categories for the challenge “Improving the qualitative turnout of eParticipation”

Ad participation areas: Measuring the quality of eParticipation plays a key role in all those analyses that attempt to assess the extent of online deliberation. eParticipation needs to be based upon informed and rational discussions in order to influence policy making processes. The improvement of the qualitative dimensions of eParticipation can be best achieved via a clear, organisational framework. This involves an (easy to use) registration mechanism for participants and a clear moderation and talk policy. Such requirements also apply to online consultations, discourses and mediation. Since political participation (online and offline) involves conflicts ‘by nature’, the participation process (e.g. the organisational setting) needs to ensure that high quality standards are accomplished and maintained. To sum up, there is a need to define different quality standards for different kinds of eParticipation activities. Quality requirements for an online debate have to consider other aspects (e.g. interaction patterns, rationality, extent of participants etc.) than those relevant for e-voting (e.g. privacy and security issues etc.).

Ad stages of policy making: Fundamentally, any eParticipation processes will be measured by its quality. Regarding online debates, though, there are some stages in the policy cycle where quality appears particularly salient. The agenda setting process depends heavily on the quality of the online contributions. Otherwise, a particular concern or problem will not emerge on the ‘policy agenda’. The policy formulation process is (ideally) a deliberative exchange of arguments outlining which points of view are included and which ones are of minor importance. Finally, the decision making process presupposes valuable and qualitative inputs in order to produce a ‘good’ decision. In order to ensure that all citizens affected by an (existing or envisaged) policy can take part in the process, any participation ‘hurdles’ (such as registration mechanisms) have to be kept at a minimum. Hence, there is a need to keep the number and extent of ‘access barriers’ low.

Ad level of engagement: As outlined before under ‘participation areas’, eConsulting and eCollaborating appear to be the categories most applicable for this challenge.

Ad stakeholders involved: The main affected groups when it comes to improving the qualitative dimensions of eParticipation are citizens, political / administrative representatives, NGOs and the media. Hence, the qualitative dimensions of eParticipation depend strongly on the range of participants involved. The greater the variety of (relevant) views, the more likely the participation process and its outcomes will be accepted. In order to achieve such goals, appropriate promotion activities, addressing the relevant stakeholders and attracting their interest, are required.

To sum up, there is a need for

- a clear organisational framework setting the registration, moderation and talk policy of an online participation platform;
- ‘access barriers’ have to be kept at a minimum
- promotion activities in order to inform and reach the relevant stakeholders.

Step 3: Knowledge transfer and identifying existing practice and theory

This step concerns the organisational and qualitative aspects of the EU’s participation platform ‘Your Voice in Europe’. This platform has been selected as an example since it is somehow ‘outstanding’ (compared to other online talk boards) regarding the qualitative dimensions of online debates. Using the 4-category heuristic scheme, it will mainly draw on the participation area ‘deliberation’.

Example platform ‘Your Voice in Europe’ (<http://ec.europa.eu/yourvoice/>) – Online debates

In 2001, the European Commission (EC) set up an online initiative (‘Your Voice in Europe’) inviting European citizens, NGOs and entrepreneurs to contribute to a discussion about the draft document of the European Constitution. Since then, numerous topics have been put on the discussion agenda.

As to the qualitative dimensions of this eParticipation platform, an empirical study about online debates revealed some interesting results (see Winkler, 2007):

The analysis investigated interaction patterns amongst discussants and the discourse quality (in terms of rationality). Furthermore, it considered the organisational framework of the talk boards, since it was assumed to impact on the quality of deliberative communication. Against the background of theoretical concepts about deliberative communication, *interaction* and *rationality* were identified as the core categories of a quantitative content analysis. The investigation was based upon a stratified random sample of approximately 600 online contributions composed by 225 posters. The descriptive variables, length of the posting and language, revealed that about 95 % of the messages were written in English. Interestingly, the length of the postings did not have significant impacts on the discourse quality, i.e. short messages (about a quarter A4 page) were not less rational or less balanced in argumentation than larger messages (about one A4 page/ how many words?). The postings that were analysed can be divided into two groups: The first group of contributions stemmed from a rather small group of posters (25 persons/‘poster group I’): about a tenth of them provided half of all analysed postings. The other group involved a relatively high number of posters (200 posters/‘poster group II’).

Results on the interaction within the 'Your Voice in Europe' online debates:

With regard to the analytical variable *interaction*, the results showed that discussions involved well-developed interactions, which took place in small person groups. In fact, 'poster group I' sent most *replies to one precedent message* (ca. 76 %). By contrast, 'poster group II' used to *reply to more than one precedent message* which indicates that these discussants were less focused on one particular opinion or view of another interlocutor. With regard to the message purpose, the content analysis illustrated that the majority of the contributions (75 %) intended to *provide information* to others and *involved personal opinions* of posters. Nearly a quarter of the posters sought *direct interactions* with other discussants. These discussants attempted to establish personal debates with particular posters by addressing them directly (e.g. by a question or a comment). Again, the smaller and more active group I involved more direct interactions than the larger 'poster group II'. As to the *level of agreement* within the debates, approximately 60 % of the online messages were coded as neutral, i.e. discussants did not clearly express their agreement or disagreement towards a view in a precedent posting.

Results on the rationality within the 'Your Voice in Europe' online debates:

The analysis of the second core category, *rationality*, demonstrated that about two-thirds of postings included well-formulated and rational arguments whereas the 'poster group I' put forward more rational arguments than group II. Very well-balanced arguments considering a wide range of views towards a topic were found in nearly a third of the postings. The postings also showed that there is a high level of awareness amongst posters concerning the significance and the function of diverse political and socio-economic institutions and processes: Almost half of the analysed messages indicate that discussants have a broad understanding of political and socio-economic mechanisms in Europe. The discussions on the main topics that were analysed, namely 'The Debate on the European Constitution' and 'The European Convention', did not involve a significant number of 'hard facts'. Figures, historical facts or press statements were used in only 28 % of the messages. The posters also avoided an emotional and ironic tone in most of their contributions. Only one fifth of the postings included emotional aspects and ironic components could be found in 14 % of the messages. Thus, online discussions were mainly characterised by highly rational communication processes.

In fact, discourse on the 'Your Voice in Europe' talk board revealed that participants were highly motivated to interact and to exchange political views on European matters. Hence, the qualitative turnout of this platform was rather high compared to other discussion forums. If we ask about the possible reasons for such findings, we have to analyse and consider the organisational framework of the online debates:

Identification mechanisms at the Your Voice in Europe talkboard: In order to participate in the EU's online discussions, posters have to provide an e-mail address. Furthermore, there are two fields requesting information about the discussant's country of origin and the language. However, the accuracy of the statements is not verified. Thus, it is impossible to make any statements about the discussants' national origins since there is no information available that can be considered reliable.

Moderation at the Your Voice in Europe talkboard: In general, only slight moderation took place on the talkboard, i.e., a moderator routinely checked content of the online messages. However, the participants have to respect certain 'talk rules' which are outlined in the 'talk policy' of the Your Voice in Europe homepage. The platform is designed to give '(...) European citizens complete freedom to express their views on, and discuss the future of Europe.'²² The initiators state that contributions are not modified; though, some minimum criteria have

²² See editorial policy of the *Your Voice in Europe* platform: http://europa.eu.int/futurum/documents/contribu/editorialpolicy_en.htm, accessed 14 September 2006 (not available anymore since this discussion forum was closed down).

to be fulfilled. If a discussant does not respect the discussion rules, he or she might be banned from the talkboard. 'On the basis of these considerations, the moderator reserves the right not to publish certain contributions. This simple line of conduct is necessary to ensure a democratic debate, complying with the basic rules of politeness and of respect for others.'²³ Thus, the assessment of the quality of discourse has to be undertaken against the background of these basic discussion requirements. However, the empirical investigation can only take into account those discussion contributions, which have been granted access to the talkboard. Unfortunately, information about the number of postings that were not put on the discussion platform or about those who were banned from the talkboard was not available.

Agenda setting at the Your Voice in Europe talkboard: Agenda setting is mixed at Your Voice in Europe i.e. topics are proposed by groups, the talkboard providers and by discussants. While the former set the overall topic ('The Future of the European Union') with related sub-topics (e.g. 'European Convention'; 'Draft Constitution: The democratic life of the Union' etc.), the latter group defined a range of various discussion topics within the sub-topics (e.g. 'The End Goal of the Union – a Superstate?' etc.). This means that talkboard participants are free to choose discussion topics as long as the topics are thematically related to a discussion about the 'Future of Europe'.

Regarding differences between findings in the *Your Voice in Europe* analysis and those in other studies, we conclude that the organisational elements strongly influence the extent of interactions and rationality in online debates. Thus, careful consideration of organisational design is required for any analysis of an e-participation platform. However, it is also important to take into account that the *Your Voice in Europe* discussants were not the 'usual suspects'. Given the knowledge on EU issues communicated in the debates, the EU forum is somehow outstanding. It can be assumed that the discussion topic per se ('The Future of Europe') attracted particular people. In the case of discussion issues that relate more directly to the day-to-day lives and problems of citizens (e.g. local social or environmental issues), one can expect that a greater diversity of people (in terms of ideologies, beliefs and attitudes) would participate in an online discussion forum. This would not resolve the problem of group dominance, though. Hence, the question on how to give a say to those at the margins of (European) society is an opening question requiring further research.

Step 4: Using heuristics of the basic conceptual map to generate research questions and themes

In order to generate research questions accompanying the achievement of this challenge, the following elements and attributes of the basic conceptual map will be used. This shall also help to identify all those academic disciplines pertinent for the improvement of the qualitative dimensions of eParticipation. The improvement of the qualitative dimensions of eParticipation necessitates the consideration of various aspects. In the following, several research questions will be put forward grasping diverse dimensions that are important to improve the qualitative turnout of eParticipation:

Ad VIIa – media companies: In order to invite 'the public' (citizens, NGOs, interest groups etc.) to participate in an online platform, the (mass) media have to be involved in the process of public communication. This requires platform initiators to prepare an overview that explains the targets of the online participation initiative and which is communicated to the media companies. This necessitates close co-operation between the platform providers and the media concerning the selection of 'the kind of message' (announcement, interim report) that

²³ See editorial policy of the *Your Voice in Europe* platform: http://europa.eu.int/futurum/documents/contribu/editorialpolicy_en.htm, accessed 14 September 2006 (not available anymore since this discussion forum was closed down).

will be publicly communicated. In case a participation platform has been recently set up, advertising actions are needed. This may require involving PR agencies to develop information campaigns in order to reach target groups. The mass media will primarily play a role when it comes to reporting the aims, the challenges, the barriers and the expectations of the participation platform. Evidently, the 'tenor' (criticising) of the message is beyond the initiators' control.

Overarching research questions are: How to involve media companies in the process of eParticipation in order to increase the number and diversity of participants? How to combine online and offline media (the mass media) to address all (potentially) affected and interested persons? These questions are of particular interest for Media and Communication Studies and Media Sociology.

Ad III – civil sector, individual citizens, NGOs etc.:

- Values
- Motivation
- Power
- Skills

The involvement of citizens, (virtual) communities and NGOs in the process of political online participation is (inter alia) determined by the socio-cultural, economic and political aspects that influence the qualitative dimensions of eParticipation. This holds particularly true for all those forms of eParticipation necessitating the participants to argue, to convince, to put forward reasons, and so forth. In this context, eParticipation is also a 'race' about the 'better argument' which requires participants to have adequate cognitive and social skills. Values need to be balanced in order to come to a consensus and the motivation to participate must include a 'public interest' rather than individual interests. All together, this also touches questions of (social and political) power – who can initiate an online participation initiative (individuals, NGOs)? Who can respectively exclude people and organisations? Further overarching research questions are: Which (educative) standards are needed in order enable citizens to listen to each, to exchange views, to share information? How to balance inequalities of communicative / argumentative skills in eParticipation processes (e.g. in an online debate)? Research disciplines relevant for this area are: Media pedagogy, Political Science and Sociology.

Ad IIa – governments and policy makers etc.:

- Kind of institution
- Strategies
- Participation culture
- Skills of staff

The qualitative dimensions of eParticipation depend on the initiators' aims and commitment. In this regard, the governance level may be salient. Local eParticipation initiatives are assumed to attract more interest and attention than large-scale eParticipation 'events'. The 'closer' a policy issue or problem, the more likely people will get engaged. Hence, eParticipation strategies should take into account local or regional specifications in order to reach the relevant target groups. Moreover, the dominant participation culture determines whether citizens are 'accustomed' to participating, contributing, and negotiating. Across Europe different participation cultures are evident. If eParticipation is supposed to enhance political engagement, educative measures might have to be taken in particular regions, countries. The formulation and discussion of arguments are essential for any political participation action (whether on- or offline) and cannot be technologically resolved. Furthermore, administrative and political staff will have to re-think their relationships with citizens. It needs strong commitment and clear strategies concerning the use of the results of eParticipation. Otherwise, people will become more sceptical about the effectiveness of political participation and political apathy will prevail. Overarching research questions in this field: When do we consider an eParticipation

process transparent, fair, rational ...? What are the politicians' expectations and how far are they willing to integrate eParticipation in the 'daily' work of policy making? What kind of political commitment does eParticipation need in order to improve qualitative turnout? The disciplines that are pertinent to research in this field are: Political Science, Media and Communication Studies, Pedagogy.

Step 5: Assignment to clusters and disciplines

As regards chapter 1.1, the above presented research questions can be assigned to the following clusters:

The questions relating to promotion activities mainly touch on organisational issues. The same applies for the research themes affecting citizens and the civil sector. There are several aspects (such as registration, moderation, agenda setting etc.) that need to be clarified within an organisational framework. The questions relating to the procedure of an eParticipation process primarily concern political-strategic issues. This also applies to another very important dimension of (online and offline) participation: The commitment of the politicians to take into account citizens' inputs in policy making.

Most of the research disciplines that should be involved in addressing these questions belong to the Social Sciences (such as Media and Communication Studies, Sociology, Political Science etc.).

3.1.5 Evaluation of eParticipation including the definition of measurement categories and operational criteria

Step 1: Source, classification, description

The challenge "Evaluation of eParticipation including the definition of measurement categories and operational criteria" addresses a key issue of strategic importance for the advancement of eParticipation.²⁴ Every form of eParticipation has specific goals and the essential question is: does the project or programme achieve its objectives? This is a multi-faceted question which requires empirical research including adequate methods and measurement. The task is assessing to what extent the expectations behind eParticipation are being fulfilled and also whether any unintended consequences are involved. Evaluation results typically serve to inform stakeholders who are responsible for an eParticipation project or offering and to guide political assessment and decisions.

Step 2: Using heuristics of 4-category scheme to identify needs

Most aspects of the 4-category scheme are relevant to deduce needs out of the challenge.

Ad participation areas: As this challenge represents a strategic cross-cutting issue, it is relevant for all participation areas. Evaluation of eParticipation requires the elaboration of evaluation frameworks with corresponding evaluation metrics and operational definitions which are tailored to individual areas and forms of participation. This includes identifying which approaches, criteria and aspects are particularly relevant in each of these and elaborating them ready for practical application. This means, for instance, taking into account differences in

²⁴ The original phrase "Evaluate and compare experiences made in case studies in order to come to more concrete and general conclusions about the potential of eParticipation" was articulated as a challenge in D1.2 and in a similar sense in position papers of WP6..

context, process and impact in “information provision” activities compared with “consultation” or “voting”.

To sum up, evaluation is needed for all eParticipation areas but there is a need to define and elaborate evaluation frameworks tailored to different kinds of eParticipation activities. Hence it is important to identify common elements of evaluation frameworks as well as the different requirements of individual areas and forms of eParticipation

Ad stages of policy making: The cross-cutting nature of evaluation makes evaluation of eParticipation relevant for practically all stages of policy making with one exception. Policy evaluation is normally an activity which is in the hands of experts and not open to e-participation by other stakeholders. As soon as forms of e-participation are also practised in policy-evaluation, even this exception would disappear and evaluations of these would be relevant for all stages of policy-making.

Ad level of engagement: There does not seem to be a reasonable argument to see evaluation as irrelevant for any level of engagement. There are, however, differences in priority, meaning that the higher the level in terms of potential influence in political processes, the more important the need for evaluation becomes.

Ad stakeholders involved: The most relevant stakeholders for the evaluation of eParticipation are those legitimating, initiating, financing and implementing forms of eParticipation. But the active contributors also have an interest in objective evaluations.

To sum up, there are clear needs:

a) for knowledge to better understand and elaborate:

- evaluation frameworks tailored to individual areas and forms of eParticipation;
- evaluation metrics and operational definitions tailored to individual areas and forms of eParticipation;

b) for action:

- building systematic evaluations into eParticipation programme development;
- implementing evaluation activities as integral standard of eParticipation projects.

Step 3: Knowledge transfer and identifying existing practice and theory

For some forms of eParticipation there are already good practice examples of evaluation frameworks or at least partial models with useful components at hand, e.g. on

- ePetitioning and other forms of eParticipation at local level (Henderson, 2005; Macintosh, Whyte, & Renton, 2005);
- eConsultation (Whyte & Macintosh, 2002);
- community building/ collaborative environments (O’Neil, 2002).

For other forms of public involvement in policy-making, evaluation frameworks have to be elaborated through adequate adjustments and with knowledge transfer from the interdisciplinary body of knowledge in general evaluation research. This strand of literature can provide basic frameworks and criteria on how to design, conceptualise and execute an evaluation (e.g. Rossi, Lipsey, & Freeman, 2003). Required knowledge transfer and adaptation encompasses the identification and conceptualisation of standard components of evaluation frameworks, such as evaluation goals, questions, context, methods and criteria, referring to the process and the outcome of the activity to be evaluated. An integral element is controlling the quality of evaluation (e.g. is the evaluation viable, correct, and useful?)

Example: evaluation of ePetitioning and other forms of eParticipation

The Queensland Government Online Engagement Evaluation in Australia provides a model case for key evaluation questions (Henderson, 2005):

- “Effectiveness: Do the initiatives deliver intended outcomes? To what extent are designated objectives met?”
- Equity: Is there equitable access to the benefits of the initiatives?
- Quality: What is the level of user and stakeholder satisfaction? Are relevant benchmark standards met?
- Efficiency: Do the initiatives provide value for money?
- Appropriateness: Are the e-democracy initiatives appropriate for the Queensland context at this time? Do they provide a relevant response to identified needs and/or opportunities in this area?
- Sustainability: Do the initiatives provide a durable and generalisable approach to achieving the desired outcomes?
- Process: How can the current initiatives be enhanced to provide better outcomes?”

Table 4 shows how these questions constituting basic evaluation dimensions are translated into indicator areas. Based on this approach the Australian initiative also offers a detailed framework of evaluation metrics with operationalised measures which have been elaborated in a further step for ePetitioning, eConsultation and online-broadcasting of parliamentary sessions.

Table 4: From basic evaluation dimensions to indicator areas

Evaluation dimension	Indicator areas
effectiveness (in addressing common objectives of providing safe, secure, and efficient ways for engaging that are less limited by accessibility constraints)	<ul style="list-style-type: none"> • effective use of avenue • safety and security (standard compliance and user concerns) • efficient use (user perceptions) • accessibility (access opportunity and self identified access barriers) • user knowledge base (user perceptions)
equity	<ul style="list-style-type: none"> • user profile • reason given for using on-line process
quality	<ul style="list-style-type: none"> • satisfaction with process • satisfaction with quality of content/response
efficiency	<ul style="list-style-type: none"> • cost-effectiveness
appropriateness	<ul style="list-style-type: none"> • stakeholder perception of relevance • consistency with strategic developments in the field
sustainability	<ul style="list-style-type: none"> • stakeholder support • stakeholder perceptions of continuity barriers
process	<ul style="list-style-type: none"> • user and stakeholder identified enhancement • good practice feature gap analysis

Source: (Henderson, 2005, p. 3)

The Queensland Government Online Engagement initiative²⁵ is at the same time a good practice model for the identified need for action, i.e. building systematic evaluations into eParticipation programme development, and implementing evaluation activities as an integral standard of eParticipation projects (Hogan, Cook, & Henderson, 2004). It is presumably the world's first government which adopted an e-democracy policy framework, including a sys-

²⁵ URL: <http://www.communities.qld.gov.au/community/edemocracy.html>

tematic planning for evaluation from the start. An eDemocracy evaluation framework was developed for measuring whether the various eDemocracy projects achieve their stated aims. Practical evaluations of each project (ePetitions, eConsultations, internet broadcast of parliamentary sessions, ePolling) followed. The initiative enjoys political support from highest level of state government and favourable organisational as well as financial conditions. Since 2001, a dedicated “E-Democracy Unit” is responsible for developing new and innovative ways for effective interaction of citizens with the State Government and Parliament through the use of information and communication technologies. The e-democracy policy budget for 2004-05 is \$0.79 million (AUD) to continue implementation and evaluation of the Government’s e-democracy agenda.

Another evaluation framework, developed by Macintosh et al. (2005), goes further towards evaluating eParticipation tools and effects on democracy. This approach is in principle applicable to different forms of eParticipation as it has been practically tested on various types of citizen engagement at local level, in particular e-petitioning. It states main evaluation questions, provides criteria for overall impact on democracy as well as tool quality criteria, specifies key dimensions of eParticipation initiatives and provides detailed evaluation questions, methods and participant information. To give just a crude overview:

A. Overall criteria for (enhancing) democracy:

1. Representation
2. Engagement
3. Transparency
4. Conflict and consensus
5. Political equality
6. Community control

B. Key dimensions of eParticipation initiatives (to understand how stakeholders and the public are involved in and perceive the individual projects):

1. Type of engagement (information-consultation-active participation)
2. Stage in decision-making
3. Actors
4. Technologies used
5. Rules of engagement
6. Duration and sustainability
7. Accessibility
8. Resources and Promotion
9. Evaluation and Outcomes
10. Critical success factors

As an example: Actors and stakeholders

1. Citizens who have used the e-democracy tools (or agreed to take part in a pilot).
2. Citizens who have not used the tools.
3. Councillors involved in the engagement process.

4. Engagement “owners”: managers with responsibility for aspects of the engagement process, for example service managers who commission consultations.
5. Project managers/ technologists, whether employed by the council or by suppliers.
6. “Internal” users: moderators or administrators.

C. Methods

Qualitative Methods

1. Semi-structured interviews
2. Field tests of e-democracy tools (incl. usability tests)
3. Online questionnaire
4. Internal (government agency) documentation
5. Measuring interactivity or quality of discourse: Online discussions
6. Web server log files

Quantitative measuring of online engagement

The e-democracy tools themselves provide evidence of the breadth and depth of their use, measurable in terms of numbers of:

1. Registered users
2. Responses to questionnaires
3. Messages posted to discussion fora
4. Petitions raised
5. Names added to petitions

Web server log files (Web metrics are measures of user activity on a website)

1. Numbers of visits to the home page for the tool in question
2. Numbers of page requests
3. Numbers of unique visitors

Although easily quantifiable, the significance of these measures of take-up needs to be seen in combination with qualitative methods and in context with expectations of the project managers and other actors.

Whyte & Macintosh (2002) complement this good practice example with a focus on eConsultations. They define evaluation criteria for this form of eParticipation, suggest case study approaches, a combination of political, social and technical evaluation as well as of quantitative and qualitative methods to be integrated in socio-technical evaluation.

Example: evaluation of community building / collaborative environments

Another good practice example of an evaluation approach, tailored to eParticipation in the form of community building projects is provided by O’Neil (2002). It is based on an extensive review of evaluations of community informatics projects (primarily US-based) and suggests key evaluation dimensions, a structured list of indicators (up to twelve per area), a list of appropriate methods and a list of ICT evaluation guides (Table 4).

Table 4: Evaluation framework components for community building projects

Impact dimensions	Indicator areas	Methods
1. Strong democracy 2. Social capital 3. Individual empowerment 4. Sense of community 5. Economic development	1. Community involvement 2. Access facilities 3. Usage information 4. Attitudes and awareness 5. Information content and structure Economic activity 6. Community characteristics 7. Operation and management	Surveys Focus groups Document review Content analysis Electronic discussions Ethnographic fieldwork Case study Stakeholder analysis Site visits Participant observation Help desk logs Usage statistics Existing public data Pre/post testing

Source: Compilation based on O'Neil (2002)

Despite the merits of this good practice example it leaves some gaps regarding a fully elaborated, comprehensive evaluation framework, ready for practical use. A key task left open is to proceed from the extensive list of indicators for evaluation criteria to the definition of detailed evaluation metrics including operational definitions. This has to be achieved through a combination of reflection, imagination and research experience together with examining the suitability of existing metrics in other domains and application areas of eParticipation such as the measures used in the ePetitioning and eConsultations good practice cases. Of course, this would require appropriate adaptations and modifications to be made along the elaboration.

Step 4: Using heuristics of the basic conceptual map to generate research questions and themes

Given the strategic role of evaluating eParticipation, the need for research to fill the existing gaps in understanding relates to a broad range of issues, even if the focus is put on the relation of offerings of participation and effects as the core subject. Although the scope of evaluation in the first instance is limited to individual eParticipation projects, cases or programmes, an in-depth understanding requires taking into account numerous factors and their interrelationships with eParticipation offerings and its effects. As pointed out by Weare (2002), the causal links between technology and politics – or more striking, between the Internet and democracy – are far from being well understood and this can also be postulated for the more concrete level of individual forms of eParticipation. The outline of a research programme on the relationship between the Internet and democracy sketched by Weare (2002, p. 663) names three key areas which call for contributions from different disciplines:

- how the Internet and associated technologies advance and change politically relevant communication processes;
- what role communication and information play in politics and which relevant changes characterise the present situation in different contexts;

- how the causal mechanisms can be described linking technological innovation to changes in governance institutions, taking account of different theories and perspectives on this relation.

These larger questions are also of direct relevance for the design of evaluation frameworks. To advance progress in evaluation of projects, cases or programmes theoretical guidance is needed for appropriate designs, i.e. to provide an orientation which questions to ask and which aspects to take into account as relevant.

Oriented at the basic conceptual map, a number of key research themes emerge for achieving a better understanding of how to advance evaluation progress:

Ad I a & b – Offerings of participation through procedures and tools & via other channels

- offerer and stakeholders involved:
- participation area:
- subjects:
- addressees:
- scope:

A basic demand for knowledge concerns the area of theoretical guidance to inform the design of evaluation frameworks for participation initiatives, both online and offline (with a focus on the relation of offerings of participation and effects/impacts). Resulting research theme: Identification and integration of relevant theoretical approaches which can guide the design of evaluation frameworks for each participation area. For establishing a core conception as a common basis the expertise from social science studies of technology, social informatics, evaluation and impact assessment seem best suited. Relevant disciplines: sociology, political science, applied informatics, communication science. Further disciplinary perspectives and expertise from addressees, owners and stakeholders involved are needed, mainly depending on participation area, scope and subject area, to advance theoretical guidance for and the design of evaluation frameworks. For instance, in a spatial planning participation case this requires urban planners' expertise, in e-voting electoral law and informatics, and in a health-related subject contribution from medical sciences. Overarching research question are: How to arrive at an integrated evaluation framework for each participation area, drawing on theoretical perspectives from relevant disciplines and different types of practical expertise? How to prepare evaluation frameworks to allow for comparing and integrating online and offline forms (Rowe & Frewer, 2005) of participation?

f. social integration

Particular questions with regard to social integration arising for evaluation frameworks and needing research for clarification are the following ones: What does social equity mean in the context of political participation? How can potential contributions of eParticipation to a socially more equal participation in policy-making be measured? How can more fair conditions for disadvantaged groups be effectively advanced through evaluation of eParticipation? Relevant disciplines: social science, political science, humanities, philosophy, other humanities/ethics, informatics, psychology, administration science, law, economics, communication science.

- usability
- privacy and security
- tools
- media mix

Cooperation between technological and social science expertise is most crucial on the clearly technology-related aspects such as usability, privacy and security, tools, media mix. Relevant research questions for advancing evaluation are: How to assess quality standards of technology- and tool-related components of evaluation frameworks? How to define a comprehensive set of criteria and operational indicators for the evaluation of eParticipation tools tailored to each participation area? How to define criteria which allow for an assessment of different forms of media mix from a comprehensive cost/benefit perspective? How to define evaluation criteria which anticipate trade-offs between usability, convenience, privacy and security quality of eParticipation tools? Relevant disciplines: informatics, social science, psychology, administration science, law, economics, management science.

Finally, a research question which mainly derives from the components “offerings of participation” but involves many of the core components of the basic conceptual map is the following: How to account for the interrelationships of participation offerings and the other components of the basic conceptual map (e.g. broader socio-economic context, specific socio-cultural context, governments and policy makers, technological pool, etc.) when developing evaluation frameworks?

Ad VIII – Effects: impact on actors, activities and context conditions

As evaluation generally can be seen to relate mainly to context, process and outcome of activities under question, the component “effects” directly covers a good deal of the evaluation challenge with eParticipation. Hence, the issues addressed as needing research under the rubric “offerings of participation” to a large extent already include an effects and impact dimension.

Further specific research questions to be added in this respect can be defined as follows: How can the methods for assessing effects of participation – both online and offline – be advanced so as to improve the quality of evaluation? How can this be achieved in a way which takes account of the bidirectional relationship of technological innovation in political participation and societal contexts? There seem to be good prospects that joint efforts by different disciplines and practical expertise, in particular from method specialists in different strands of social sciences together with technical sciences can achieve some progress on this.

Step 5: Assignment to clusters and disciplines

Relevant disciplines named under Step 4 are: Business studies and management science (including business studies with technology), humanities (philosophy, other humanities/ethics), law (civil law, constitutional/public law, public administration, European Community/EU law), mathematics/informatics (including [applied] computer science), social science (sociology, social sciences methods, political science, psychology and behavioural sciences, social work, economics), and communication and information sciences.

3.2 Outline of main points of further challenges and barriers

3.2.1 Lack of political support

Step 1: Source, classification, description

The phrase “Lack of political support” was mentioned in Deliverable D 1.1 (raised in the DEMO-net Stakeholder workshop (DEMO-net, 2006a)). At first, this phrase is typed as a barrier for eParticipation (see figure 11). “Political” in this context is meant as the political and administrative persons. According to the methodology, a barrier can always be positively formulated into a number of challenges. In the case of “Lack of political support”, two challenges have been extracted:

- How to motivate political support (Challenge 1)
- Understand why political support is lacking (Challenge 2)

Step 2: Using heuristic of 4-category scheme to get needs

Based on the general aspect “political support”, the challenges can be positioned in the 4-category-scheme. Because of the fact that the original phrase consists out of two challenges, we show exemplarily the methodology to use the 4-category schema only with the challenge “How to motivate political support”, because all the discussion would go beyond the scope of this deliverable:

In the category “*participation area*” each aspect is relevant. Mainly under the theme of lack of political support we can show that there is a relevant need for support in the area of information provision. The focus here is in the citizen groups. People want to be informed about what politicians are doing, so in the level of engagement this target on eInforming as an added value for eParticipation.

In the category “*stakeholder*” for this challenge shows that the main actor here are the politicians and the political parties. But even the government/executive and elected representatives must be motivated to engage. On the other hand there must be some pressure by the citizens group to claim eEngagement.

In the *stage of policy-making* and the *level of engagement* are similar to the participation area. Even here each point can be important for understanding and developing measures to get commitment and support from the addressed stakeholder groups.

Next is to identify the needs embodied in the challenges. For both challenges, the following needs were extracted:

- Understanding why political support is important (Need 1)
- Understand why political support is lacking (Need 2)
- Motivate political stakeholder to engage in eParticipation (Need 3)
- Understand which measures need to be taken to motivate engagement of politicians for support (Need 4)
- Develop measures to get commitment and support from politicians (Need 5)

All needs are clear needs for action although need 1 and 2 are preconditions to understand how to deal with the other needs.

Step 3: Knowledge transfer and identifying existing practice and theory

Concentrating first on the need on knowledge transfer, need 1 is rephrased into an action to identify and explore the knowledge of good practice cases. As an example the initiative of

Hamburg's participatory budget planning in 2005 can be identified²⁶. In this example, politicians gave citizens the possibility to discuss and re-formulate the budget of the city and to propose in which planned projects of the City of Hamburg public money foreseen in the budget of 2006 should be spent and where savings could be achieved²⁷. In this case, political support existed mainly from the governing party but also from the others. Continuing the work of formulating the knowledge transfer, from this case application, the "support" should be analysed and how the organisers reached this support, what had been the added value for the politicians. "Transfer (application) of motivation concepts" should be investigated. This should result in the final aim of "Motivating political actors to encourage the general public to participate via ICT usage in policy processes". Hence, the underlying aim on which the barrier was formulated can be turned into the fulfilment of an objective which can be categorized as deployment and public value.

Step 4: Using heuristic of the basic conceptual map to generate research questions and themes

The following overview shows the relevance of specific elements and attributes of the basic conceptual map (extraction of main elements):

- Incentives and motivators to engage in politics (for different stakeholders)
 - => Political administrative system, i.e. governments, administrations and political bodies
- Added value / public value of engagement in eParticipation for different stakeholders
 - => Civil sector - Individual Citizens, (Virtual) communities; NGOs (Non-Governmental Organisations), CSOs (Civil Society Organisations)
- Framework to explain public value and the interdependencies of aspects in the eParticipation
 - => Impact on actors, activities and context conditions
- Impact of eParticipation cases
 - => Impact on actors, activities and context conditions

Out of the four research themes deducted above, a number of basic research actions can be defined:

- Studies (including surveys, impact analyses, etc.)
- Develop a criteria framework to measure public value / added value for the different stakeholders
- Measurement of the added value for different eParticipation cases
- Develop a framework of public value and the interrelations of different aspects in eParticipation
- Implement the framework in pilot projects
- Measure the success of the framework through studies and surveys
- Implement pilot projects to demonstrate the positive effects of eParticipation and of increased engagement of citizens

²⁶ In DEMO-net, a number of eParticipation projects have been investigated and are further being investigated. These can serve as such good practice cases and may facilitate to identify such knowledge. The cases are investigated in Workpackage 5, Deliverable 5.3 (to appear).

²⁷ <http://www.hamburg-haushalt.de>

Step 5: Assignment to clusters and disciplines

The four needs in the “Knowledge for better understanding” can be seen as follows. For the second need we can show the research theme “Incentives and motivators to engage in politics (for different stakeholders)” in a political-strategic category. This is also interest for the fifth need. The second research theme “Added value/public value of engagement in eParticipation for different stakeholders” derives from the third and fourth need and is categorized in public-value. The same is valid for “Framework to explain public value and the interdependencies of aspects in the eParticipation”. Beside the public-value category here are also political-strategic and socio-technical possible categories. “Impact of eParticipation cases” as research theme will be deduced from need 5 and has the same categories as the prior research theme, political-strategic, public-value and socio-technical. At least the disciplines must be assigned to the four research themes. The first and second challenges are in the cluster “political-strategic” or “public-value” and can both be assigned to the research discipline “social sciences”. Because of the clustering of the other ones they can be assigned to the research disciplines “social sciences” and “engineering, technology”.

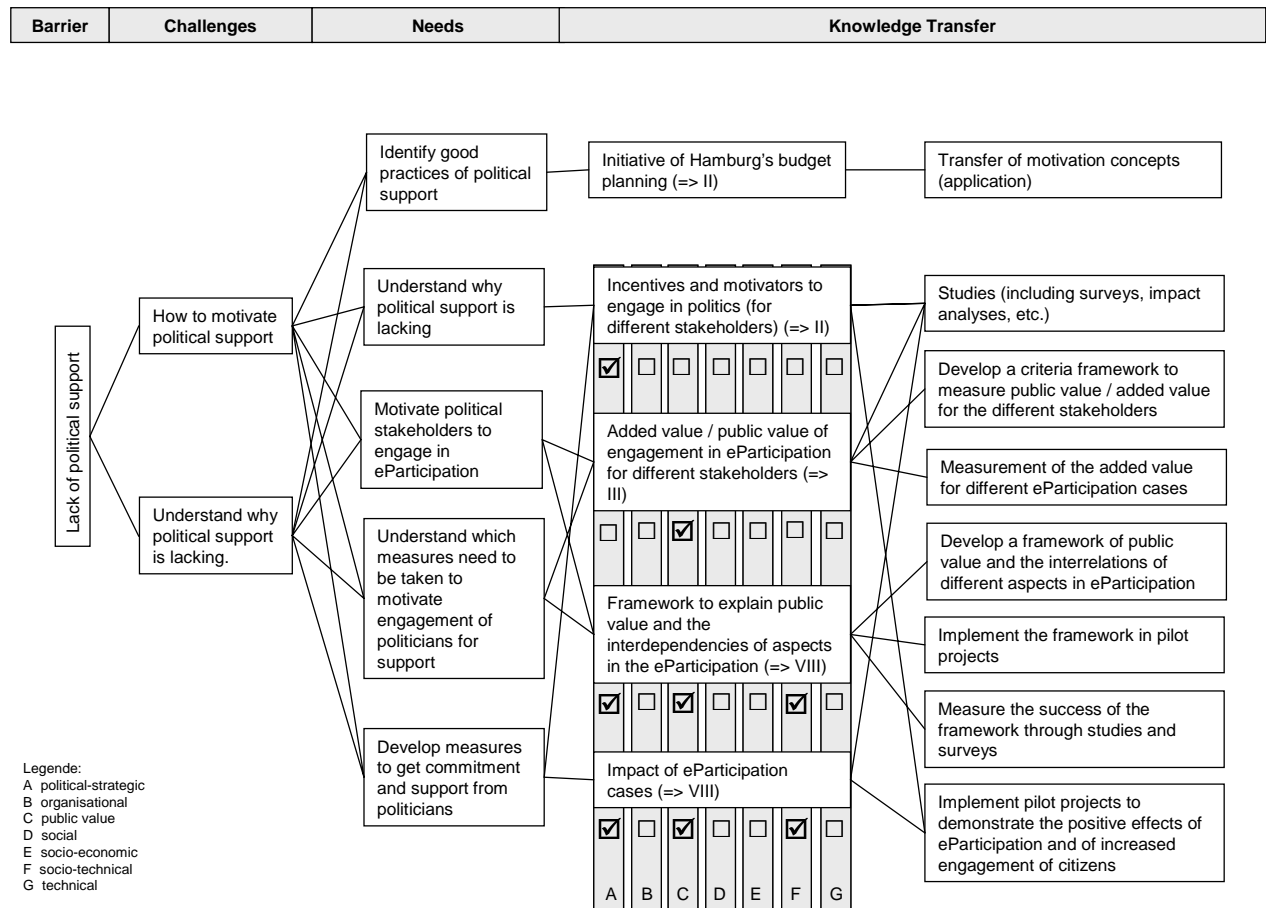


Figure 10: Argumentation trace for the barrier "Lack of political support"

3.2.2 Need to exploit and manage proper communication strategies for eParticipation

Step 1: Source, classification, description

The phrase “Need to exploit and manage proper communication strategies for eParticipation” is detected in D1.1 (DEMO-net, 2006a). This phrase is marked as a need for eParticipation (see figure 12). Since it is a need, the 4-category-scheme was not applied.²⁸

Step 2: Using heuristic of 4-categorical scheme to get the needs

This step of the framework can not be applied, because the phrase is directly a need and therefore has no challenges.

Step 3: Knowledge transfer and identifying existing practice and theory

The need can be seen as action and knowledge for better understanding. So a good practice could be the “Initiative of Hamburg budget planning” in 2005²⁹. In this case, the communication strategy was to communicate the participation message via well-known prominent people, like show stars or football stars, instead of via a message from the local politicians. This strategy can be applied to other cases. I.e. a knowledge transfer may take place.

Elements of the basic conceptual map which are very relevant, for this phrase are in IIa “Governments and policy makers”, and VIIb “media messages” (audience, type) und VIIa “media companies”, most relevant academic disciplines are the communication studies.

Step 4: Using heuristic of the basic conceptual map to generate research questions and themes

The need can also be seen as a lack of knowledge and understanding. In consequence, the following research themes also emerge from the need formulated:

- Investigate and develop proper framework to manage communication strategies for eParticipation
- Analysis and development of proper communication strategies for eParticipation solutions

In the basic conceptual map, both can be assigned to:

- Specific socio-cultural and broader socio-economic context, including legislation with regard to participation, and to
- Cultural capital, i.e. human resources (competences) as well as non-technical procedures and methods for participation

Step 5: Assignment to clusters and disciplines

The first research theme is categorized in political-strategic, organisational and technical clusters, whereas the second is only political-strategic and technical.

²⁸ Some remark on precaution: This example shows the main disadvantage in the use of the 4-category scheme at the stage of challenges: If it is used for the challenges, a phrase which results in a need cannot be categorized. Therefore, it is necessary to use the second heuristic in the sense of an iterative process to generate research questions.

²⁹ <http://www.hamburg-haushalt.de>

For the research theme “Analysis and development of proper communication strategies” two research actions were identified:

- Develop proper communication frameworks and strategies for eParticipation cases
- Study and analyze existing communication theories and assess their applicability in eParticipation cases

The research theme “Investigate and develop proper framework to manage communication strategies” requires research action “Develop proper communication frameworks and strategies for eParticipation cases”.

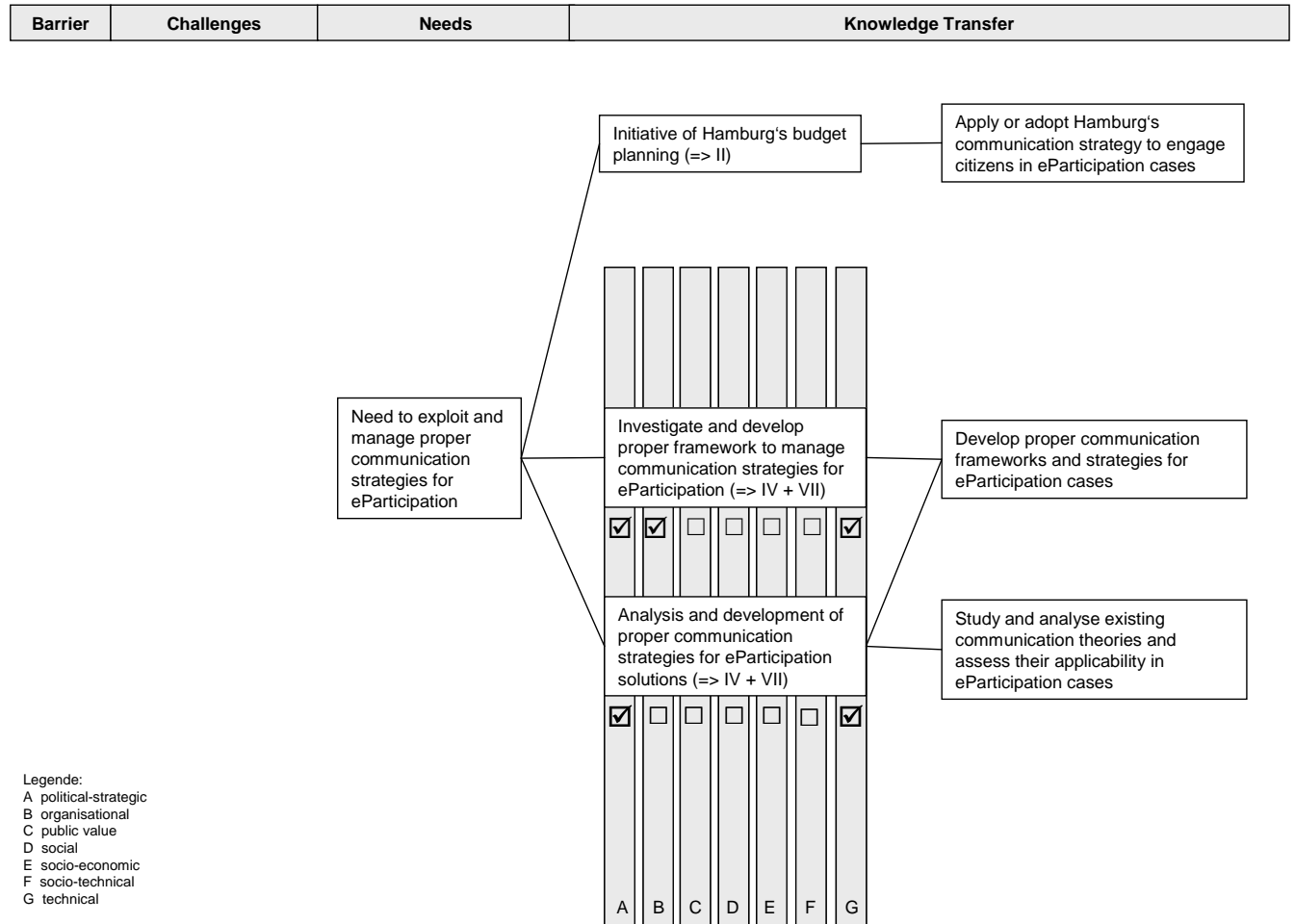


Figure 12: Argumentation trace for the phrase "Need to exploit and manage proper communication strategies for eParticipation"

4 Conclusions and recommendations

Having started with socio-technical and political challenges of eParticipation³⁰ identified earlier within DEMO-net, we have designed a new interdisciplinary framework for research and have discussed its application through examples of some specific challenges facing eParticipation. In the examples, we distinguished between different disciplinary approaches and areas of research. Our analysis has been crosschecked and our approach approved by an interdisciplinary editorial team combining social scientists, computing informatics, and communication scientists.

Most significantly, the approach works: the methodology provides a powerful framework for identifying and supporting socio-technical and other research in the field of eParticipation. Our main conclusions are as follows:

- Not all challenges and barriers articulated by stakeholders are new or unsolved problems. Some challenges or barriers are specific to geographical areas; others have already been effectively tackled elsewhere, and so only still appear as challenges and barriers because of a lack of knowledge (i.e., a knowledge transfer failure). We have also found challenges and barriers that, if they are to be properly understood, require better knowledge of the circumstances (e.g. contextual conditions) that affect them.
- Knowledge transfer — in the form of practice case studies and scientific studies — is indispensable in helping to clarify the issues that are involved and extracting relevant research themes.
- An effective means needs to be found with which to make the results of research and practice accessible to interested parties. Is a database hosted on the DEMO-net website, and later on its virtual resource centre, an effective and sufficient way to transfer knowledge?
- We recognise – not for the first time in this project — that paying more than lip service to interdisciplinary research, and developing a well-balanced interdisciplinary perspective, is challenging. Interdisciplinary research teams have been involved in the production of this deliverable. And, as described in D4.2, “[...] the tensions and frustrations which relate to such integrated research are more likely to lead to good science and penetrating analyses than research which remains within isolated disciplines.” (D4.2)]
- In applying our methodology, a roadmap of action in terms of both research and implementation has been provided.
- During the preparation of this deliverable, the editors suggested that it would be helpful to have a ranked list of political and socio-technical challenges. Having given this suggestion serious thought, we decided against a ranking based on a quantitative survey. We expect that the answers provided by researchers and by other stakeholders would be arbitrary and vary depending on time and context. A much more effective and realistic procedure to define a roadmap of future e-Participation research would be to hold a workshop with all stakeholders, assuming, of course, that the incentives for different stakeholders to take part in any such workshop have been made clear.

³⁰ The task did not include scientific challenges such as “understanding the scope of the area”, “lack of interaction and integration among research and application” or “single disciplines investigating multidisciplinary contexts in isolation, and problem of fragmented research” although these were also taken into account through the design of the framework e.g. by including practice examples and comprehensive heuristics that include a multi-perspective on the subject of research.

- The main groups of research disciplines involved in the selected examples are as follows:
 - Social science (sociology, political sciences; partly psychology and behavioural sciences, social work and economics)
 - [Applied] informatics (computer science),
 - Communication and information sciences (e.g. Public Relations, Publicity, Advertising),
 - Law (Public Administration)
 - Engineering, technology (Electronic Engineering, Telecommunications)

The range of disciplines we have isolated corroborates the results of existing studies and is an indirect support for cross-disciplinary research units that combine (at least) social science and applied informatics (see D6.1).

- The robust elements of the framework are the following stages:
 - The distinction between “challenges“, “barriers“, and “needs“,
 - The inclusion of knowledge transfer in the form of practice-examples (whether good or bad) and research studies.
 - The heuristic of the basic conceptual map, with elements and attributes generated in D6.1, and further developed for this framework. Sometimes the choice of elements depends on the disciplinary background of the one who applies it; therefore self-reflection is necessary to deduce research themes and to include distinguished disciplinary views.

- Further reflection is needed on specific parts of the methodology:

The two heuristics are the weakest points in our framework. They cannot “guarantee” that the next step of the framework is taken in a proper way. Many challenges are too generic: they address basic problems in terms of motivation to participate (among all stakeholders) and/or general challenges associated with using certain technologies in eParticipation. Obviously, in these cases, where a challenge is placed in our 4-category-scheme does not provide useful additional information. It is effective when the challenge in question addresses a concern that relates to a certain participation area, stage in the policy cycle, level of engagement or specific targeted stakeholder. But even in such cases, of course, the four-category scheme does not automatically ensure that the correct need will be isolated from a challenge.

The same is true of the basic conceptual map. Generally speaking, the map is helpful insofar as it allows us to consider challenges (barriers and needs) from different disciplinary perspectives. The framework is an instrument for key policy stakeholders to turn challenges and barriers into action in a transparent and traceable way. The argument tree, created through the visualisation, provides a powerful instrument that politicians and policy-makers can employ to help make appropriate decisions when fostering developments in eParticipation.

- The framework can also be used to turn current barriers and challenges into actions that either identify good practice cases and results of (research) studies of eParticipation for knowledge transfer or investigate research questions that follow from particular challenges and barriers.

Below we summarise our main recommendations for different sets of stakeholders:

- In order to avoid wasting time and resources ‘re-inventing the wheel’, a comprehensive process of knowledge transfer, including the study of practice cases and research studies, is required.
- To support this process, a database should be installed that is easily accessible to all stakeholders (not just research institutions, but also governments, industry and NGOs). The results of WP 5 can be used for this purpose, starting with case studies included in deliverable D5.3, which is being developed concurrently with the present deliverable.

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- A further task of research is to update the existing data in a critical way: mechanisms should be installed to evaluate the cases and to avoid providing information only from the providers' viewpoint or from scientists who benefit from results (see our critical remarks about the relationship of researchers and conductors of eParticipation activities in D4.2). The database should not only include so-called "best" or "good" practice because these labels often depend on the environment of the cases. Implementation of both recommendations is a question of resources.
 - The eParticipation challenges and the recommendations for action (listed in the roadmap) are valuable for every stakeholder involved in eParticipation. In the future, therefore, we intend to provide such information via the DEMO-net Virtual Resource Centre.
 - The methodology suggested by our framework is knowledge intensive and time-consuming. To get a better understanding of the whole field, however, this instrument is valuable and we expect that any research results gathered in this way will be widely spread and used. We recognise that it is not reasonable and feasible to expect that every small eParticipation project perform such an extensive study. Lessons and results based on this framework should be publicly shown. In so doing, DEMO_net would make a very significant contribution to the whole eParticipation community.

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Annex A: The 120 original phrases

The following phrases have been identified as either barrier, challenge or need in the various sources mentioned in section 1.2:

1. Lack of political support
2. Local level eParticipation success will pave the way for eParticipation at regional, national, and supranational level
3. Need to exploit and manage proper communication strategies for eParticipation
4. Secure compliance with legal frameworks
5. eDemocracy and eParticipation are possibly affecting traditional democracy models
6. Explore the variety of uses in which politicians may use eParticipation such as opinion testing, ideas generation, garnering political support etc.
7. Explore espoused versus 'real' decision-making structures and processes
8. Need to focus / clarify the potential contrast between "representative" and "participatory" democracy
9. Transparency of political and policy processes
10. Bolster eParticipation by expressing and grounding opinions on viewpoints and arguments via the use of ICT
11. Establish an eParticipation Framework at European and national levels to support local eParticipation efforts
12. Definition on when engagement or participation of citizens begins. Need to distinguish between policy participation and social participation
13. It is reasonable to strive for international transferability while developing tools for eParticipation.
14. Develop different models of engagement while taking into account different power (governance) layers
15. Lack of promotion activities attracting citizens' interest and encouraging them to get politically involved
16. Lack of trust in political institutions and in political representatives. There is a need to understand how trust in politicians and in technology affects eParticipation.
17. Fast feedback must be ensured leading as well to increased speed of impact
18. More inclusion of citizens could lead to more responsibility
19. 'Language problems' between administrations, political representatives and citizens do exist / have to be overcome (It is important that policy issues will be 'translated' in order to make them comprehensible for citizens.)
20. eParticipation will not be a success if funds are not allocated to it
21. Understand that eParticipation represents a societal benefit which does not involve a loss of political power; clarify what is in for a stakeholder to participate. Define the added-value of eParticipation options for citizens
22. Engage "planners and developers" during the process

23. Understand what the impact of eParticipation and more direct participation is – and impact where?
24. Engagement via ICT should start at the local level as well as top-down
25. Consider eParticipation as an enabler for governments and administrations to achieve 'better' informed political decisions
26. As organisations become networked, it is often difficult to identify who is responsible for particular services or bundles of services, so dialogue becomes more complex
27. Need for new structures to handle new challenges
28. Regarding some specific eParticipation options such as online debates or online consultations, organisational decisions related to the (external) moderation of such processes have to be taken in advance. This also implies decisions on whether participants have to register (e.g. via a valid e-mail address) and whether a speakers' policy (rules and procedures, etc.) shall frame the process of deliberation.
29. Against the backdrop of "time-poor" participants, provide "easy-to-use" tools, involving "closed questions" and free space for further comments.
30. Need for evolving and disseminating overarching eRights for eParticipation
31. Definition of target groups (stakeholders) and their needs in eParticipation are important
32. Joint Ventures with technical providers
33. Holistic resources management is required.
34. High percentage of administrations/politicians are not yet prepared to interact with citizens via ICT
35. Lack of skills of administrative staff in handling ICT
36. ICT is often used as "broadcasting technology". It is a challenge to make full use of the interactive potential of ICT
37. Issues of anonymity and identification have to be solved
38. Proper business models: Define the appropriate mechanisms of business models – where can participation really make a difference?
39. Build a value chain from internal to external and then back
40. Distinguish capabilities and benefits
41. Increased access to information for all participants
42. Need to clarify the issue of necessary traffic: Why should I participate? Why should I use online tools for participation?
43. Need of more specific project/term definitions
44. Evaluate and compare experiences made in case studies in order to come to more concrete and general conclusions about the potential of eParticipation
45. Building up community intranets
46. Understanding the mutual reinforcement of social integration/social capital and eParticipation
47. Education in political participation: Users should be educated in their expectations on participation, and especially eParticipation

48. Individual economic restrictions and hectic lifestyle can be a barrier in engaging in political initiatives
49. Understanding and information on demographic levels is important and the affect on eParticipation
50. Understanding that community techniques and eActivism are important/ also C2C Interaction
51. It is important to evaluate the impact of NGOs on government
52. Need to introduce ePanels with eEnabled citizens for online consultation.
53. Inclusion of especially young people in events regarding eParticipation. This may help to build up better, more informed and more interested citizens
54. eParticipation is not about technology, it is about engaging unengaged citizens, making democracy easier and more inclusive
55. Motivation to engage in eParticipation tends to be spurred when quality of life issues and issues of local concern are directly affected
56. eParticipation options are often highly exclusive involving elitist groups in society (e.g. experts in economic or social issues) and excluding lay people.
57. Take care of eInclusion; recognise digital divide
58. Developing overarching methods for quality measurement on eParticipation (qualitative/ quantitative). When is eParticipation successful and when does it fail?
59. Need to understand the massive changes that have affected, and will affect, the development of web technologies.
60. Forming administrative sustainability with the use of ICT
61. Consider different social, educational and economic backgrounds of citizens' in order to develop appropriate strategies for eParticipation. What are the needs of potential participants in order to be capable to get engaged?
62. eParticipation policies shall also focus on economically disadvantaged (European) regions; in this context public institutions (e.g. local libraries, schools, adult education centers etc.) may gain of particular importance as access points
63. eParticipation options which are supposed to be socially inclusive shall also be explicitly offered to those who are less-heard in society (e.g. ethnic minorities).
64. Need for tools and mechanisms for easier online engagement
65. Accountability
66. "One Size does not fit all" – Scalability is important to take into account age, gender, social context, etc.
67. Attractiveness and motivation for participation: People find a way to participate if the issue is of interest to them – even if they have no eSkills
68. When using ICT, expectations are high especially regarding response time when using eServices of Governments and Administration
69. eParticipation should be combined with "offline Participation" i.e. face-to-face meetings
70. Assess the appropriateness of Open Source vs. Commercial Software

71. Proper Information and Knowledge Management as well as process mapping is needed
72. Usability – The importance of developing barrier free tools, providing access to eParticipation (e.g. public access terminals in public administrations, libraries etc.)
73. Data integration – combining systems of different organisations.
74. Large volumes of information available and potential for high volumes of communication will mean personalisation becomes a critical technology
75. Public Terminals for better Access for eGovernment // Mobile Access
76. Introduce forums for eConsultations. Better discussion for citizens views both for and against the issue. Easier to see where concerns lie
77. Need for development of a methodology and toolset for the pan-European deployment of Living Labs in the areas of e-Government, e-Democracy and e-Services
78. Need to understand how specific web technologies work
79. Development of tools and mechanisms for moderation
80. Lack of interoperability of existing databases
81. Developing interoperable long term archives
82. Mobile technology as important key technology for eParticipation
83. ICT is often used as “broadcasting technology”. It is a challenge to make full use of the interactive potential of ICT
84. Lack of trust in technology
85. Skills in participation through digital means
86. Broadband provision for home service (cheap)
87. Financial and business models need to be produced to demonstrate how eParticipation applications can generate revenue
88. Scalability, robustness and security become major issues in large applications
89. Inclusive deployment will mean introducing a range of technologies/ approaches simultaneously, which will be a challenge
90. Integration with traditional, “offline” tools for access to information, consultation and public participation in policy-making is needed to make the most of ICTs.
91. Active promotion and competent moderation are key to effective online consultations
92. Lack of budget available
93. Ensuring competent and constructive moderation of online deliberations is also a crucial factor for success
94. The effective engagement of citizens by governments rests on their recognition of access to information as a basic precondition, consultation as central to policy-making and public participation as a relationship based on partnership. The new tools offered by ICTs can offer assistance in each of these domains. Their impact can also be greatly enhanced through use in combination with traditional, “offline” methods.
95. In the interests of transparency and accountability, governments also need to develop ICT tools for the analysis of public input and to provide feedback to citizens on how their comments and suggestions have been used in reaching decisions on public policy.

96. Risks can be reduced by serious efforts to enable wider access (through public kiosks, cyber-cafes and community centres, as well as via digital TV and other platforms) and an adequate investment in promoting and supporting online consultations by governments and their partners from civil society.
97. There is a need for policy measures and technologies to promote and maintain virtual public spaces that enable an individual's voice to develop into a community (public) voice.
98. From a government perspective, there is the challenge of how to listen, and respond appropriately to each individual contribution.
99. How to provide citizens with greater information on public issues and to enhance their capacity for listening to, and engaging in, argument and counter argument
100. Greater efforts are needed to raise awareness and capacity among government officials with regard to the opportunities and limits of new channels for citizen engagement in policy-making offered by ICTs
101. The challenge is to develop tools for online engagement that provide citizens with an opportunity both to participate in, and to understand, collective decision-making and to develop the skills for active citizenship.
102. Governments need to take a holistic view of the policy-making cycle and design technology to support the processes of informing, consulting, participating, analysing, providing feedback and evaluating.
103. Inputs received at each stage in the policy-making cycle must be made available appropriately at the other stages of the process
104. There is a need to know whether online engagement meets both citizens' and governments' objectives.
105. There is a need for technology and supporting measures to enable virtual public spaces such that an individual's voice develops into a community (public) voice
106. How to build capacity and active citizenship by harnessing ICTs to constructively encourage deliberation by citizens on public issues – listening to, and engaging in, argument and counter arguments.
107. Involvement of disenfranchised young people in policy making
108. The challenge is to develop e-engagement tools that provide young people with an opportunity both to participate in and to understand collective decision-making and active citizenship.
109. There is a need to understand how to assess the benefits and the impacts of applying technology to the policy process.
110. Governments need to adapt structures and decision-making processes to ensure that the results of online consultations are analysed, disseminated and used.
111. To take advantage of innovative e-engagement work underway at the local level, in parliaments and other countries there is a need to know and understand what is happening elsewhere
112. Technology is only an enabler. Social and political problems cannot easily be solved by merely introducing technology into the process.

113. A major part of the problem of democratic reform is how to promote mass deliberation – how to bring people into the process under conditions where they can be engaged to think seriously and fully about public issues
114. Computerized information campaigns and mass public information systems have to be designed and supported in such a way that they help to narrow the gap between the “information rich” and “information poor” otherwise the spontaneous development of ICT will widen it.
115. Conditions that reknit the citizenry to the political process: that encourage thoughtful discussion, mutual respect, active participation and an openness of the process to all groups and strata. We must create public spaces that effectively motivate citizens to become a “public” where realisation of these values is possible.
116. Establishing the need for a policy or a change in policy and defining what the problem to be addressed is.
117. Usability and clear navigation for Internet-based systems are important aspects of design.
118. There is a need to understand who the audience is, what their communicative and technical skills are likely to be, and importantly, what will motivate them to become engaged in the policy-making process
119. For online consultation and participation through discussion forums clear engagement guidelines need to be issued.
120. The importance of integrating the use of e-engagement with traditional off-line tools should be stressed and both should be mutually reinforcing.

ANNEX B: The original Erasmus Mundus subject area code

01 AGRICULTURAL SCIENCES

- 01.0 Agricultural sciences
- 01.1 Agriculture
- 01.2 Agricultural Economics
- 01.3 Food Science and Technology
- 01.4 Horticulture
- 01.5 Fisheries
- 01.6 Forestry
- 01.7 Animal Husbandry
- 01.8 Tropical/Subtropical Agriculture
- 01.9 Others Agricultural Sciences

02 ARCHITECTURE, URBAN AND REGIONAL PLANNING

- 02.0 Architecture, Urban and Regional Planning
- 02.1 Architecture
- 02.2 Interior Design
- 02.3 Urban Planning
- 02.4 Regional Planning
- 02.5 Landscape Architecture
- 02.6 Transport and Traffic Studies
- 02.9 Others Architecture, Urban and Regional Planning

03 ART AND DESIGN

- 03.0 Art and Design
- 03.1 Fine Art (Painting, Sculpture, Printmaking)
- 03.2 Music and Musicology
- 03.3 Performing Arts
- 03.4 Photography, Cinematography
- 03.5 Design (Graphic Design, Industrial Design, Fashion, Textile)
- 03.6 History of Art
- 03.9 Others Art and Design

04 BUSINESS STUDIES AND MANAGEMENT SCIENCES

- 04.0 Business Studies, Management Science
- 04.1 Business Studies with languages
- 04.2 Business Studies with technology
- 04.3 Accountancy, Financial Management
- 04.4 Tourism, Catering, Hotel Management
- 04.5 Industrial Relations and Personnel Management
- 04.6 Secretarial Studies
- 04.7 Marketing and Sales Management
- 04.9 Others Business Studies, Management Science

09 LANGUAGES AND PHILOLOGICAL SCIENCES

- 09.0 Languages and Philological Sciences
- 09.1 Modern EC Languages
- 09.2 General and comparative literature
- 09.3 Linguistics
- 09.4 Translation, Interpretation
- 09.5 Classical Philology
- 09.6 Non-EC Languages
- 09.8 Less Widely Taught Languages
- 09.9 Others Languages and Philological Sciences

10 LAW

- 10.0 Law
- 10.1 Comparative Law, Law with Languages
- 10.2 International Law
- 10.3 Civil Law
- 10.4 Criminal Law, Criminology
- 10.5 Constitutional /Public Law
- 10.6 Public Administration
- 10.7 European Community/EU Law
- 10.9 Others Law

11 MATHEMATICS, INFORMATICS

- 11.0 Mathematics, Informatics
- 11.1 Mathematics
- 11.2 Statistics
- 11.3 Informatics, Computer Science
- 11.4 Artificial Intelligence
- 11.5 Actuarial Science
- 11.9 Others Mathematics, Informatics

12 MEDICAL SCIENCES

- 12.0 Medical Sciences
- 12.1 Medicine
- 12.2 Psychiatry and Clinical Psychology
- 12.3 Dentistry
- 12.4 Veterinary Medicine
- 12.5 Pharmacy
- 12.6 Nursing, Midwifery, Physiotherapy
- 12.7 Public Health
- 12.8 Medical Technology
- 12.9 Others Medical Sciences

05 EDUCATION, TEACHER TRAINING

- 05.0 Education, Teacher Training
- 05.1 Teacher Training
- 05.2 Primary Education
- 05.3 Secondary Education
- 05.4 Vocational and Technical Education
- 05.5 Adult Education
- 05.6 Special Education
- 05.7 Educational Science, Comparative Education
- 05.8 Educational Psychology
- 05.9 Others Education, Teacher Training

06 ENGINEERING, TECHNOLOGY

- 06.0 Engineering, Technology
- 06.1 Mechanical Engineering
- 06.2 Electrical Engineering
- 06.3 Chemical Engineering
- 06.4 Civil Engineering
- 06.5 Electronic Engineering, Telecommunications
- 06.6 Manufacturing Sciences (including CAD, CAM, CAE)
- 06.7 Materials Science
- 06.8 Aeronautical Engineering
- 06.9 Others Engineering, Technology

07 GEOGRAPHY, GEOLOGY

- 07.0 Geography, Geology
- 07.1 Geography
- 07.2 Environmental Sciences, Ecology
- 07.3 Geology
- 07.4 Soil and Water Sciences
- 07.6 Geodesy, Cartography, Remote Sensing
- 07.7 Meteorology
- 07.9 Others Geography, Geology

08 HUMANITIES

- 08.0 Humanities
- 08.1 Philosophy
- 08.2 Theology
- 08.3 History
- 08.4 Archaeology
- 08.9 Others Humanities

13 NATURAL SCIENCES

- 13.0 Natural Sciences
- 13.1 Biology
- 13.2 Physics
- 13.3 Chemistry
- 13.4 Microbiology, Biotechnology
- 13.5 Nuclear and High Energy Physics
- 13.6 Biochemistry
- 13.7 Astronomy, Astrophysics
- 13.8 Oceanography
- 13.9 Others Natural Sciences

14 SOCIAL SCIENCES

- 14.0 Social Sciences
- 14.1 Political Science
- 14.2 Sociology
- 14.3 Economics
- 14.4 Psychology and Behavioural Sciences
- 14.5 Social Work
- 14.6 International Relations, European Studies, Area St.
- 14.7 Anthropology
- 14.8 Development Studies
- 14.9 Others Social Sciences

15 COMMUNICATION AND INFORMATION SCIENCES

- 15.0 Communication and Information Sciences
- 15.1 Journalism
- 15.2 Radio/TV Broadcasting
- 15.3 Public Relations, Publicity, Advertising
- 15.4 Library Science
- 15.5 Documentation, Archiving
- 15.6 Museum Studies, Conservation
- 15.9 Others Communication and Information Sciences

16 OTHER AREAS OF STUDY

- 16.0 Other Areas of Study
- 16.1 Physical Education, Sport Science
- 16.2 Leisure Studies
- 16.3 Home Economics, Nutrition
- 16.4 Nautical Science, Navigation
- 16.9 Others in Other Areas of Study

Annex C: Questionnaire to potential stakeholders

DEMO-net Survey: Challenges of eParticipation

DEMO-net, the eParticipation Network of Excellence funded under the European Commission's sixth framework programme, has identified a large number of challenges, which have to be tackled in order to move eParticipation forward³¹. We assume that not all of them have equal priority and that eParticipation research has to differentiate between challenges which are essential for successful eParticipation and need immediate (research) action and those which are also important but not urgent. Therefore we ask you and other stakeholders from governments, politics, industry and NGOs across Europe to assess the priority of the identified challenges from their point of view.

What do you think about the challenges below? Do they matter for you? Wherever you have marked a challenge as important, please assess also the priority of the challenge (from low=1 to high=5).

At the end of the questionnaire you will also have the possibility to provide additional challenges.

	Unimportant	Uncertain	Important	Priority				
				low		high		
				1	2	3	4	5
Improving the quantitative turnout of eParticipation (= Low engagement of people)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Improving the qualitative turnout of eParticipation (e.g. informed reasoning, rational arguments)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Increasing the impact of eParticipation and citizens' relevance in political decision making (= Integration of results of participation processes into decision-making and Ensuring relevance of the results of eParticipation)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Improving the responsiveness of governmental institutions and politicians	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Generating political support for eParticipation from the top of the organisations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Improving trust of citizens in political and governmental institutions and in political representatives	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Reaching the public's interest for participation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Enhancing the accountability of governmental institutions and politicians	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Developing legal frameworks for eParticipation (e.g. for data security, protection of privacy rights, voting procedures)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other political-strategic challenges:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

³¹ "eParticipation describes efforts to broaden and deepen political participation by enabling citizens to connect with one another and with their elected representatives and governments using Information and Communication Technologies (ICT)"

Organisational challenges

	Unimportant	Uncertain	Important	Priority				
				low		high		
				1	2	3	4	5
Making complex organisational structures of governments understandable to enable citizens to judge responsibilities in an e-participation process	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Defining resources (e.g.) necessary for participation both for suppliers and users	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Overcoming citizens' problems with governmental terminology (special language)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Stronger involvement of elected representatives into citizen participation procedures	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Summing up of stakeholder inputs for policy makers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Organising appropriate information and promotion activities for eParticipation offerings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other organisational challenges:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Social challenges

	Unimportant	Uncertain	Important	Priority				
				low		high		
				1	2	3	4	5
Making eParticipation more inclusive in terms of overcoming social inequalities and disadvantages (economic restrictions, educational backgrounds, access to tools and technologies etc.) of individuals and communities (–“Mutual reinforcement of social integration / social capital and eParticipation” and “Finding socially inclusive eParticipation options to address disadvantaged citizens”–)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Building capacity for active citizenship (e.g. enhancing awareness, interest, capability to engage in public matters)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Supporting community building for long term engagement of citizens	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sustainable involvement of young citizens in politics	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Improving participation culture and empowerment of citizens	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Explaining why eParticipation matters and inclusion is of benefit to all	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other social challenges:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Socio-economic challenges

	Unimportant	Uncertain	Important	Priority				
				low		high		
				1	2	3	4	5
Defining success factors for eParticipation and their measurement (=“Value expectations in respect of social circumstances and measurement of them in eParticipation”)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Defining economic effects (e.g. costs & benefits) of technologies used for all stakeholders and society at large	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Achieving efficiency of large-scale eParticipation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Safeguarding funding of eParticipation processes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Safeguarding sustainability of eParticipation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Generating public value through usage of modern ICT for participation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Reducing government costs by using new participation channels (such as the Internet)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Defining adequate business models for the financing of eParticipation-services)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other socio-economic challenges:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Socio-technical challenges

	Unimportant	Uncertain	Important	Priority				
				low		high		
				1	2	3	4	5
Assessing the impact of technology developments on organisations and society	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Changes in social behaviour through technology usage – including changes in (online) communication	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Supporting interaction between different actors through technological means	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Scaling up of eParticipation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Finding adequate means of knowledge and data management to support eParticipation processes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Safeguarding usability of eParticipation tools	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Assessing which tools should be used in which context (= Transferability of technical solutions and knowledge into distinct contexts)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Introduction of new means and technologies into particular environments (e.g. traditional bureaucracies)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Strengthening trust in technology (e.g. in sustainability, usability, privacy, security)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Evaluation of eParticipation including the definition of measurement categories and operational criteria	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Integration of users in the development-process of eParticipation tools	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other socio-technical challenges:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

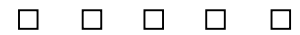
Technical challenges

	Unimportant	Uncertain	Important	Priority				
				low		high		
				1	2	3	4	5
Designing technology and tools for eParticipation – including specific web technologies, channels and devices	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Visualisation of information	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Technical solutions for analytical support and management of large data volumes in different eParticipation areas (e.g. techniques for semantic understanding of emails or forum postings)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Supporting large-scale participation by ICTs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Supporting the exchange and processing of data of different systems and organisations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Long-term archiving of (legally important) content	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Combining different technologies to advanced new solutions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other technical challenges:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please provide additional challenges if you think there are some **important** challenges missing. Please assess also the priority of these new challenges (form 1=low to 5=high).

Additional challenges

	Priority				
	low		high		
	1	2	3	4	5
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



For analysis of the data it is important for us to know, which country you are from and to which organisation you belong. For the case we have some questions regarding your additional challenges, please provide your name and your email address.

Name:

Organisation:

Country:

Email:

Please email your reply (the filled in form) to the person who has contacted you for this survey or to Dr. Hilmar Westholm, westholm@ifib.de, Institut für Informationsmanagement Bremen (ifib), Germany. Alternatively, you can print this document and send your reply via fax to ++49(0)421 218-4894.

Thank you very much for your cooperation!