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The Democracy Network

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Multidisciplinary roadmap and report on eParticipation research

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Abstract: This is the second deliverable from WP4 “Setting the Challenges”. Using the results from our global survey on eParticipation research centres we have mapped out the centres, their eParticipation research activities including the methods and tools and techniques they apply and their academic fields and disciplines. This has enabled us to define gaps in the emerging research area and recommend future research priorities.

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Executive Summary

This is the second deliverable of WP4 "Setting challenges". The overarching objective of this workpackage is to identify and respond to developing global research and innovation challenges in the field of eParticipation. The work involves analysing the European eParticipation research landscape in order to develop research agendas and roadmaps to govern the direction and future evolution of the network. Our recommendations are based on the findings from our global survey and research workshops. These are concerned with, firstly, the range of academic disciplines studying eParticipation, secondly, the similarities and differences on research emphasis between Europe and North America and thirdly, both the research and real-world fragmentation of the eParticipation area.

Research in the field of the eParticipation is scattered and fragmented, and it is impossible to obtain a single point of access to the matter, due to a large extent the diversity of research disciplines involved. During 2006 we have conducted a global survey into eParticipation research. In the survey we asked research centres to answer a number of questions relating to the type of eParticipation research activity they were involved in, the tools, methods and techniques they were applying and the academic fields and disciplines they based their research in. As of 31st October 2006 we have received responses from 108 research centres across 33 countries to provide a map of the expertise in eParticipation worldwide. Based on these survey results, we provide an overview of the current state of the research.

eParticipation by its very nature is a hybrid research activity. It relates to democratic theory, political science, communication studies, technology studies, information science and more. Therefore our starting point is to accept the value of having a wide range of disciplinary and methodological inputs into the study of e-participation but at the same time recognising that interdisciplinary research is not easy. However, 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.

The response to our survey has been promising; across Europe 76 research centres covering 20 countries contributed data. Of this sample 53 are based in northern Europe, 17 in southern Europe and 6 from Eastern Europe. Considering the rest of the world, 32 research centres contributed data from 13 countries, including 14 research centres in the USA and 4 in Australia.

Our survey revealed the two most common eParticipation activities are research into *deliberation* and research into *consultation*. What we do not yet know, however, is how and how well these eParticipation activities are being linked together in practice and, if so, whether or not research is reflecting and analyzing these linkages. We also found a number of key research themes that were not being widely addressed; these included *Mobile communications, Electioneering, Journalism,* and *Polling*.

In the survey we asked the research centres whether they were mainly concerned with research into *conducting* eParticipation or research into *observing/studying* eParticipation as we wished to distinguish those research centres working on the design and application of eParticipation tools as opposed to those research centres focusing on study of eParticipation. For *conducting* eParticipation research our survey indicates lack of

research in supporting *interaction and comprehension*, and *content management* which are critical in supporting the diverse range of eParticipation stakeholders to access and understand information.

For *observing/studying* eParticipation we found a lack of research on *technology assessment* and *impact assessment*. An understanding of technological systems is a clear prerequisite for informed and rigorous research in this area. Likewise, an understanding the political and cultural outcomes of eParticipation is critical. As eParticipation moves into a more mature stage of research, we need to move from description and understanding to more rigorous evidence-based explanation and evaluation.

In Europe several academic fields and disciplines are well represented in eParticipation research: *Political Science, Political Sociology, Media/Communication Science, Public Policy Analysis, Social Informatics, and Information Management.* Meanwhile, the following disciplines were less popular in Europe: *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, Information Extraction.*. Efforts should be made in future to draw upon insights from all these disciplinary areas, where this is possible and appropriate. It will then be possible to capture and analyse the complex and multi-sided nature of eParticipation.

The responses to two survey questions clearly show the immaturity of the eParticipation research area. Firstly, the majority of eParticipation research centres have only been established since 2001, prior to 2000 there were only twenty two research centres focusing on eParticipation. Some fifteen new centres came into being in 2000, with a further fifty three centres being established since then. Secondly, with regard to academic publications, over 30% of the research centres in our survey said they had not published their work in an international journal. In the case of those who had published, they cited sixty four different academic journals with no consensus on an emerging journal publication that could be a focus for the domain.

Below we summarise our main recommendations:

1. eParticipation is a multi-disciplinary domain requiring a wide range of disciplinary and methodological inputs. It requires an interdisciplinary approach which is not easy. In Phase 1 of Demo-net we focused on understanding the technological characteristics of eParticipation under WP5 and the socio-technical approaches under WP6. Although this has given us valuable results we now have to move to a position where we join the technical and social scientific researchers together. Therefore, in phase 2 of Demo-net we recommend that there is just one work package that focuses on the research activities and the tasks within this work package are jointly managed by technical and social scientific researchers.
2. A second approach we would like to ‘experiment’ with is to actively encourage the exchange of researchers between technical and social scientific research centres. Although we appreciate the difficulties in such research exchanges, we feel that the benefits for technical scholars studying in a social scientific environment for a short period of time and vice versa would be considerable. For non-core Demo-net partners this will require funding agencies in specific subject areas to agree to ‘their’ researchers crossing these academic domain boundaries.

3. The two most common eParticipation activities named in our survey are deliberation and *consultation*. What we do not yet know, however, is how and how well these eParticipation activities are being linked together in practice and, if so, whether or not research is reflecting and analyzing these linkages. We also found a number of key research activities that were not being widely addressed, these included *Mobile communications*, *Electioneering, Journalism*, and *Polling*. Therefore the design of future research agendas should bear these points in mind.
4. For *conducting* eParticipation research our survey indicated lack of research in supporting *interaction and comprehension*, and *content management* which are critical in supporting the diverse range of eParticipation stakeholders to access and understand information - the design of future research agendas should bear this in mind.
5. For *observing/studying* eParticipation we found a lack of research on *technology assessment* and *impact assessment*. An understanding of technological systems is a clear prerequisite for informed and rigorous research in this area. Likewise, an understanding the political and cultural outcomes of eParticipation is critical. As eParticipation moves into a more mature stage of research, we need to move from description and understanding to more rigorous evidence-based explanation and evaluation - the design of future research agendas should bear this in mind.
6. The lack of recognised academic journals is an important issue which Demo-net could investigate and make recommendations on. Therefore, we recommend that under phase 2 of Demo-net we continue our literature review and augment it with a detailed citation study. This should help to identify a number of suitable journals for new researchers to publish in and also help to establish an accepted eParticipation journal. There is a need to actively speak to journal editors and publishers about their interest and willingness to support this emerging area.
7. In order to maintain links with researchers in North America we recommend continuing the jointly organised research workshop(s) at the Digital Government Conference in the USA and also explore further mechanism by which European and American researchers can work together on eParticipation initiatives under Demo-net.
8. Continuing on this theme, we recommend strengthening links between European and North American researchers by funding both collaborative and comparative research projects in eParticipation which would lever the specific strengths each region has in the research area. We also suggest that our American research colleagues pass this recommendation on to the National Science Foundation so that both European and USA research funding agencies can such initiatives.
9. One of main recommendations for European research funding agencies, both at the European level and at national levels, is to address the current fragmentation of the eParticipation area. Here we recommend that a series of large-scale, inter-disciplinary research projects are funded to address a set of integrated research questions and problems that are specific to eParticipation. The need for 'academically joined up' research exploring the commonalities and links that exist between different eParticipation activities, in terms of technology, systems, structure, and patterns of use is urgently required.

10. While we are encouraged by our initial investigations, and feel confident that there exist sufficient expertise, energy and enthusiasm in the field of eParticipation, we conclude by arguing that there is now a pressing need to undertake the demanding but salient task of integrated, multi-disciplinary research. eParticipation is a multi-disciplinary domain requiring a wide range of disciplinary and methodological inputs. It requires an interdisciplinary approach which is not easy. In Phase 1 of Demo-net we focused on understanding the technological characteristics of eParticipation under WP5 and the socio-technical approaches under WP6. This has given us valuable insights and results. In phase 2 of Demo-net we have the opportunity to progress a more multi-disciplinary approach. Therefore, we recommend that work packages which focus on the research activities should be jointly managed by technical and social scientific researchers.

1 Defining and Shaping E-Participation Research

The term research is derived from Latin: *re* (again) and *cercier* (to search.) The Frascati definition of research, which is adopted by many European research councils, as well as the European Commission in its Charter for Researchers, states that research consists of

> "original investigation undertaken in order to gain knowledge and understanding. It includes work of direct relevance to the needs of commerce and industry, as well as to the public and voluntary sectors; scholarship; the invention and generation of ideas, images, performances and artefacts including design, where these lead to new or substantially improved insights; and the use of existing knowledge in experimental development to produce new or substantially improved materials, devices, products and processes, including design and construction."[1]

Phillips and Pugh argue that 'Research goes beyond description and requires analysis. It looks for explanations, relationships, comparisons, predictions, generalizations and theories.'[2] Berger provides a useful contrast between 'everyday' and 'scholarly' research', suggesting that the latter 'is generally speaking, more systematic, more objective, more careful, and more concerned about correctness and truthfulness than everyday research.'[3] This is illustrated in Table 1.

Table 1: Everyday & scholarly research

Everyday Research	Scholarly Research
Intuitive	Theory based
Common sense	Structured
Casual	Systematic
Spur of the moment	Planned
Selective	Objective
Magical thinking (make something happen)	Scientific thinking

[1] *Frascati Manual: Proposed Standard Practice for Surveys on Research and Experimental Development,* Paris, OECD, 2002

[2] Phillips, E.M. and Pugh, D.S., *How to get a PhD. A Handbook for Students and their Supervisors.* Third Edition, Buckingham: Open University Press, 2000

[3]. Berger, A. A.,*Media and Communication Research Methods. An Introduction to Qualitative and Quantitative Approaches.* London: Sage Publicaitons, 2000, p.5

Flawed thinking at time	Logical to the extent possible
Focus is personal decision	Focus is knowledge about reality

The ideal of the rationally-focused researcher, assiduously exploring objective data, is one of the pervasive myths of modern science. In fact, the reality of research is rather more complicated. Firstly, many researchers are motivated by a desire for specific outcomes – or are funded by bodies which want results to fall within a certain range of acceptability. When this happens explicitly – as in the case of research studies on the effects of smoking funded by tobacco companies or policy studies funded by government departments bent on pursuing specific policies – it can hardly be described as serious scholarly research. But even in the absence of such explicit predispositions, all research about social phenomena is implicitly influenced by limited discourses and normative assumptions that bias analysis. Often, such biases are unclear to the researchers themselves. For example, in the case of e-participation, most researchers have adopted tacit and unarticulated notions about the normative purposes of participation, the limits of democracy and the potential competence of particular social groups. Rather than pursue an unattainable ideal of wholly objective research, it makes more sense to read all research critically, with a view to exposing its discursive constructions and epistemological selectivity. Good research is that which can be interrogated in such ways and still teach us something new.

Secondly, research is not simply reflective, but constitutive. That is to say, 'social sciences can and do create phenomena.' In a seminal study of public opinion measurement, Osborne and Rose have argued that methods of researching representatively-sampled public opinion create rather than describe public opinion. Their definition of research rejects the idea that 'the vectors of discovery … lead from the laboratory to the outside world in the form of application' and suggests that

> "if anything, they flow the other way round. That is to say, that inventions and discoveries emerge first in relation to specific practical problems – be they those of intelligence in the schools or shell shock in the army, in the case of the psychological sciences, or those of the morale of the population in total war or the elimination of education disadvantage in the sociological sciences. One then observes a rather complex work of alliance building and mutual accommodation between academic researchers and professionals and practitioners, in which the practitioners draw upon the intellectual credit accorded by the academics to boost their credentials, and the academics draw upon the pragmatic credit of their appeal to a professional audience to increase their likelihood of research funding and the like."[4]

It is useful to think about e-participation research in this way. As researchers, we are not stumbling upon existing forms, methods and cultures, but helping to formulate and refine these as we analyse them. A strict demarcation between the conduct of e-participation and its study cannot be made, but nonetheless, while acknowledging the constitutive function

[4] Osborne, T. and Rose, N. 'Do the social sciences create phenomena?: the example of public opinion research', *British Journal of Sociology*, 50(3), 1999, p.390

of research, it is important for researchers to be sufficiently distant from the contingencies of practice to enable them to take a critical stance. In the case of e-participation, this entails questioning the political, technological and cultural assumptions upon which projects are based, as well as the empirical claims made by project managers, politicians, technology vendors, journalists and interest groups.

Thirdly, there are some types of research which set out to work in and on the world. Lewin, who pioneered the 'action research' approach in the 1940s, described it as 'comparative research on the conditions and effects of various forms of social action leading to social action.'[5] Describing action research as 'a spiral of steps, each of which is composed of a circle of planning, action and fact-finding about the results of action'[6], Lewin refused to accept a rigid distinction between researchers and practitioners. The strength of action research is that it is future-oriented, rejecting the 'ivory tower' notion of scholars as remote and indifferent spectators who will not intervene in empirical reality, even if they possess the necessary insights to correct faulty practice. However, action research has been criticised for its lack of impartiality, rigour, theoretical clarity and generalisability.[7] We cannot here explore in detail the advantages and disadvantages of action research, but note that several of the respondents to our survey on e-participation research (see chapter 2) had difficulties in distinguishing between areas of their work in which they were establishing and running e-participation projects and aspects of their work in which they were researching such projects. Although the action research tradition encourages such an approach, the authors remain concerned, in this report, to distinguish between the practice of research and its object of study.

1.1 The terms of e-participation research and the problematics of translation

In the second chapter we report on the main themes, methods and disciplines involved in current e-participation research and in chapter 3 we consider gaps in the current research agenda which we think should be filled. Before turning to these analyses, which derive from global survey research, it will be useful to outline the authors' own thoughts about the most promising approaches to studying e-participation.

E-participation is a hybrid term. Indeed, its hybridity is what makes it both fascinating and challenging to research. It relates to democratic theory (which is concerned with normative arguments for political participation), political science (which studies participation empirically), communication studies (which relate to channels and patterns of mediation), technology studies (which relate to the design and operation of e-tools),

[5] Lewin, K., 'Action research and minority problems' in G. W. Lewin (Ed.), *Resolving social conflicts.* New York: Harper & Row, 1946, p.202

[6] Ibid., p.206

[7] Baskerville, R. and A.T. Wood-Harper, 'A critical perspective on action research as a method for information systems research', *Journal of Information Technology,* 11(3), 1996

and information science (which explores the ways in which data and knowledge are socially produced and distributed.) In producing this list, we are bound to have neglected or excluded a range of other academic fields and disciplines which might claim to have particular insights to offer in relation to e-participation. Our starting point is to accept the value of having a wide range of disciplinary and methodological inputs into the study of e-participation. We regard it as a theme that lends itself especially to an interdisciplinary approach.

But interdisciplinarity is not easy. Scholars use their own disciplinary languages, both as shorthand within their own fields and, to some extent, to close off their fields from outsiders. That is why we argue that e-participation research calls for a process of translation. (This is a term we introduced in our WP4 seminar at the Demo-net meeting in Krakow) We have in mind at least three kinds of translation:

1. Technological and social scientific – Scholars who conduct technology research see themselves as 'solving problems' and 'making things happen.' Social scientists are more inclined to be interested in social contexts and uses, as well as disparities of power relationships. Technologists are sometimes accused by social scientists of not taking a sufficiently critical attitude towards the problems they are trying to address. Technologists are sometimes despairing of social scientists' interest in abstract norms and unrealistic demands of technology. As social and technical scientists work together, it becomes necessary to translate their interests and anxieties so that discussion can be mutually intelligible. We have found this to be the case in e-participation research, where joint activity between technical and social scientists can result in productive intellectual tensions.

2. Researchers and political elites – E-participation researchers want to understand how current projects, tools and methods work or could work. Politicians, public administrators and policy-makers have much more immediate concerns. They want e-participation projects to be seen to be effective, to add value to existing institutional processes and to appeal to the public. As researchers, we have an obligation to answer questions of concern raised by elected political administrations, even though we cannot always offer them the answers they want in the timescale that they want them. The function of independent research is to examine e-participation from the perspectives of all actors, including citizens as a whole and traditionally marginalised communities. Political elites are sometimes frustrated by the time it takes for research to be completed. Consultancy companies are willing to spend a month looking at a project and then produce a glossy report. Serious, critical research usually takes longer, especially if it is based upon multidisciplinary approaches and comparative analysis drawing on previous experience. For e-participation research to be valuable, researchers must be able to disseminate results in an intelligible way to all interested groups, including governments and other funding sponsors. But it must also be bold in its analysis and indicate flaws and weaknesses that could be remedied.

3. Researchers and the public – We have already emphasised the importance of research being comprehensible to non-technologists and non-social scientists. This includes the lay public as well as political elites. E-participation is faced with the problem of inviting citizens to involve themselves in highly complex policy issues which are decided within institutional settings that are not easy to find, navigate around or comprehend. A key objective for researchers is to help translate

> political issues and processes into language that relates to everyday life. Researchers working in a range of other areas, from health education to risk communication to cultural studies, have long been interested in developing innovative ways of explaining and showing as relevant complex topics and ideas. Given the overarching democratic basis for e-participation, it would be rather perverse for researchers to ignore the dilemmas facing a polity in which the demos feels intimidated or excluded as a consequence of political and expert discourses.

There are possibly other areas of translation that e-participation researchers need to address. For example, there seem to be significant differences in approach between European and North American research on e-participation. What might they learn from one another? To start to address this issue we organised an international workshop as part of the 7th Annual National Conference on Digital Government Research in the USA in May 2006. Our aim was to promote international debate and to identify and understand the barriers facing the eParticipation research community. A summary report from this workshop is provided in the appendix.

Our main point in this chapter, however, is to argue that the tensions and frustrations which necessitate translation are more likely to lead to good science and penetrating analyses than would discursive consensus. Innovation is most likely to flourish when all ideas are on the line and open to contestation; when there is little room for certainties and undisputed values.

2 The eParticipation researchers and research

In this chapter we literally map out the eParticipation landscape in terms of which research centres, where located and what eParticipation research areas. This chapter takes as its starting point the results reported in deliverable 4.1 "The Initial DEMO-net Landscape". In D4.1 we started to identify the European research landscape and describe the eParticipation research activities that were being undertaken. Based on the finding from our first European survey we updated the survey instrument and re-issued in order to gain a more global mapping of research centres and activities. However, this should not be considered a comprehensive survey but rather a 'picture' as of 31 October 2006 of who has responded. Over the lifetime of the Demo-Net project we will continue to run the survey so as to add to our database of knowledge about eParticipation research centres and their research activities.

2.1 Geographical spread

To date we have made informal contacts with 108 research centres across 33 countries to provide a map of the expertise on eParticipation worldwide.

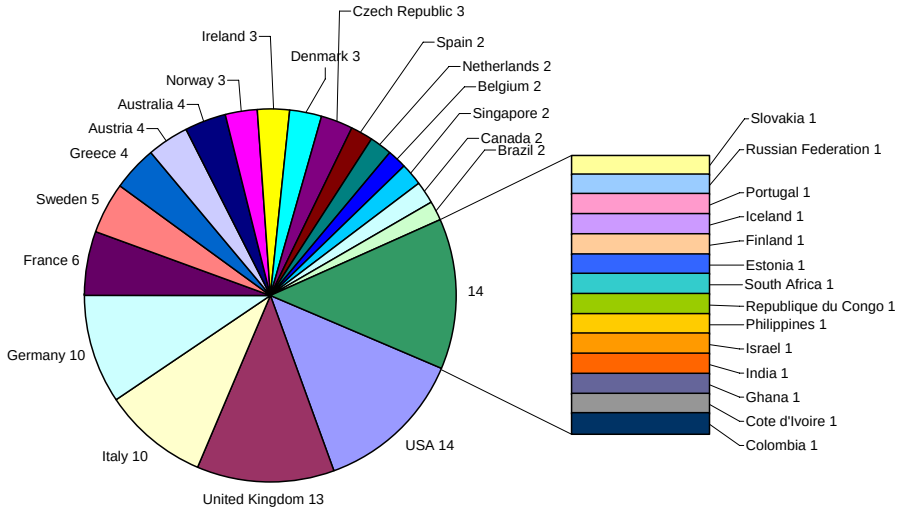

Figure 1: research centres against countries

Figure 1 illustrates the number of research centres around the world who have responded to our survey. It highlights some of the countries active in this area.

Across Europe 76 research centres covering 20 countries contributed data. Of this sample there is a relatively large number of research centres, 53, based in northern Europe, 17 based in southern Europe and only 6 from eastern Europe.

Considering the rest of the world, 32 research centres contributed data from 13 countries, including 14 research centres in the USA and another 4 in Australia.

However, fourteen countries show only one active research centre, while this may be true for some of the countries listed it is certainly not the case for others. For example, we know of a number of research centres in Finland undertaking eParticipation relevant research but to date they have not competed the survey. (As indicated earlier, over the next phase of Demo-Net we aim to continue to build up a more comprehensive picture.)

It is anticipated that the resulting data repository on the Demo-net website will provide a valuable resource for both researchers and practitioners wishing to locate both national and international eParticipation research centres.

2.2 The Activities, Methods and Disciplines

2.2.1 Activities

The eParticipation research activities as identified in D4.1 are:

1. Campaigning - examining the use of ICT in lobbying, protest, lobbying, petitioning and other forms of collective action
2. Collaborative Environments - supporting collaborative group working, e.g. developing and/or using groupware and CSCW, to progress shared agendas
3. Community Informatics - understanding how and why individuals come together to form communities and how tools support and shape such communities.
4. Consultation - official initiatives by a public or private agencies to allow stakeholders to contribute their opinion, either privately or publicly, on a specific issue
5. Cultural Politics - understanding new online spaces and practices which touch on power, but are not traditionally political
6. Deliberation - understanding why, when and how citizens participate in formal and informal talk; design of tools to support virtual, small and large-group discussions; assessing the quality of messages and interactions in structured and unstructured online dialogue
7. Discourse - supporting the understanding, analysis and representation of discourse, including discourse analysis, argumentation, issues of scalability with large corpora
8. Electioneering – studying the use of ICT by politicians, political parties and lobbyists in the context of election campaigns
9. Evaluation - understanding what and how to assess e-participation projects and practices
10. ICT Design Issues - understanding how to design and implement systems, development of systems, issues include design methods, HCI and accessibility
11. Inclusion/Exclusion - understanding digital, social and cultural exclusion based upon such divisions as gender, ethnicity, linguistic identity, socio-economic status and disability

12. Information Provision - understanding how to structure, represent and manage information, includes information architectures, content design and content management
13. Journalism - examining ways in which the mass media and traditional journalistic practices are changing, for example, the emergence of news blogs, user-generated content and online versions of press content
14. Knowledge Management - understanding how to identify, acquire, represent and apply relevant knowledge
15. Mediation – studying the use of techniques intended to resolve disputes or conflicts in an online context
16. Mobile Communication – design and use of mobile channels of communication and issues of location-based services/initiatives
17. Policy Processes - studying changes to the policy process in an online world and the effects of networked governance
18. Polling - the use of ICT to measure public opinion and sentiment
19. Security - understanding why and when secure processes are required, design and implementation of secure systems, includes privacy issues, authentication and identity management
20. Service Delivery - examining the design and implementation of e-services and exploring interfaces between the delivery of services and opportunities for e-participation
21. Spatial planning - understanding design and application of systems for use in urban planning and environmental assessment
22. Visualisation - the design, development and use of visualisation technologies such as GIS, Virtual Reality and 3D environments
23. Voting - examining the use of online tools in the context of public voting in elections, referenda or local plebiscites

Figure 2, Figure 4, Figure 4, and Figure 5 illustrate which of these 23 eParticipation research activities are being undertaken by European countries and the rest of the world respectively.

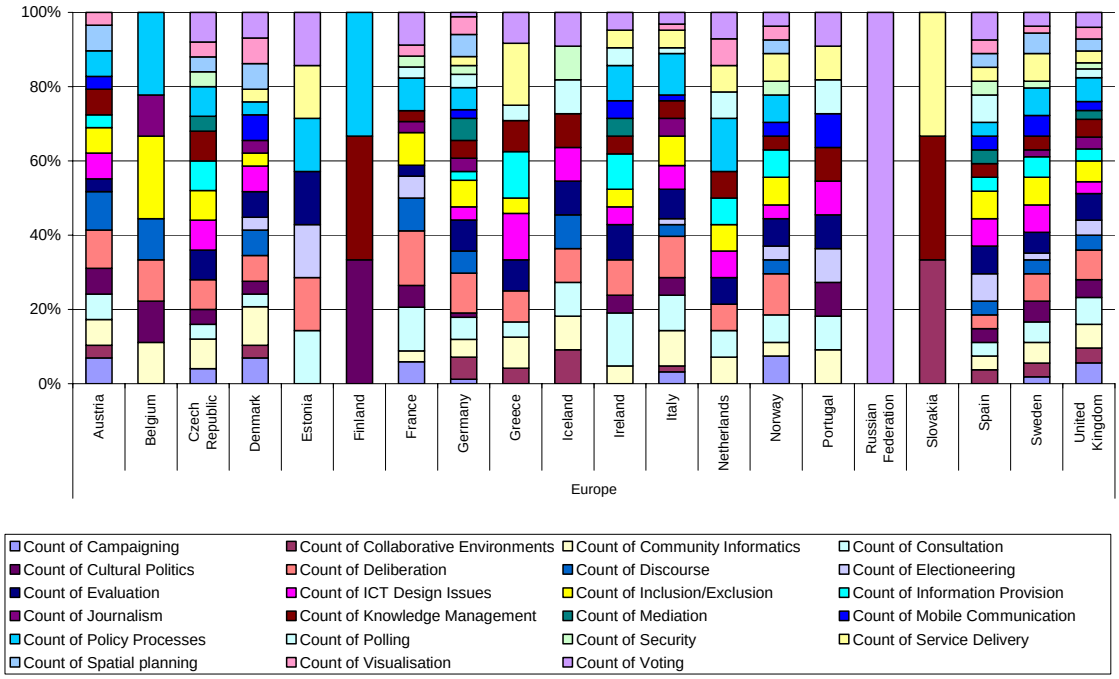

Figure 2: eParticipation research activities for Europe

Apart from Finland, Russian Federation and Slovakia, all countries tend to show a strong research base in online deliberation. Research into consultation, evaluation and policy processes are also strongly represented.

Focusing on those countries in our survey which have four or more research centres, i.e. Austria, France, Germany, Greece, Italy, Sweden and the UK, we can see from the figure that Greece is undertaking research into 12 of the 23 activities, Austria and France are undertaking research into 16 activities, Italy 19, Sweden 21, Germany 22 and the UK indicates research into all the activities.

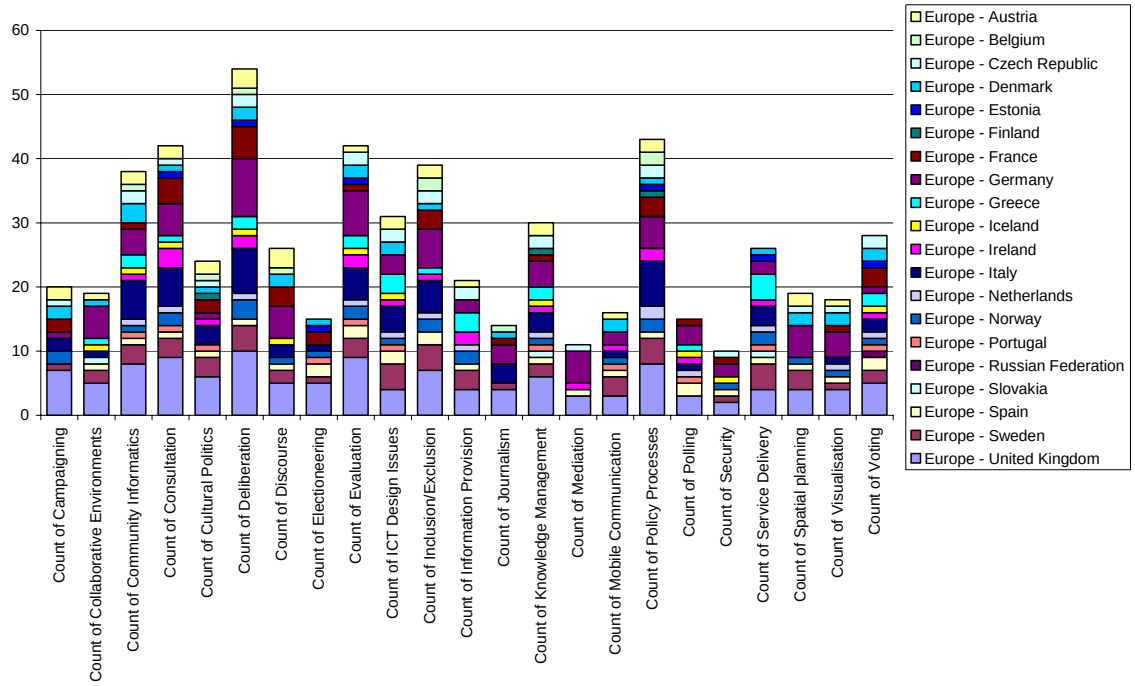

Figure 3: European countries by activity

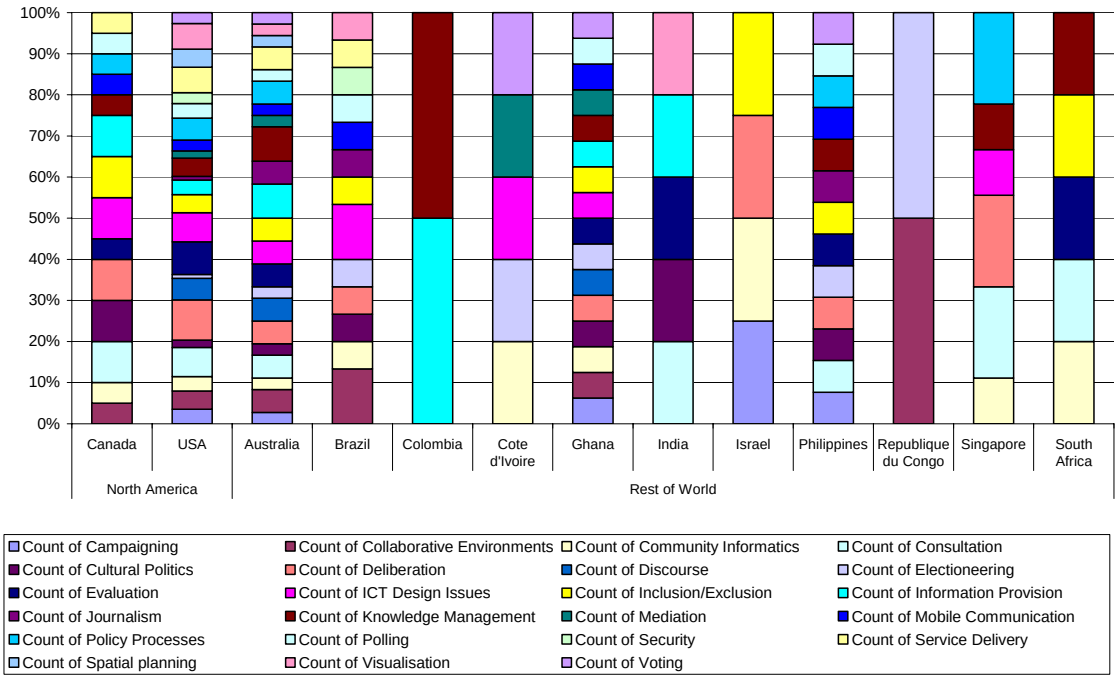

Figure 4: eParticipation research activities for the rest of the world

Outside of Europe, there is still a strong bias to deliberation and consultation but research into ICT design also appears to be strong.

(Note: The actual number of research centres in each country (see Figure 1) should be considered when interpreting the data. For example, the Russian Federation is shown only

doing voting, however there is only one respondent to our survey from this particular country.)

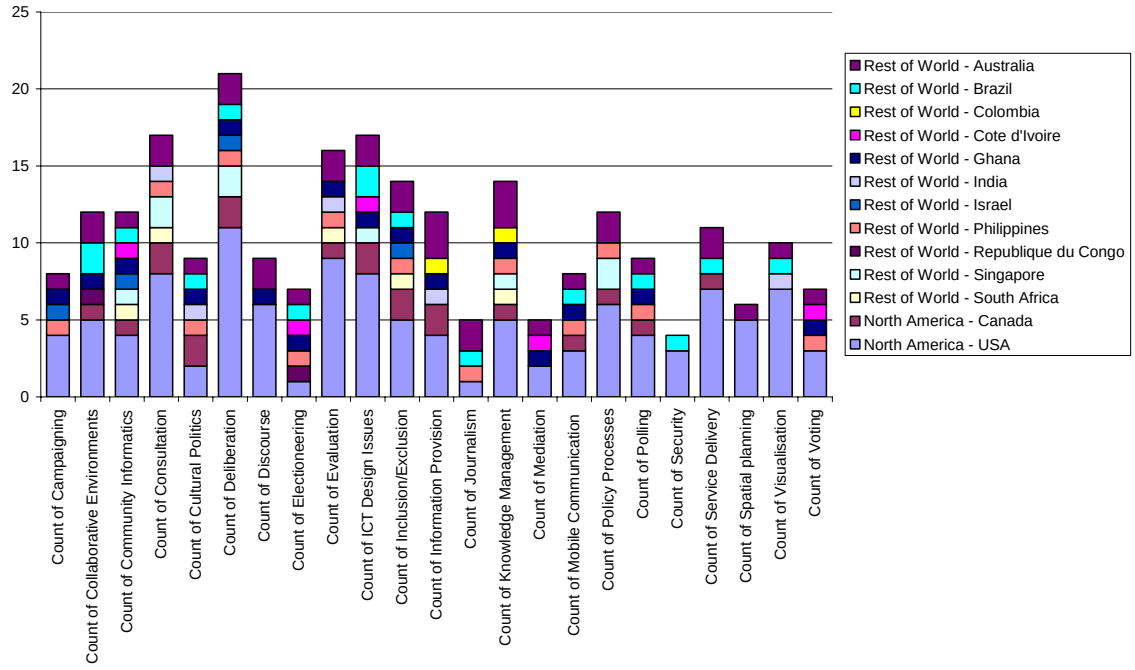

Figure 5: non-European countries by activity

Finally, in this section we present the research activities sorted by numerical order so we can see that the most 'popular' research activities as deliberation with consultation and evaluation following. The least researched areas appear to be journalism, mediation and security.

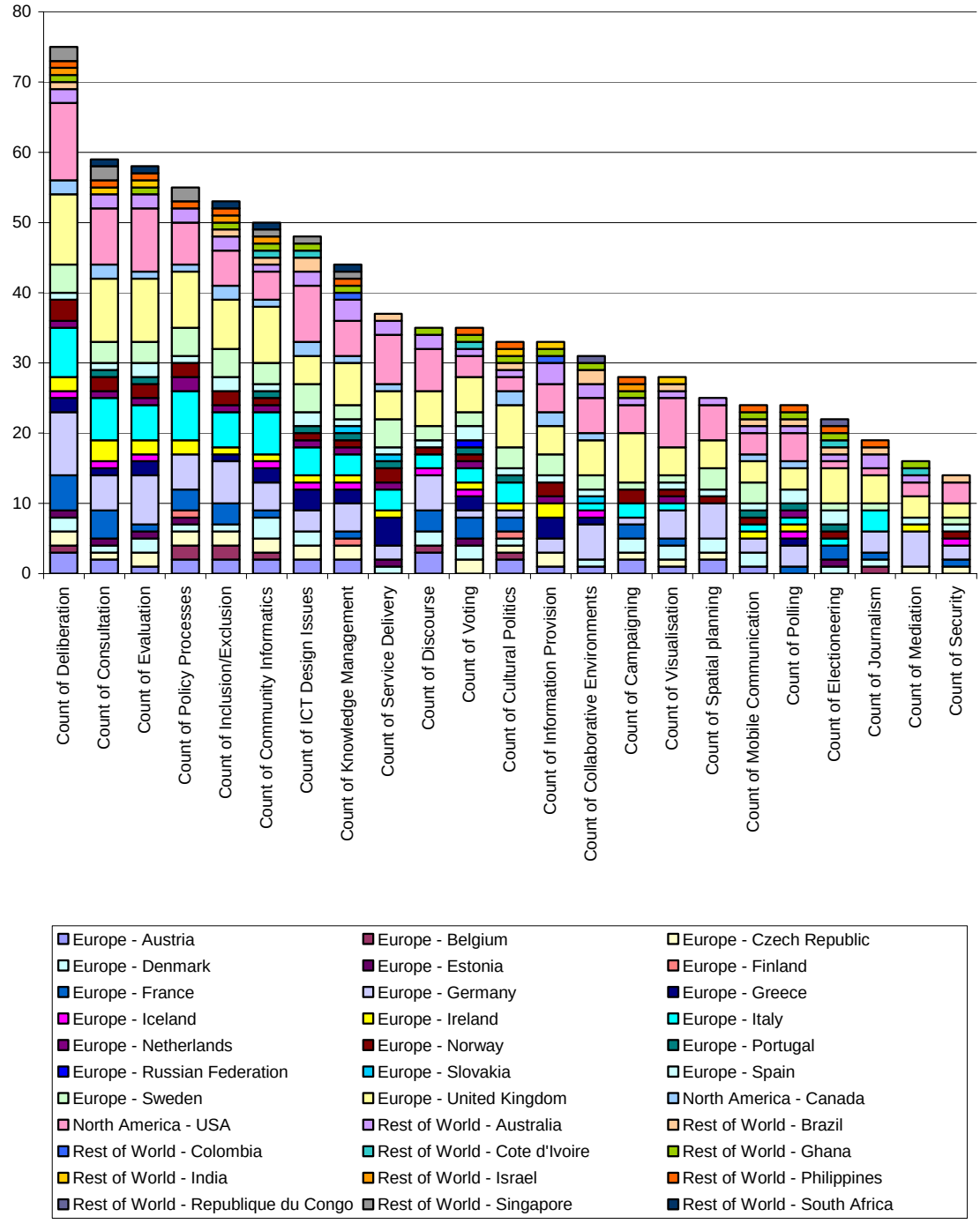

Figure 6: Activities by Country - Sorted by popularity

In chapter 1 we highlighted the multi-disciplinary nature of eParticipation, and later in this chapter and in chapter 3 we discuss the diverse range of academic fields and disciplines involved. When looking at the large number of respondents who said they did deliberation research, we were interested to understand whether they all meant the same by this term, what research methods they were using and whether indeed there was a translation problem between the technical and social scientific researchers. Therefore in order to better understand the actual research being undertaken within this and other eParticipation research areas, we are organising a series on **research workshops** on the

eParticipation research activities. There are two overarching objectives, firstly to appreciate the current status of research in this area and secondly to appreciate any gaps in this research in order to prioritise future research strategy.

To date seven workshops have been arranged of which two have taken place. The two workshops so far held have been on eDeliberation and on Knowledge Management and Semantic Technologies to support eParticipation. Reports on these two workshops are provided in the appendices where we discuss the main research issues arising and the future work needed.

2.2.2 Methods, tools and techniques

As we have noted in chapter 1, a strict demarcation between the conduct of e-participation and its study cannot be made, however, in the survey we did ask the research centres whether they were mainly concerned with research into *conducting* eParticipation or research into *observing/studying* eParticipation. The reason for this, is that we wished to distinguish those research centres focusing the research into the design and application of eParticipation tools, i.e. the technology-based centres as opposed to those research centres focusing on study of eParticipation.

Figure 7 provides the actual number of research centres *conducting* and *observing* in all the countries that responded.

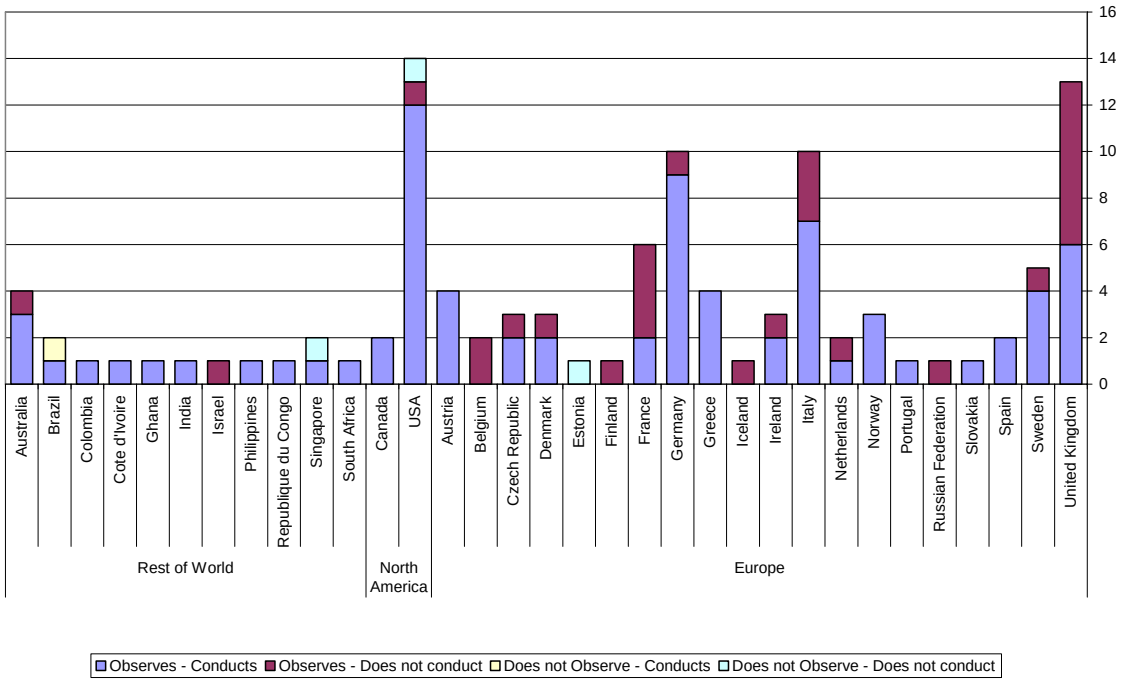

Figure 7: Relationship between observing and conducting - by country

The majority of the research centres responding to the survey undertake both *conducting* and *observing* eParticipation research. France and the UK show the largest number of centres focusing only on *observing*.

Error! Reference source not found. and Table 2 give a breakdown for the *conducting* eParticipation research into five broad categories which are concerned with: underpinning infrastructures; providing platforms/tools; addressing design techniques; supporting content management; and supporting interaction and comprehension. The number in the coloured boxes represent the absolute numbers as opposed to the percentage for that country.

Table 2: conducting categories

Conducting category	Total no of centres
addressing design techniques	82
providing platforms/tools	81
supporting interaction and comprehension	66
content management	64
underpinning infrastructures	62

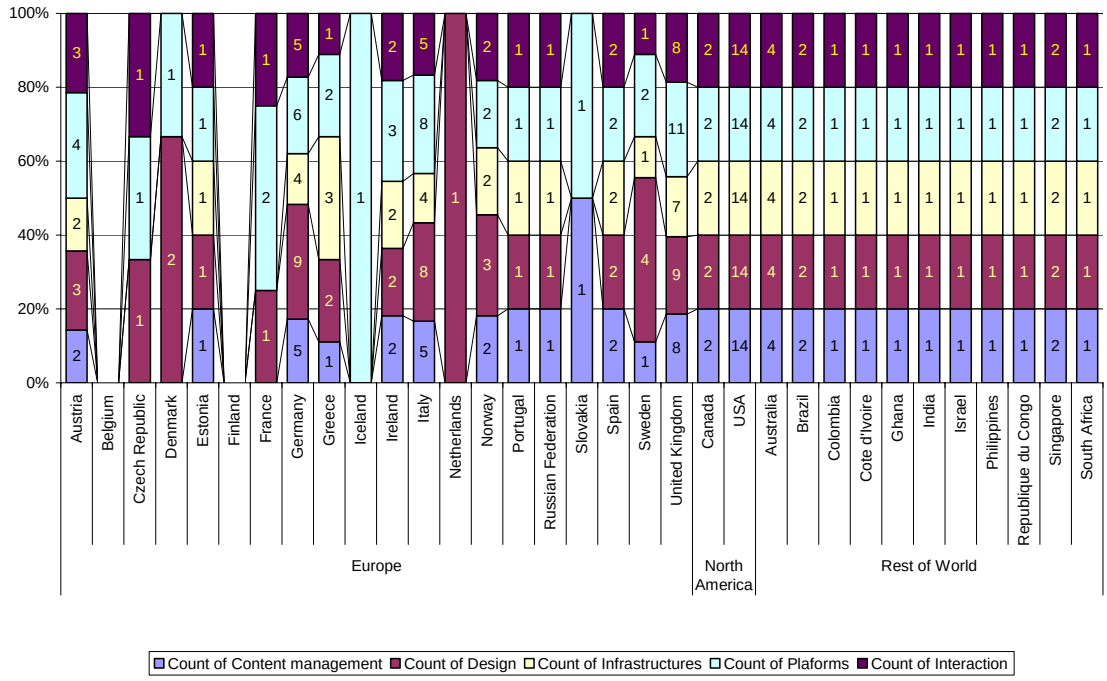

Figure 8: Broad Categories of Conducting by country

Similarly Figure 9 and Table 3 show breakdown for the *observing/studying* eParticipation research into the six broad categories of: political and cultural framing; understanding of the political and cultural outcomes - impact assessment; understanding of how people interact and what they do during an eParticipation activity; understanding what people

think during eParticipation activities; examining content/text of eParticipation; and finally understanding what the system does, - the technology assessment.

Table 3: Observing categories

Observing category	Total no of centres
understanding what people think	99
examining content/text of eParticipation	85
understanding of how people interact	81
political and cultural framing	63
impact assessment	63
technology assessment	62

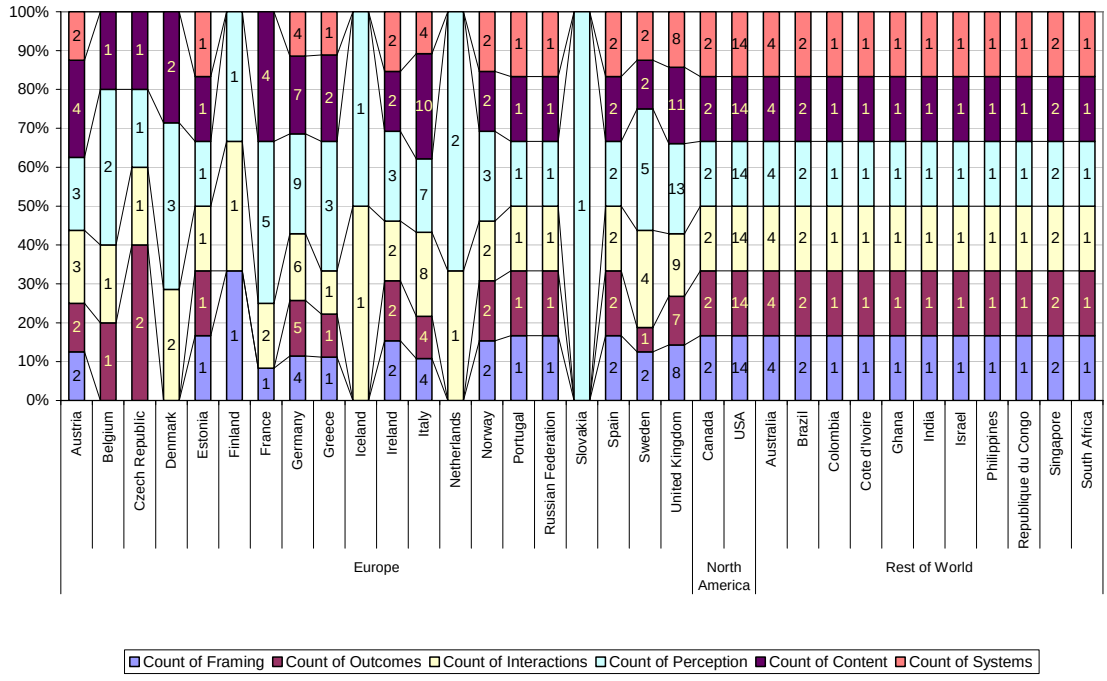

Figure 9: Broad categories of observation

2.2.3 Academic fields and disciplines

Figure 10 and Figure 11 show academic fields and disciplines by region and by individual country respectively.

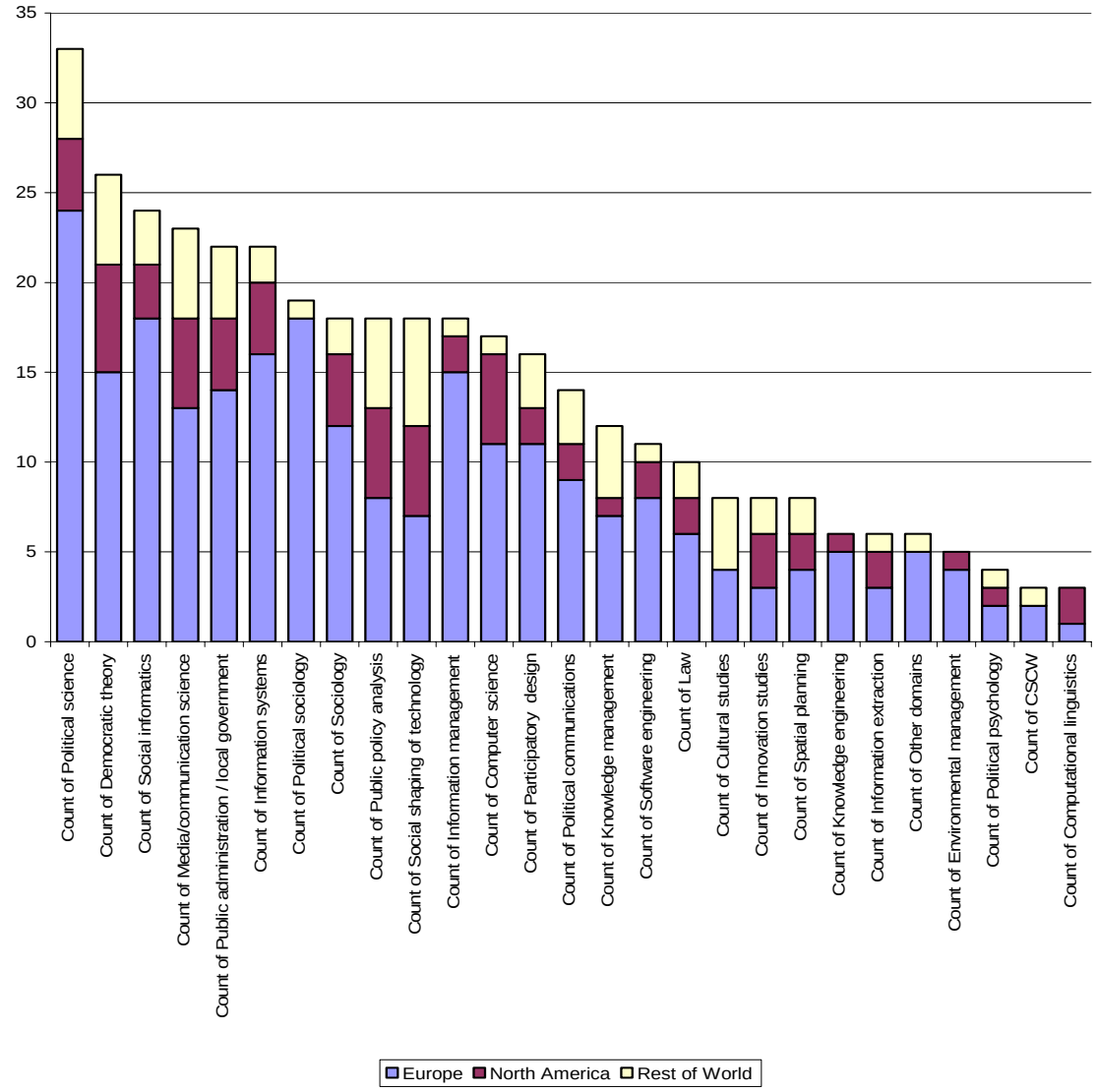

Figure 10: Academic domains by region

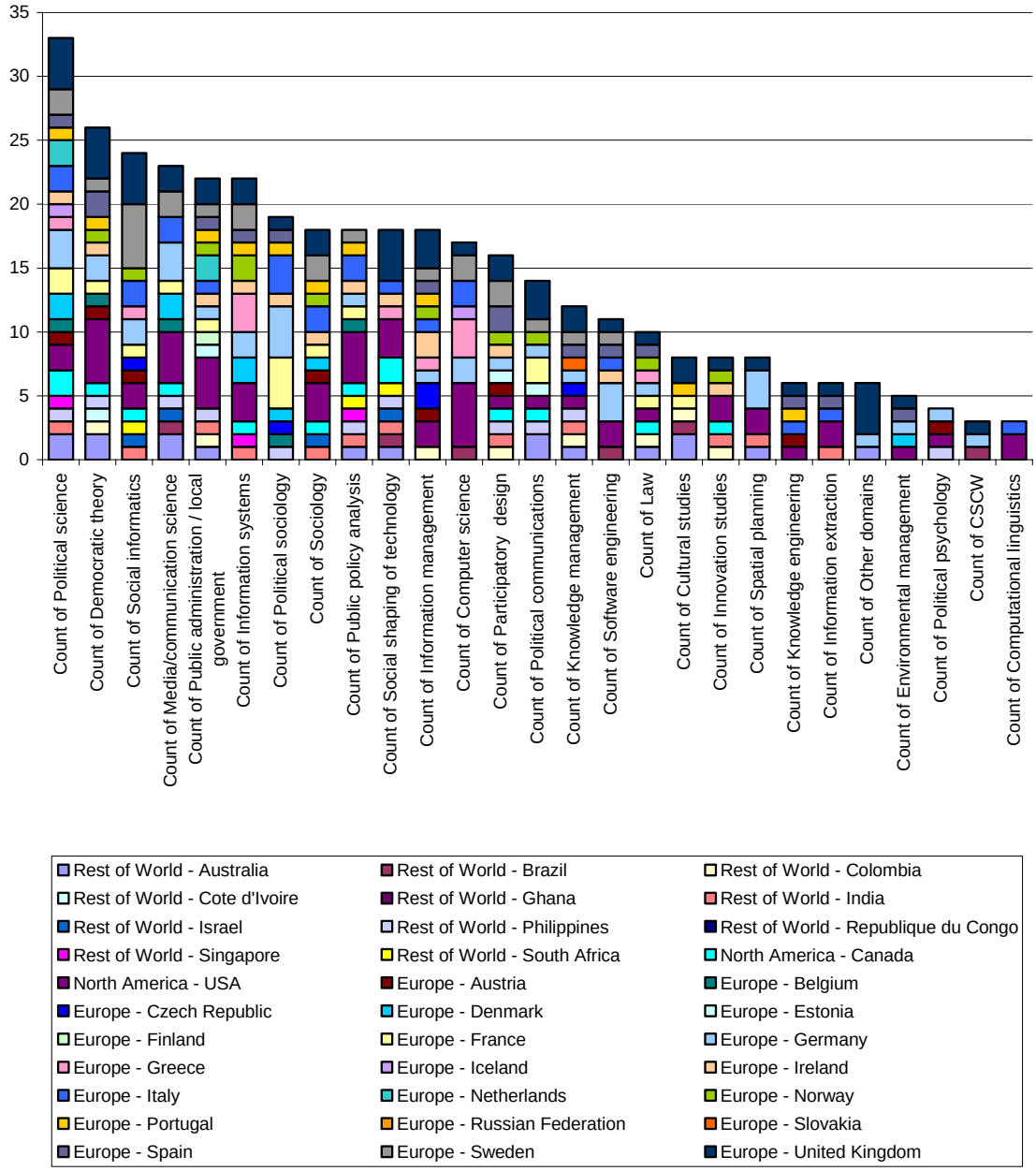

Figure 11: domains by country

The above responses to the question "Which academic domains best describe your group's research?" clearly show the 'hybrid' nature of eParticipation as discussed in chapter 1. Twenty seven academic fields and disciplines were reported as being relevant to eParticipation.

2.3 Academic Journals

Table 4 lists the international journals where the respondents to our survey said they published their eParticipation research work. It can be seen that some are well established academic journals while others are relatively new journals focusing on the emerging research areas of eGovernment and eParticipation. Sixty four international journals are

listed, once again highlighting the multi-disciplinarity of the domain. We note that all of these are English-language journals and would be interested to find out more about journals in other European languages and translations from English to other journals.

Table 4: List of academic journals

American Behavioural Scientist	Journal Multi-criteria Decision Analysis
Artificial Intelligence and Law	Journal of Computer Mediated Communication
City and Community Political Communication	Journal of Computer Supported Cooperative Work
Communication & Society Parliamentary Affairs	Journal of E-Government
Communication of the AIS (CAIS)	Journal of Environment and Planning;
Communications of the ACM	Journal of Information Systems
Computer Mediated Communication	Journal of information, Communication & Society
Computer Supported Cooperative Work	Journal of Media and Cultural Studies
Decision Support Systems	Journal of Public Information Systems
eGovernment	Journal of Public Policy
Electronic Government	Knowledge, Technology & Policy
Environmental Online Communication	Local Government Studies
eService journal,	Media, Culture & Society
eStrategies	New media and Society
European Journal of Communication	Parliamentary Affairs
European Journal of Information Systems	Party Politics
European Journal of Operational Research	Political Communication
European Journal of Political Research.	Political Quarterly
European Journal on Communication Research,	Public Administration Review
Government Information Quarterly	Public Understanding of Science
Group Decision and Negotiation (DG&N)	Science and Public Policy
IEEE-TOEM	Science Communication',
IJHCS	Science, Technology and Human Values
Information Polity	Social Science Computer Review
Information society	Surveillance and Society
Interacting with Computers	The AI & Society journal
International Journal of Electronic Government	The European Journal of Communications;
Int. Journal of Electronic Government Research	The Information Society
Int. Journal of Geographic Information Science	The international Communication Journal
Int. Journal of Technology, Policy & Management	The Journal of Collaborative Computing

J Multi-Criteria Decision Analysis	The Journal of Community Informatics
Javnost	Urban Studies Environment and Planning A

The survey asked: “In which journals does your group publish eParticipation work”, surprisingly 20 of the 108 research centres, 18%, said they had not yet published any journal paper. They often cited their newness to this research area as the reason - a clear indication of the immaturity of the eParticipation research area. Added to this, 14 research centres had only published in national journals. Over 30% of the research centres in our survey had not published their work in an international journal.

Considering those who said that they have published the results of their eParticipation research, they have used 64 different academic journals with no consensus on an emerging journal publication that could be used in the future to publish eParticipation research and so act as a focus for the domain.

This lack of recognised journal(s) for the domain, presents a number of difficulties. In particular, any new researcher is unable to gain a good overview of the research to date and as the publications spread over academic disciplines it can be difficult for researchers in a different discipline to find relevant research material.

2.4 Concluding remarks

To conclude, we look at two other factors highlighted by our survey which show that eParticipation is an emerging research area with differences in research perspective between Europe and the USA.

Firstly, we consider the year the research centre was established. Here Figure 12 indicates the growth of the number of research centres by year for each country. This clearly demonstrates the immaturity of the research area. The majority of eParticipation research centres have only been established since 2001.

Our survey shows that prior to 2000 there were only 22 research centres focusing on eParticipation. Some 15 new centres came into being in 2000, with a further 53 centres being established since then.

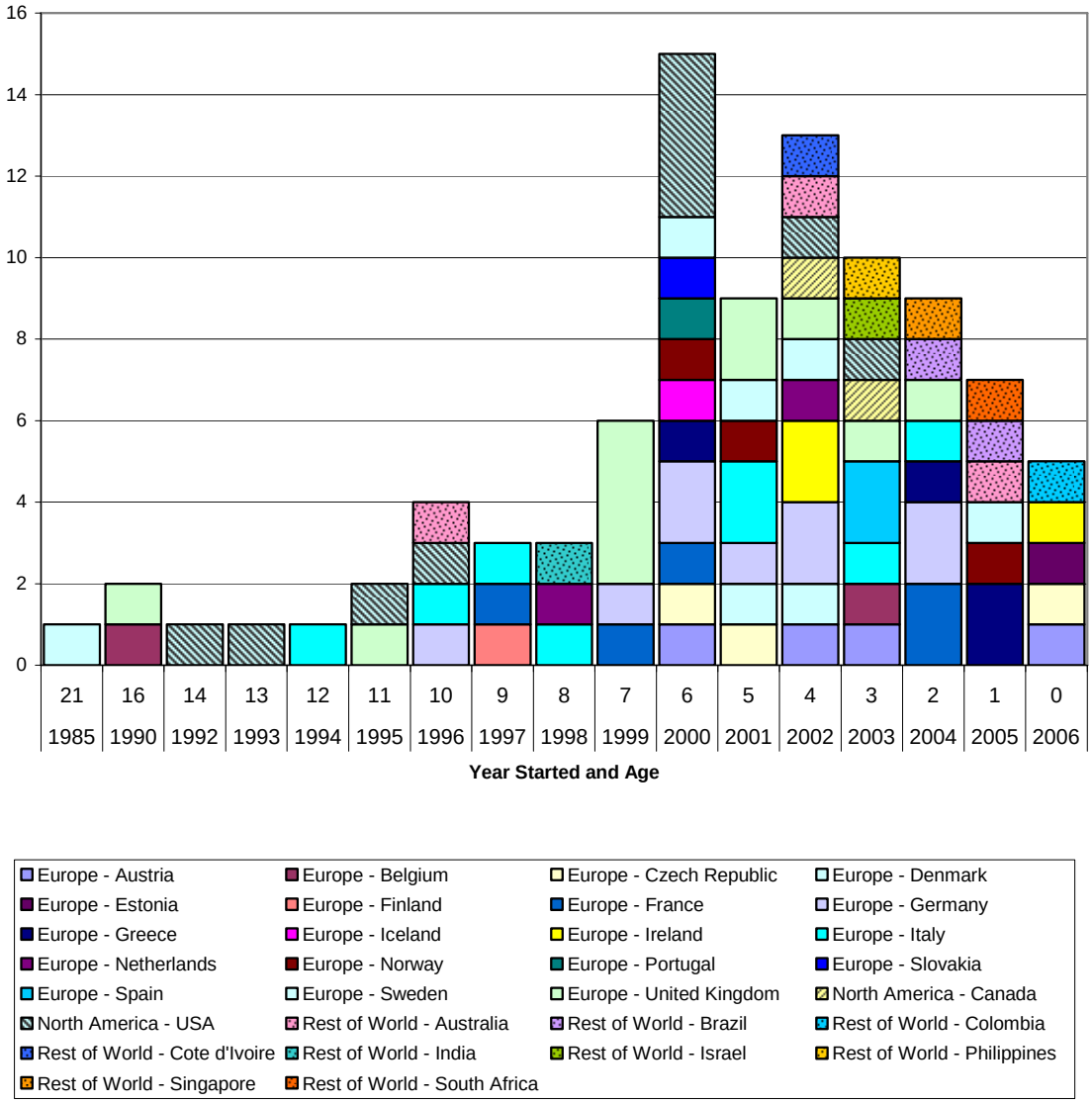

Figure 12: Year of formation of Research Centres

For completeness, Figure 13 shows the cumulative growth in research centres as indicated by those centres which responded to this question in our survey.

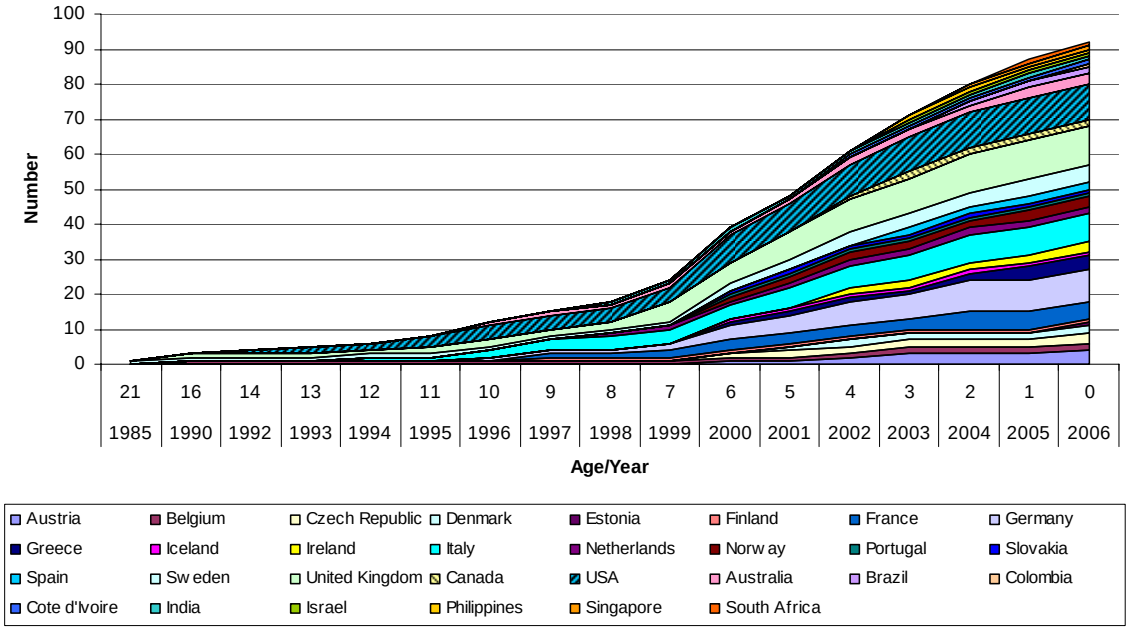

Figure 13: Cumulative growth of research centres

Finally, we briefly contrast the research undertaken in Europe with the USA. We present this data tentatively as we are well aware of the low number of USA research centres that have so far responded to our survey. However the presented scatter diagram helps to demonstrate how our data repository can/could be used to compare and contract research activities both across countries and across regions.

Figure 14 shows the relative percentages of research activities undertaken by the USA compared to Europe.

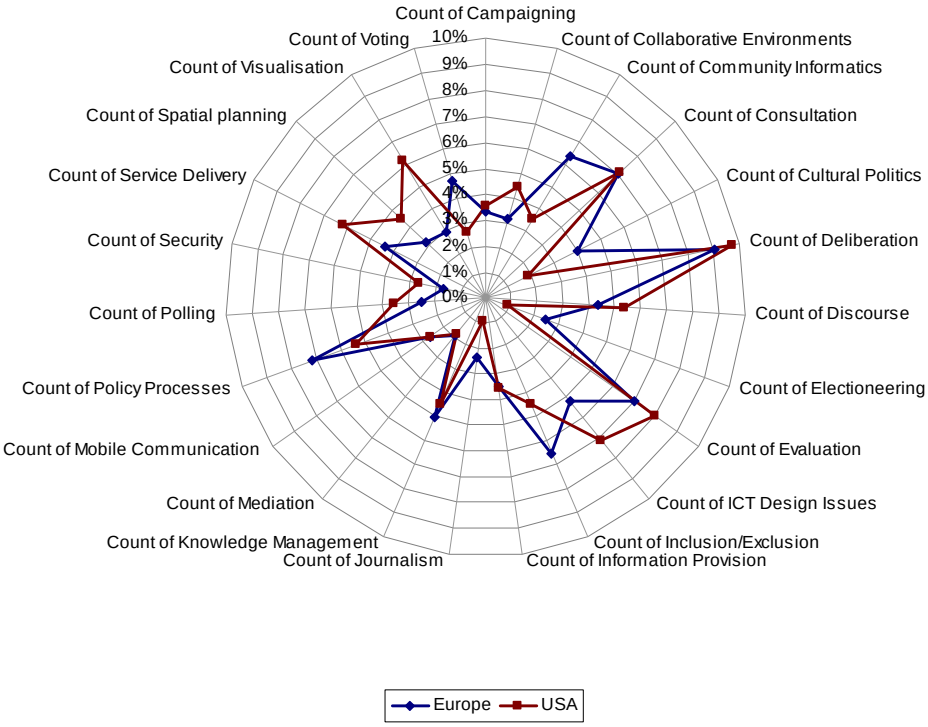

Figure 14: Relative weight of research activities

We can see from this figure some similarities, such as the high percentage of research centres focusing on deliberation, consultation and knowledge management. We can also see where there are marked differences in research emphasis, for example, cultural politics, community informatics and visualisation. There is an opportunity for a European and USA exchange of research experiences that can support all researchers to more eParticipation research forward.

3 Identifying the gaps in eParticipation Research

The objective of the present chapter is to locate deficits or 'gaps' in this developing research field. Specifically, the chapter will focus on gaps in terms of: (i) the range of eParticipation activities analysed; (ii) the tools, methods and techniques used to analyze eParticipation; and (iii) the main academic disciplines or domains in which research is currently situated.

We hope that locating research gaps in the field of eParticipation will aid the development of a more comprehensive research agenda in the future. Indeed, this chapter will argue that the time has come for larger-scale, and more comprehensive research in the area of eParticipation. At present, the research questions tackled by eParticipation researchers are mostly garnered from individual academic disciplines, be it democratic theory and political science at the 'social' end of the spectrum, or software engineering and computer science at the 'technological' end. These different academic disciplines pose quite different research questions, which means that it is at present difficult to effectively integrate different types of eParticipation research. An alternative strategy would be to pose questions and problems specific to eParticipation, which would allow the broad range of theoretical tools, methods and disciplinary insights uncovered in our survey to be incorporated and triangulated into a single research agenda. Agreeing on these research questions will ultimately require more dialogue between eParticipation researchers, through the DEMO-net research network and elsewhere. But one broad and initial suggestion is for research based on an analysis of *ecologies of eParticipation.* Rather than treating different eParticipation applications and activities in isolation, as is usually the case at the moment, such research would focus on the myriad commonalities and complex links between eParticipation activities in terms of technology, structure, and patterns of use.

3.1 Current gaps in research perspectives and themes

From our survey data, it was possible to group the *conducting* eParticipation responses into five main categories of : those to support and provide underpinning infrastructures; those providing platforms/tools; those addressing design techniques; those supporting content management; and those to support interaction and comprehension. Table 5 summarises the categories with examples of the various methods, tools and techniques from the survey.

Table 5: Methods, tools and techniques for conducting eParticipation

Underpinning infrastructures / techniques	***Platforms/tools***	***Design***	***Content management tools***	***Supporting interaction & comprehension***
Open architectures	Discussion forums	Participatory design	KM tools	Argument visualisation tools

standards	weblogs	Requirements analysis	Ontological engineering tools & techniques	Natural language interfaces
Semantic web technology	petitions	Systems analysis		Discourse analysis
Semantic web languages	GIS	Holistic design		Meta & domain ontologies
Semantic web tools	Web portals	modelling		Dialogical research
Agent technology	newsletter	interviews		Content analysis tools
	Question-time via email	Soft systems methods		Term extraction
	Collaborative environments	Socio-technical systems analysis		
	Consultation platforms	Organisational analysis		
	Deliberative surveys	Political systems analysis		
		Multi-criteria decision analysis		

Based on these responses to our survey, there would appear to be a lack of research in supporting *interaction and comprehension*, *content management* and *underlying infrastructures*. The first two are critical in supporting the diverse range of eParticipation stakeholders to access and understand information. The large amount of information associated with eParticipation requires structuring and representing in such a way as to aid user navigation through it. Research in areas such as knowledge management and semantic technologies are potentially critical here. Closely associated with this is the need to support users to understand complex information through research on interaction and comprehension. The academic areas of natural language processing, argumentation support systems and discourse analysis are potentially critical here. In sum, a lack of content management, on the one hand, and interaction and comprehension, on the other, are clear 'gaps' in existing research. The design of future research agendas should bear this in mind.

Similarly for *observing/studying* eParticipation research, it was possible to group the responses into six main categories of research perspective: research seeking to understanding the political and cultural contexts; research assessing the political and cultural impact of eParticipation; research seeking an understanding of how people

interact and what they do during eParticipation activity; research seeking to understand what people think during eParticipation activities; research examining the content and text of eParticipation; and research aiming to assess eParticipation tools and methods that help us to understand what the system does, giving the technology assessment. Table 6 summarises these categories, with examples of the various methods, tools and techniques used by researchers:

Table 6: Methods, tools and techniques for observing eParticipation

Political & Cultural Framing	***Understanding Political & Cultural Outcomes/Impact Assessment***	***Understanding What People Do & How They Interact***	***Understanding What People Think***	***Examining Content / Text***	***Understanding What Systems Do: Technology Assessment***
Social theory	Cost benefit analysis	Social network analysis	Interviews	Data mining	Systems analysis
Cultural theory	Comparative analysis of practice	Statistics of demography & usage	Surveys	SPSS data analysis	
Political theory		Grounded theory	Polling	Web analysis	
		ethnography	Focus workshops	Argument visualisation	
		observation	Scenario based workshops	Discourse analysis	
		Case studies	Deliberative survey tools	Qualitative text analysis	
				Data analysis	
				Cognitive maps	
				Content analysis	
				Document analysis	

Our survey indicates that there is a lack of research on *technology assessment*, as in *understanding what technical systems do*. An understanding of technological systems, we maintain, is a clear prerequisite for informed and rigorous research in this area. Likewise, there is very little research being conducted on *impact assessment*, as in *understanding the political and cultural outcomes* of eParticipation. This includes cost/benefit analysis and comparative analysis of practices.

eParticipation is a still youthful area of research, where more exploratory, descriptive and flexible methodological approaches may be favoured. As eParticipation moves into a

more mature stage of research, we need to move from description and understanding to more rigorous evidence-based explanation and evaluation. Comparative analysis is amongst the most powerful methods available to us in this regard. In sum, a lack of technology assessment, on the one hand, and impact assessment, on the other, are clear 'gaps' in existing research. The design of future research agendas should bear this in mind.

One weakness of our survey method is that it has proved difficult to discern whether or not different tools and methods are being 'triangulated' in the context of any particular research study. In general, methodological and data triangulation would be recommended as good research practice, as a way of ensuring the validity of research results. Work under WP6 has looked at the methodological approaches taken by each of the partners in Demo-net and D6.1 reports on this. Being able to investigate methodological and data triangulation and report on any gaps, demonstrates the clear added value that a research network such as DEMO-net can offer in terms of stimulating and sustaining a broader research dialogue in this field.

Our survey revealed a number of key research themes that were not being widely addressed. These included *Mediation, Mobile communications, Electioneering, Journalism,* and *Polling*. *Mediation* is concerned with conflict resolution and is a relatively specialist type of activity. However, the comparative lack of research on *Mobile Communications* is more unexpected. Compared to the Internet, for example, the diffusion of mobile telephony has reached a high proportion of the population across most European countries, and so, potentially, the effects of this medium on participation are greater. What is more, there have also been some recent initiatives that seek to use mobile communication to stimulate and facilitate participation. Likewise, it is surprising that there is not more research in the area of *Electioneering* and *Polling.* This is especially the case since a number of research groups included in our survey reported that they work in the academic disciplines of political science and political sociology. The role of *Journalism* in democracy is absolutely central and its relative absence from eParticipation research constitutes a major gap. We would expect more research in future to focus on the role of *Mobile Communication, Electioneering, Polling and Journalism.*

There are very few obvious types of eParticipation activity that were not covered at all by the respondents to our survey. One example would be computer games which have an informative and participatory element. Some games have been developed to help users gain a better understanding of key policy issues (e.g., environment issues, urban planning) or key public roles (e.g., citizen, political representative). Computer games, such as these, are considered by some to be a particularly effective way of reaching out to and engaging younger age groups.

Notably, and related to the small amount of extant research on *Electioneering*, no research group reported that they had analysed the use of information and communication technology by political parties in Europe. In this case, though, it more likely points to a gap in the sampling and coverage of our survey. A cursory literature review — which, admittedly, is a more conventional way of isolating gaps in a research field than the survey adopted in this report — suggests that there already are a number of academic studies in this area.[8]

[8] See for example, Gibson, R. and Ward, S. *Political Parties and the Internet: Net Gain?*, London, Routledge, 2003

Altogether, and despite some possible exceptions, our survey indicates that a large variety of eParticipation activities are currently being researched. What we do not yet know, however, is how and how well (if at all) these different eParticipation activities are being linked together in practice and, if so, whether or not research is reflecting and analyzing these linkages. Other researchers within Demo-net are reviewing the literature and may have light to cast on this question, to which we shall return in the conclusion when we consider the *ecology of eParticipation.*

3.2 Academic fields and disciplines

From the responses we received to our survey, it is possible to envisage eParticipation researchers being positioned at various points along a spectrum ranging from society to technology. The elements in the table below should not be considered to reside strictly in the columns but rather along this spectrum.

Table 7: academic fields and disciplines

From Society to Technology			
Democratic theory	political communications	Social informatics	Knowledge engineering
Political science	Political sociology	Information management	Software engineering
Law	Public policy analysis	Participatory design	Knowledge management
Media/communication science	Public administration / local government	Spatial planning	Information systems
Environmental management	Political psychology	CSCW	Information extraction
Cultural studies	Social shaping of technology	Computational linguistics	Computer science
Sociology		Innovation studies	

In Europe several academic fields and disciplines are well represented in eParticipation research - *Political Science, Political Sociology, Media/Communication Science, Public Policy Analysis, Social Informatics, and Information Management.* Meanwhile, the following disciplines were less popular in Europe, having either one research group or not being represented by any research groups at all. These include *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, Information*

Extraction. In some cases, these gaps may be a function of the size and maturity of the disciplines in question. Political science, for example, is a larger and more longer-standing discipline than enterprise architectures. Efforts should be made in future to draw upon insights from all these disciplinary areas, where this is possible and appropriate. It will then be possible to capture and analyse the complex and multi-sided nature of eParticipation.

Returning to our table that positions disciplines according to a society-technology spectrum, it is encouraging to see that disciplines in each of the columns are pretty well represented by the research groups we surveyed.

Table 8: From society to technology

From Society to Technology ***Society*** ← → ***Technology***			
Democratic theory	Political communications	Social informatics	Knowledge engineering
Political science	Political sociology	Information management	Software engineering
Law	Public policy analysis	Participatory design	Knowledge management
Media/communication science	Public administration / local government	Spatial planning	Information systems
Environmental management	Political psychology	CSCW	Information extraction
Cultural studies	Social shaping of technology	Computational linguistics	Computer science
Sociology		Innovation studies	
124 Research Groups	100 Research Groups	87 Research Groups	74 Research Groups

Column 1, which represents the social end of the spectrum, includes 14 Research Groups from the core Demo-net group and 110 Research Groups from the non-core group (a total of 124 Research Groups in all). Column 2, which is still closer to the society end of the spectrum, includes 11 Research Groups from the core group and 89 Research Groups from the non-core group (a total of 100 Research Groups in all). Moving towards the technological side of the spectrum, Column Three includes 18 Research Groups from the core group and 69 Research Groups from the non-core group (a total of 87 Research Groups in all). Finally, Column 4, which is at the far technology end of our spectrum,

includes 16 Research Groups from the core group and 58 Research Groups from the non-core group (a total of 74 groups in all). So, while disciplines in each of the columns are pretty well represented by our research group, there is a slight bias against the technological end of the spectrum.

While it is certainly the case that a diverse range of disciplines are represented in our survey, an important question concerns the extent to which these disciplines are being brought together in multi-disciplinary work. In particular, we would welcome research that cuts across the four columns. Once again, this demonstrates the opportunity that a research network such as DEMO-net can offer in terms of stimulating and sustaining a broader dialogue between researchers in this area. We hope this broader dialogue comes to be reflected in a more comprehensive research agenda in the future.

3.3 Concluding Remarks

Our survey has provided information on a number of areas of eParticipation research and provides a broad summary view of the field. On this basis, we have isolated gaps in the research field, whilst also making a case for larger-scale, comprehensive and integrated research. However, we recognise that our survey data, which is restricted to the eParticipation activities studied, the techniques and methods used, and the disciplinary paradigms adopted, can only tell us so much. To gain a better understanding of the field, we also need more information on the theoretical underpinnings of research, and, more specifically, what research questions and problems have so far guiding research. Without more specific data on this, it is difficult for us to give a more decisive conclusion on the 'gaps' in current research.

In addition to the survey we have conducted, there is a need to undertake qualitative research. Subsequent to this report, a number of the respondents will be interviewed and this data will be analysed along with the quantitative data. This will allow us to answer of some of the questions that have been raised in this chapter.

Good research design is constructed with clear research questions and problems in mind. As suggested above, a good deal of research in the area of eParticipation is still exploratory and descriptive, asking general research questions that seek to understand eParticipation as a practice. This type of preliminary research is necessary and has established a firm foundation for future research in the area. Meanwhile, more analytical and explanatory research appears to have been mostly driven by research questions and problems internal to the respective disciplinary paradigms that the research has been situated in. As eParticipation research expands, the contribution it makes to these individual disciplines is likely to extend further. According to our survey, political science and political sociology were two of the most popular academic domains. In these disciplinary contexts, eParticipation research can make clear contributions to some of the traditional questions that are posed in these fields, offering new insights on political participation and efficacy; co-operation, trust and problems of collective action; and the democratic role and organization of political parties. Focused on these questions, eParticipation can corroborate or falsify existing theories, and uncover the actual effects that new information and communication technology is having on different political systems and actors. This is only one example, of course, taken from two allied disciplines.

Research on eParticipation can, and already is, making similar contributions to research questions and problems posed in other disciplinary fields.

While we are aware that many partners within Demo-net are conducting interdisciplinary research within their own institutions, we maintain that a key challenge is to encourage more – and more sophisticated - collaborative, multi-disciplinary research in this area with a view to establishing a set of research questions and problems that are specific to eParticipation. Achieving this will ultimately require more dialogue on the part of eParticipation researchers. One initial and broad suggestion is to focus on the commonalities and links between our shared *object of research*, by analysing, differentiating and comparing *ecologies of eParticipation.* This means refusing the research convenience associated with treating specific examples of eParticipation in isolation. It would mean exploring the commonalities and links that exist between different eParticipation activities, in terms of technology, systems, structure, and patterns of use, as analysed by the different research methodologies, expertises and perspectives outlined in this chapter. The result would not only be to integrate existing research projects in this area and put them at the service of common research objectives. It would also allow us to: gain a better understanding of the 'gaps' in eParticipation *in practice*; consider how the existing ecology of eParticipation could be improved from the perspective of different actors and stakeholders; and develop the research questions and problems needed to guide eParticipation research in the near future.

While we are encouraged by our initial investigations, and feel confident that there exist sufficient expertise, energy and enthusiasm in the field of eParticipation, we conclude by arguing that there is now a pressing need to undertake the demanding but salient task of integrated, multi-disciplinary research.

4 Recommendations for Future Strategy

Our recommendations are based on the findings from our global survey and research workshops. These are concerned with, firstly, the range of academic disciplines studying eParticipation, secondly, the similarities and differences on research emphasis between Europe and North America and thirdly, both the research and real-world fragmentation of the eParticipation area.

Although eParticipation, as an aspect of eDemocracy, has been studied and experimented with for nearly a decade, it is still an emerging academic discipline. As such, rigorous theories and frameworks on which to structure and study real-world eParticipation initiatives are typically missing. There are still more questions than answers concerning what eParticipation research involves and what we, as researchers, are tying to achieve. The 'hybrid' nature of eParticipation has been clearly highlighted in this report and, therefore, the subsequent need for collaborative, multi-disciplinary research with a view to establishing a set of research questions and problems that are specific to eParticipation.

Comparing research in Europe and North America, we can see from the findings of our global survey some similarities, such as the high percentage of research centres focusing on deliberation, consultation and knowledge management. We can also see where there are marked differences in research emphasis, for example, cultural politics, community informatics and visualisation. There is an opportunity for a European and North American exchange of research experiences that can support all researchers to progress eParticipation research.

When considering the current status of eParticipation research there are variations across Europe. This research fragmentation manifests itself in the effectiveness, or rather ineffectiveness, of real-world eParticipation applications. Although there are a growing number of such isolated applications, their political and social impact, scalability and sustainability are, in the majority of cases, questionable. As we have argued in the previous chapter, there is a need to take a grander view of eParticipation rather than focus only on small one-off initiatives. By studying a range of eParticipation projects addressing various democratic issues and across different national and cultural boundaries there is an opportunity to undertake larger-scale, and more comprehensive research in the area of eParticipation.

Our recommendations are listed below. In some instances they could be specific to Demo-net practices and in other cases directed towards research funding agencies. In general our recommendations require action from research funding agencies at a European level of action. By this we mean either the European Commission progresses with the recommendations or there is agreement at European level that the national research funding agencies will fund research that crosses national borders.

Recommendations:

11. As stated in chapter 1 and demonstrated through the results of our survey in chapter 2, eParticipation is a multi-disciplinary domain requiring a wide range of disciplinary and methodological inputs. It requires an interdisciplinary approach which is not easy. However through DEMO-net we have the opportunity to develop such research teams and benefit from close working relationships over our four year project. We have the opportunity to do the 'translation' discussed in chapter 1. In Phase 1 of Demo-net we focused on understanding the technological characteristics of eParticipation under WP5 and the socio-technical approaches under WP6. Although this has given us valuable results we now have to move to a position where we join the technical and social scientific researchers together. Therefore, in phase 2 of Demo-net we recommend that there is just one work package that focuses on the research activities and the tasks within this work package are jointly managed by technical and social scientific researchers.
12. A second approach we would like to 'experiment' with is to actively encourage the exchange of researchers between technical and social scientific research centres. Although we appreciate the difficulties in such research exchanges, we feel that the benefits for technical scholars studying in a social scientific environment for a short period of time and vice versa would be considerable. For non-core Demo-net partners this will require funding agencies in specific subject areas to agree to 'their' researchers crossing these academic domain boundaries.
13. The two most common eParticipation activities named in our survey are deliberation and *consultation*. What we do not yet know, however, is how and how well these eParticipation activities are being linked together in practice and, if so, whether or not research is reflecting and analyzing these linkages. We also found a number of key research activities that were not being widely addressed, these included *Mobile communications*, *Electioneering, Journalism*, and *Polling*. Therefore the design of future research agendas should bear these points in mind.
14. For *conducting* eParticipation research our survey indicated lack of research in supporting *interaction and comprehension*, and *content management* which are critical in supporting the diverse range of eParticipation stakeholders to access and understand information - the design of future research agendas should bear this in mind.
15. For *observing/studying* eParticipation we found a lack of research on *technology assessment* and *impact assessment*. An understanding of technological systems is a clear prerequisite for informed and rigorous research in this area. Likewise, an understanding the political and cultural outcomes of eParticipation is critical. As eParticipation moves into a more mature stage of research, we need to move from description and understanding to more rigorous evidence-based explanation and evaluation - the design of future research agendas should bear this in mind.
16. The lack of recognised academic journals is an important issue which Demo-net could investigate and make recommendations on. Therefore, we recommend that under phase 2 of Demo-net we continue our literature review and augment it with a detailed citation study. This should help to identify a number of suitable journals for new researchers to publish in and also help to establish an accepted

eParticipation journal. There is a need to actively speak to journal editors and publishers about their interest and willingness to support this emerging research area.

17. In order to maintain links with researchers in North America we recommend continuing the jointly organised research workshop(s) at the Digital Government Conference in the USA and also explore further mechanism by which European and American researchers can work together on eParticipation initiatives under Demo-net.
18. Continuing on this theme, we recommend strengthening links between European and North American researchers by funding both collaborative and comparative research projects in eParticipation which would lever the specific strengths each region has in the research area. We also suggest that our American research colleagues pass this recommendation on to the National Science Foundation (NSF) so that both European and USA research funding agencies can such initiatives.
19. One of main recommendations for European research funding agencies, both at the European level and at national levels, is to address the current fragmentation of the eParticipation area. Here we recommend that a series of large-scale, inter-disciplinary research projects are funded to address a set of integrated research questions and problems that are specific to eParticipation. The need for 'academically joined up' research exploring the commonalities and links that exist between different eParticipation activities, in terms of technology, systems, structure, and patterns of use is urgently required.

A. Summary report on International Workshop on Understanding eParticipation

This workshop was part of the 7th Annual National Conference on Digital Government Research: http://dgrc.org/dgo2006/ in San Diego, California USA in May 2006.

The workshop had the following objectives:

- facilitate close and sustained co-operation between eParticipation researchers from different academic disciplines, in order to improve the quality of research and understanding on all sides,
- assess and compare research already made on eParticipation in cities, regions and countries across the US and Europe,
- identify eParticipation research challenges for both researchers and government.

Identifying the barriers to progressing the research and highlighting some of the many research questions that need to be addressed proved a daunting, yet stimulating exercise given that the twenty-one participants came from six countries around the world and had academic backgrounds ranging from Law to Computer Science.

Participants were asked to submit research white papers on issues such as:

- Barriers to eParticipation across the US and Europe,
- Research discourse analysis techniques to explore agenda setting, and alliance building at different levels,
- Current and emergent eParticipation technological infrastructures,
- Current and emergent eParticipation methods, and
- Emerging criteria which allow evaluation of eParticipation initiatives to be undertaken in a systematic and standardised.

Ten papers were submitted and eight of these were presented at the workshop. After each presentation there was detailed discussion where the participants were asked to consider the barriers to eParticipation research that each paper presented and also consider what was required in order to progress the research.

A.1 Issues arising

eParticipation is a relatively new and emerging area of research when compared with other physical and social science disciplines. The range of contrasting, and in some instances conflicting, definitions of the terminology emphasise the 'newness' of the domain. Confusion arises over the breadth and depth of the term eParticipation and also what constitutes eParticipation research. Notwithstanding the newness of the eParticipation subject area, researchers have been studying the effect of technology on democratic processes for many years, but it has only been over the last ten years, with the increasing uptake of the Internet as a media for many to many communication, has eParticipation started to become a research discipline in its own right. The issues arising in the workshop are grouped under four headings:

- understanding and scoping eParticipation research
- defining eParticipation and eParticipation research
- supporting the research

- eParticipation research ideas and questions.

A.1.1 Understanding and scoping eParticipation research

Even though the participants in the workshop were researching aspects of eParticipation, a problem area that emerged time and time again during discussion was the seemingly lack of understanding of what eParticipation research involves and what we are tying to achieve. Without this agreed understanding about the research it is difficult to discuss, brainstorm and move the subject forward. One participant argued that this was the normative challenge – what is the desired situation? Is more technology-based participation a goal in itself or is it to strengthen citizen engagement? The mere addition of ICTs to current participation processes is not a goal in itself - certainly not for researchers in the area. In which case should we be focusing on how to add ICTs to current participation processes so as to increase participation, or should we be more concerned with re-engineering processes and developing new participation processes that can be supported by the technology. Our broad definition used in the introduction talked about 'broadening' and 'deepening' political participation. However, given the range of academic disciplines involved there is a concern that the research community as a whole lacks an understanding the basics of "the politics of participation", current practice, legal requirements and constraints, and capabilities of technology.

One participant put the question: What parts of democracy can best be supported by eParticipation?. On the surface this may appear quite a straightforward question but answering it is actually part of the research area itself.

The discussion demonstrated a need to understand better what we are doing. If we could do this, should we then focus on the core themes? However, research develops both around core themes and at the very edges of the subject. As this is an emerging area and we are still defining the subject, it can be argued that it would be wrong to limit our efforts too narrowly at this stage. However, others put the opposing case that as this is a new area there are too few researchers and there is a danger that we are trying to achieve too much, too soon.

One final issue that arose under this heading was the seemingly lack of 'ownership' of the research domain. The problem is the multidisciplinarity of the research, and therefore where should its home be. Should it be taught and researched in the Political Science departments of universities, perhaps with guest lecturers from Information Science, or should its home be in Communication Studies, Computer Science, etc. The list of possibilities is quite long and is not helped by the lack of support in current university structures to support and encourage multidisciplinary work, even though the research clearly requires it.

A.1.2 Defining eParticipation and eParticipation research

Participants were concerned about the number of terms describing very similar, if not the same, areas and also the same terms being used to describe different areas! (A typical problem met in knowledge management when one first attempts to make explicit a new domain.) There was a request for much clearer terminology and the need to distinguish between eDemocracy and eParticipation.

To start the discussion a high-level definition of eParticipation was provided as: "the use of information and communication technologies to broaden and deepen political participation by enabling citizens to connect with one another and with their elected representatives". Not unnaturally, given the diversity of researchers present, this definition was challenged throughout the day. Although a 'better' definition was not elaborated, the possible limitations of the definition were discussed and some scoping of the term accomplished. It was felt that some researchers restricted eParticipation to being a government action of engaging (with) citizens. This was too limiting, it is important to scope participation not just from the government perspective, but beyond relations with government and state systems. This led to a discussion on eParticipation research and its implications for non-democratic countries. It was suggested that there was a need to expand the definition of eParticipation beyond democratic systems and look at the role it plays in non-democratic societies.

Similarly, current eParticipation research tends to be centred in, or related to specific national, regional or local institutions and processes within a specific country. There have been a small number of country wide surveys which have contrasted various country eParticipation scenarios, but there has been little research that has investigated cross-border issues. With growing global migration there is a need to ensure that the scope of the research covers this challenging area.

There is then the need to consider the application of the technology – who is involved and for what reasons. To date the research focus has been primarily on how to design, apply and evaluate the technology in supporting the act of participation by citizens. Although some initial work has considered the role of politicians and their use of the technology. There is a need to understand better the politician's perspective, the NGO's perspective and others, we must be careful in scoping the area to include all stakeholders. But as well as these 'user' perspectives there are also various 'use' perspectives. To date the use of the technology has been primarily for disseminating information and developing participation tools, in fact the technology could do much more than this. Therefore in scoping the research area we should include not just the participatory actions but also the role of technology in the management, analysis and archiving of the information, dialogue and policy and rule development.

In scoping this area there is a need to say what eParticipation is not, and also how it is related to other areas such as eLearning and digital divide research.

The action of eParticipation and the research area surrounding it need scoping and a vocabulary agreed that can be shared. Defining the eParticipation space of action and research, and the tools, methods and actors within it, is made more difficult by the range of academic disciplines involved either fully or at the periphery of the subject. Identifying, mapping and getting agreement on the terms, their definitions and their relationships with each other will be a difficult ontological engineering task.

A.1.3 Supporting the research

Both in the USA and Europe, research funding models have not been supportive of multi-disciplinary research. Although this is changing, it is still a slow process and particularly in the EU the funding programmes tend to have labels such as IST which, in this case, means that the proposals must focus on the technological innovations typically at the expense of the socio-technical and social science research. eParticipation is a complex

and social phenomenon and as such can greatly benefit from the use of multiple disciplines. This fact must be recognized by the research funding bodies such that multidisciplinary research is fully accepted and financially supported.

As stated previously, there has been considerable research undertaken in eParticipation in different academic disciplines. It is time now to integrate the research in the relevant research themes that fall under eParticipation in a meaningful way. This should both help to advance the area and remove duplication of effort. There is a need to actively get the different disciplines talking together and exchanging research ideas and results. But whose responsibility is this – to a certain extent the researchers themselves must be willing to participant in joint conferences and workshops but also, again, the funding bodies must be willing to sponsor such events on a regular, long-term basis. We must ensure that all the critical disciplines are involved, and ask ourselves whether there are any missing subject areas in eParticipation. In this workshop, Law was seen as one of those disciplines currently missing from collaborative research teams.

As well as the multi-disciplinary nature of the research, the area involves many stakeholders who either have requirements for eParticipation or may be affected by eParticipation. A number of the participants at the workshop suggested that to progress the real-world advancement of eParticipation there was a need for more action research with real-world pilots and exchanges of experiences. Such knowledge exchanges must be between government doing eParticipation, citizens participating, technology providers and researchers.

The workshop was dominated by USA and European participants and it was felt that there was a need for more global oriented research and include non-western countries. There are specific issues relating to eParticipation research in traditionally non-democratic countries and such issues need to be included in our research agenda.

A.1.4 eParticipation research ideas and questions

During the workshop a number of direct research issues arose. These did not specifically focus on gaining an understanding of the eParticipation domain but rather on what research should be undertaken and therefore what research questions should be addressed in specific grant proposals. The questions have been grouped under seven sub-headings but clearly some have overlaps in other areas.

Designing eParticipation – general issues:

To date much of eParticipation in research and practice has been using existing tools, there is a feeling that eParticipation is being forced to fit these existing tools rather than the technology being designed specifically to meet participation requirements. Researchers need to better appreciate the appropriateness of qualitative and quantitative participation methods in different eParticipation contexts and with this knowledge design the technology, rather than force eParticipation into current tools. Having determined the eParticipation requirements there is a need to understand how to ensure impartiality in designing the tool and content. The issue of transparency is important in any participation initiative. Also, eParticipation systems need to be considered in the context of existing laws that pertain to government deliberations and decision-making processes.

In designing eParticipation for small-scale pilots there is also a need to follow through on this and understand how we move from pilots and experimentation to sustainable

eParticipation. However if we get more people involved how do we tackle the problems of scale? This is not just about the sheer number of people participating online but also the issues around large numbers of participants using different tools and methods to address the same policy issue, which becomes a scale, integration and interoperability problem. There are multi-channel, both offline and online, possibilities for eParticipation therefore we need to understand how to connect it all these together in a meaningful manner.

As researchers we need to understand the best ways to disseminate different types of information to different stakeholders, for example, what is the best way to inform people about decision-making issues, both short-term and long-term? What are the optimal group sizes for different eParticipation contexts?

Navigation and orientation

Workshop participants were concerned with information overload - there is so much 'talk' and so much information available over the web that it is difficult for anyone to find what they are interested in. Therefore there is a need for research into semantic navigation and search facilities. Once the information is found there is a need for related research to facilitate the understanding of the information. Connected to this is the need to understand how to 'link' users with similar ideas and provide mechanisms to dynamically establish and connect users to communities of interest.

Analysis of stakeholder input

The big research issue under this heading is the extent to which technology can analyse unstructured responses to consultations and support the summarisation of content from eParticipation tools such as blogs and discussion boards.

Security and privacy

Two research issues were raised here. One addressed the transparency issues and constraints related to identified contributions as opposed to anonymous contributions in eParticipation. The second concerned the need to be able to identify and prohibit one individual using multiple identifications to tilt the balance of a political discussion.

Evaluation

The overarching question here is simply what methods and techniques need to be used to provide 'complete' evaluation of eParticipation initiatives. Given the fact that technology can have a positive and negative effect on participation, there is a need to understand how to measure and articulate the benefits for participation, to better understand how technology is shaping participation, to understand how the technology influences the level and type of participation. Evaluation also needs to include the more difficult issue of impact – is eParticipation allowing people to influence decision-making.

Specific Social and Political issues

A fundamental question here is whether it is beneficial to get more people to participate on all issues - do citizens have the capacity to participate. If the answer is positive, then how do we reach more people such that the people engaged are not just the usual suspects and in this way ensure inclusion. Is the technology particularly advantageous in engaging young people?

Getting people to engage is one issue, but the harder issue is getting them to participate in meaningful manner. What guidelines and rules need to be put in place to support 'proper'

behaviour online, - whatever proper means given that at face-to-face political meetings there is much shouting and heckling. There is a need to understand the spontaneous nature of political engagement.

Specific technology issues

Clearly there is a huge range of technologies that could be used to support eParticipation and some will be more appropriate in certain contexts than others, but given this range there is a need to understand how we can merge different technologies to provide the best possible eParticipation design. Two other questions arose during the workshop, one concerned the relevance of OSS to eParticipation and the other concerned the possible impact of using proprietary software for citizen engagement.

A.2 Some Conclusions

The final session of the workshop started to consider the research priorities and in this section of the report we draw these together.

Throughout the workshop some issues arose time and time again and the need for a common vocabulary was one of these. An eParticipation ontology would provide a shared and common understanding of the eParticipation domain that could be communicated between all stakeholders and technology based systems.

We lack sufficient understanding of when and where eParticipation is valuable and valid. There are a number of ways to address this but one of them voiced during the workshop was through active research and real-world pilots. However, pilots should not just be small-scale. Our research also needs to understand how to address scalability and how to develop large-scale systems. We need to understand what tools and methods for what context for what size of group.

The majority of ICT research for eParticipation has been towards developing web-based applications for use on PCs. This needs to be extended and the research investigate integration and interoperability of other forms of communication for eParticipation, such as mobile devices and the use of voice and text.

The need to support meaningful debate and discussion by stakeholders regarding new rules and policies means that researchers need to better understand the nature of group discourse in eParticipation. This also implies research into how to better analyse unstructured ‘participatory’ text from eParticipation tools such as blogs and discussion boards and how various visualisation techniques might be used to support navigation through and understanding of such unstructured text and dialogue.

Finally, the issue of multidiscplinarity needs to be emphasised. Inter-disciplinary conferences and workshops should be encouraged as these help to share research results, develop new ways of thinking about an issue and ultimately result in joint research proposals to progress the area further.

(The full workshop report with list of participants and appendices can be found on the demo-net website under WP4 activities.)

B. Summary report on eDeliberation Workshop

It was decided to run a workshop at Leeds University to explore the diverse ways in which researchers conceive, define and analyse eDeliberation.

The purposes of this workshop were to

- to facilitate close and sustained co-operation between eParticipation researchers from different academic disciplines in order to better understand the notion of deliberation;
- to explore the specific opportunities and challenges of deliberation in a virtual environment;
- to identify research challenges which deliberation poses for both researchers, governments and citizens;
- to think about the socio-technical design of e-deliberative spaces; to link theories of deliberative democracy to current research on eParticipation

The workshop comprised four parts:

i) an introductory talk by Stephen Coleman on what we know about eDeliberation;

ii) a review of ongoing research with contributions from all workshop participants

iii) a discussion on the relationship between democratic theory and technological design

iv) future network collaborations

The workshop established a conceptual framework for thinking about eDeliberation. It was recognised that there are four ways to arrive at decisions about contested issues: violence, voting, bargaining and deliberation. Deliberation has two philosophical roots: Kant's concept of philosophical deliberation as a form of publicity and the Rosseauan and Habermasian tradition of communitarian judgement.

Deliberation is characterised by group decision-making; the exchange of public reason and a shared intention of resolving a problematic situation. Deliberation can be representative (a group on behalf of the public) or public (citizens themselves.) It can be based upon procedural or substantive/dialogical principles.

The benefits of deliberation are that

i) there is a public exchange of views

ii) it encourages citizen to be more informed

iii) it helps people to develop skills of arguing

iv) it can lead to increased trust or efficacy

v) it allows an increased range of views into the decision-making process

The barriers to deliberation are that

i) deliberative issues do not always seem relevant to everyday life and leave citizens feeling unconfident;

ii) the scale of decision-making is too big for most offline mechanisms;

iii) citizens possess unequal resources and cultural opportunities;

iv) powerful institutions often resist the process and outcomes of deliberation

Many claim that the internet might enhance opportunities for eDeliberation. Others argue that eDeliberation must be limited as a result of social inequality (exacerbated by digital divides); group polarisation: and its inefficacy in relation to institutional decision-making. The workshop considered evidence relating to each of these barriers.

The workshop concluded that there are several key questions that researchers should be attempting to answer in the future:

- What are the links between eDeliberation and public decision?
- How do people use the technology to express their views outside traditional deliberative systems and how does that affect the public sphere? Which online tools work to support online deliberation? What types of publics can be involved? How does an online environment support eDeliberation?
- How can we assess eDeliberation and how can we receive good quality? How do we define higher and lower quality messages? Is quality really an issue of scalability? Should we use "codes of conduct" from Argumentation Theory which promote better discussion?
- To what extent does the deliberative setting correlate with deliberative criteria such as accessibility of old and new media and the sophistication of information provided online?
- How to embed eParticipation in the framework of institutional democracy? How can we embed deliberative exercises to link them with a representative system?
- If there are different styles of citizenship – how can we relate this to deliberative exercises?
- What kind of job should we expect of eDeliberation to do and what are participants inclined to do? What are our target groups? How can we involve those people we want?
- What criteria have politicians in mind when they operate with eDeliberation facilities and what criteria do they have on how they will react to feedback?
- What are the levels of interaction in deliberation?
- Should we exclude emotions from discourse? Should the core be rational discourse, even if they have emotions behind them? Are we just taking about ideal communication rather than real human interactions?
- How can governance connect with communities?
- How do we design a socio-political environment of participation and deliberation?

- How do mainstream media express themselves in an online world?
- How can we start to teach deliberation?
- What is the difference between deliberation and critical thinking?
- What are the different argument repertoires?

Participants in the workshop were concerned to address the following methodological problems:

- Measuring the quality of online deliberation and defining quality criteria
- Linking mixed quantitative and qualitative methodological approaches
- Comparison of online and offline deliberation
- Observational methods: online ethnography, content analysis and ethnomethodology, a "triangulation" of methods
- Survey analysis: How do we analyse the non-users?; conduction of a European-wide attitude survey
- Analysis of web research tools and discursive structure of forums through content analysis is still open
- No existing consistent language, terminology, indicators for eDeliberation

Researchers at the workshop were of the view that the following academic disciplines could add to our knowledge of eDeliberation:

- Geographers
- Legal theorists
- Economists
- Psychologists
- Urban planners
- Visual Artisits

(The full workshop report with list of participants and appendices can be found on the demo-net website under WP4 activities.)

C. Summary Report on Knowledge management & semantic technologies in eParticipation Workshop

C.1 Introduction

This workshop was concerned with knowledge management and semantic technologies for eParticipation and in particular, evidence-based policy-making. Funded research to date focuses mainly on citizen service needs, and the important aspects of knowledge technologies for policy-making have been neglected. The domain involves a large amount of knowledge that must be made explicit in different formats at each stage of the policy-making life cycle to different stakeholders. This includes knowledge from many different sources and channels. Policy-making thus articulates one of the fundamental problems of information and knowledge management, that of abstraction of meaningful messages from large volumes of heterogeneous data.

Knowledge and semantic technologies are considered as key enabling technologies for making explicit the information implicitly contained in documents. Over the last few years there has been considerable research and development into ontological engineering, automatic and semi-automatic ontology creation and semantic interpretation of linguistic content. For this workshop, researchers were invited to submit white papers on the intersection of knowledge management, semantic technologies and eParticipation, reflecting on the meaning and practice of these technologies and their relationship to policy-making.

The workshop had the following specific objectives:

- To facilitate close and sustained cooperation between eParticipation researchers from different academic disciplines in order to better understand the role of knowledge management and semantic technologies in eParticipation processes
- To explore the specific opportunities and advantages that knowledge management and semantic technologies bring to eParticipation
- To identify research challenges which participation processes and practices pose for knowledge management and semantic technologies
- To think about the socio-economical issues related to the adoption of knowledge and semantic technologies in an eParticipation context.

Five papers were presented at the workshop. After each presentation there was detailed discussion where the participants were asked to consider the need for knowledge technology research to support eParticipation and the challenges and barriers to progress this. If eParticipation needs knowledge technologies, what exactly is the eParticipation knowledge that we have to manage? Are knowledge technologies mature enough in other domains, such as commerce, to demonstrate their usefulness in the eParticipation domain? Is there sufficient scope and are there sufficient difficulties in eParticipation that require knowledge technologies and new research in this area?

C.2 Issues arising

eParticipation is a relatively new and emerging area of research. Funded research to date has focused mainly on small-scale government engagement with citizens. Important aspects of large-scale engagement to support evidence-based policy making has been very limited. Therefore, it is perhaps not surprising that the need for, and the role of, knowledge technologies to support eParticipation have been neglected. In contrast, research into knowledge technologies has developed over the last twenty years through a number of EU funded research programmes that have supported both the development of the basic technologies and also the application of the tools and techniques in domains such as business and manufacturing. Given the success, or otherwise, of knowledge technologies in these very much bounded domains of commercial and industrial practice are there sufficient opportunities for knowledge technologies in the very much unbounded domain of eParticipation?

The issues arising in the workshop are grouped under five headings:

1. What is eParticipation knowledge and what are its characteristics?
2. Does eParticipation need knowledge technologies and what are the potential benefits of applying such tools and techniques?
3. Are there sufficient unique difficulties in eParticipation that require knowledge technology research in its own right?

C.2.1 What is eParticipation knowledge and what are its characteristics?

There is a need to understand the type and characteristics of the eParticipation knowledge we need to manage. However, the aspect of what constitutes ‘knowledge’ in eParticipation is interesting as it poses a number of challenges to current knowledge technology research.

This knowledge can be viewed from a ‘government’ and a ‘community’ perspective.

From the top-down view there is knowledge about how the legal system works, the knowledge of how we develop policy, and knowledge of how we make decisions under a representative model of democracy. All these can be considered knowledge about ‘democratic processes’. There is also the factual knowledge about rules, regulations and existing policy, etc. Given the fact that policy can take years to develop and involves many cycles of activity, this knowledge tends to evolve slowly over time, with some instances of the knowledge becoming redundant or obsolete.

From the ground-up view, we can take, as an example, knowledge of citizens’ rights, but other more informal knowledge is equally important from this perspective. Community networks are important for public dialogue on emerging policy and to monitor existing policy, therefore the unstructured knowledge contained in these needs to be identified, acquired and analyzed. Civic intelligence, which is distributed within a community of practice, is a source of knowledge. Citizens live and work in a territory and as such become the real experts and practitioners of a territory. Again, the knowledge is dynamically emerging over time.

The knowledge itself can reside in formal documents, for example, legal documents, draft policy documents, committee reports, expert reports, consultations and informal documents such as recorded discussions and debates. Communities produces cognitive materials, for example, forums, documents, blogs, podcasts etc, again this material is not aggregated or structured but very much informal. Some of this informal knowledge will be fact-based others may be emotional-based – each having a place in the development of workable policy for a community.

This eParticipation knowledge has a number of characteristics which potentially differentiate it from other types of knowledge. Trust in knowledge is a complex characteristic for eParticipation knowledge. This can involve trust in the source of the knowledge, trust in how the knowledge is used, ie the correct context, and trust in how the knowledge is disseminated and shared. The 'trust' value of the knowledge may be different depending on who the user is and what perspective they bring to the debating table. All this implies that knowledge technologies need to account for the rational of why that knowledge is there, traceability of contributed knowledge and its accountability in use.

There also remains an important question as to how much knowledge is needed and/or actually used to form a political opinion and ultimately develop policy.

C.2.2 Does eParticipation need knowledge technologies - what are the potential benefits of applying them?

In industry and commerce the benefits of using knowledge technologies have been widely published. Knowledge technology initiatives are typically tied to business goals and are intended to lead to the achievement of specific outcomes such as shared intelligence, improved performance, competitive advantage, or new product innovation.

In eParticipation there are similar benefits but the focus tends to be less defined and different for the various stakeholders. One clear benefit is the potential for better grounded policy outcomes. There are also opportunities for knowledge technologies to record the lengthy and complex process of decision-making, which in turn can help to resolve conflicts and support consensus

Given the proven success of knowledge technologies in the business world, one could argue that the consequences of social and economic failure in producing the wrong policy are so high that knowledge technologies should be used.

Therefore one can consider the objectives of using knowledge technologies in eParticipation as: enabling informed decisions, better quality decisions, less chance of failure in not getting policy right. Other, more general eParticipation objectives are support in: problem solving, conflict resolution and consensus building.

C.2.3 Are there sufficient unique requirements in eParticipation that require knowledge technology research in its own right?

The wikipedia (http://en.wikipedia.org/wiki/Knowledge_management) describes 'Knowledge Management' as referring to a range of practices used by organisations to identify, create, represent, and distribute knowledge or reuse, awareness and learning across the organisation.

This very description of knowledge management immediately poses problems for knowledge technologies within the eParticipation domain. What are the boundaries, can we impose such boundaries so as to define a quasi organisation across which to share the acquired knowledge? One could argue that eParticipation activities are taking place in closed communities - often there is a natural boundary relating to the affected community. On the other hand, eParticipation provides an opportunity to cross boundaries - sharing knowledge across or between communities facing similar political issues.

Published papers talk about knowledge technologies helping such organisations to achieve their business objectives, in an eParticipation context these business objectives could be considered as good policy outcomes but from whose perspective and is it possible for all stakeholders to agree these?

Then there is the actual knowledge itself and as discussed earlier this is both factual and opinion-based and trust is a key issue. If we consider the 'seci model' of Nonaka and Takeuchi, we need to understand the socialisation, externalisation, combination, internalisation spiral for the knowledge which within eParticipation is a complex model.

The users of this shared knowledge cannot be considered as workers/professionals in an organisation wanting to achieve a shared business goal, but rather as a complex grouping of stakeholders. The social complexity of this large group of users needs to be understand in order to realise knowledge sharing. Then there is the 'ownership' of the contributed knowledge, where different stakeholders from different organisation will have part ownership. Here the issue of rationalising between different knowledge sources, such as CSO, NGOs and government will be complex as the very knowledge may be conflicting.

There is a need to understand how to integrate knowledge technologies into policy development and how to map knowledge management processes into existing democratic decision-making processes.

Therefore, to summarise, the unique requirements facing knowledge technologies for eParticipation include:

- Integration of knowledge management processes into eParticipation contexts and in particular the policy life-cycle phases.
- Understanding how knowledge technologies can support 'wick-problem' solving and recording of decisions
- Enabling shared ownership of knowledge and relevant knowledge processes, when the owners originate from different organizations with different perspectives.
- Understanding how to represent trust in different types of knowledge and use this trust in knowledge sharing – perhaps leading to a requirement for an instrument for evaluating different types of knowledge.
- Understanding the subsidiarity of eParticipation knowledge, i.e. what is relevant to the appropriate government level (local, regional, etc.)

C.3 Some conclusions

This workshop attempted to understand to what extent existing knowledge management and semantic technologies can be applied to eParticipation and what new research is necessary for this emerging domain. The five workshop papers highlighted the limited work that has so far been undertaken in KM for eParticipation. Most presentations either presented what has been done in other domains and therefore there possible relevance to eParticipation or a wish-list of what would be beneficial to achieve.

Knowledge technologies for eParticipation can be viewed as requiring knowledge technologies from other areas of applied research as in Figure 15 as well new research in knowledge technologies.

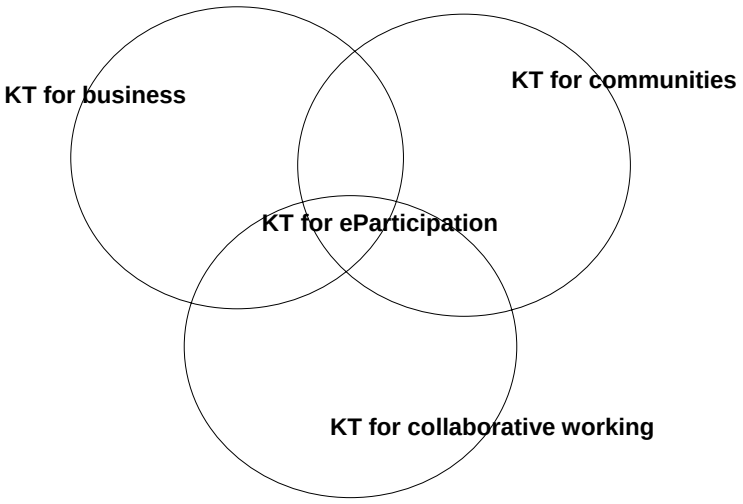

Figure 15: applied areas for knowledge technologies

The overall conclusion was that there was a need for specific knowledge technology research for eParticipation. eParticipation has some unique characteristics that require specific tools and techniques. There appear to be differences in the way knowledge has to be represented and shared between socially complex communities as opposed to knowledge technologies for corporate business. However, there was also consensus that applied research was necessary so that existing knowledge technologies could be evaluated in an eParticipation context.

(The full workshop report with list of participants and appendices can be found on the demo-net website under WP4 activities.)

D. Future eParticipation research workshops

Under WP4 a number of research workshops have been organised on specific eParticipation activities identified through the survey in order to better conceptualise that research activity. The objectives of these workshops are:

- to facilitate close and sustained co-operation between eParticipation researchers from different academic disciplines in order to better understand the notion of the specific eParticipation research activity;
- to explore the specific opportunities and challenges of the eParticipation activity in a virtual environment;
- to identify research challenges which the eParticipation activity poses for both researchers, governments and citizens;
- to think about the socio-technical design;
- to link theories to current research on eParticipation

In total, seven workshops have been organised which are listed below.

1. Deliberation – October 2006 at the University of Leeds, UK
2. Knowledge management for eParticipation – December 2006, at the Institute of Communication and Computer Systems, Athens
3. eParticipation Public Policies – January 2007 at the University of Bergamo, Italy
4. Discourse & Argument Visualisation – March 2007 at Fraunhofer (Berlin), Germany
5. eParticipation and inclusion – April 2007 at the Örebro University, Sweden
6. Evaluating eParticipation– June 2007 at the Institut für Informationsmanagment, Germany
7. Community informatics – autumn 2007 at Fraunhofer (Bonn), Germany

The first two workshops took place in 2006 and summary reports of these have been presented earlier in the Apendices. The remaining workshops will for an important part of WP4 in phase 2 of the DEMO-net work plan.