

# CeDEM11

Proceedings of the International  
Conference for E-Democracy and Open Government

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Peter Parycek, Manuel J. Kripp, Noella Edelmann  
(Editors)

## **CeDEM11**

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# CeDEM11 Editorial

Vienna/Krems, Austria, May 2011

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**D**uring the last 10 years, electronic democracy has developed a range of very different characteristics based on the triad of electronic government, electronic participation and electronic voting. Nowadays, the term electronic democracy is being increasingly replaced by the term “open democracy”. This new term mirrors the increasing diversity as well as new forms of citizen engagement. Social networking, democracy, open government and open data are just a few buzzwords describing this development which results in new social behaviours and requirements like transparency of processes. The Conference of E-Democracy and Open Government (CeDEM) units all these different aspects and reflects this diversity with a wide range of contributions made by the participants.

The CeDEM11 represents a collaboration between the Department of Governance and Public Administration at the Danube University Krems and the Competence Center for Electronic Voting and Participation (E-Voting.CC) in Vienna as well as the continuation of the successful history of electronic democracy conferences and research at the Danube University. Combining the competence and experience of two well-established institutions in the field of electronic democracy and electronic voting, the CeDEM11 once again embarks on its journey of bringing together academic experts, practitioners, government and public authority representatives, developers of e-democracy tools and researchers from different fields.

The CeDEM11 is a conference presenting 23 state-of-the-art research papers selected in a double-blind review process. The number of submissions was overwhelming and a strict acceptance policy ensured the high quality of the papers presented in these proceedings.

CeDEM11 is known for its interdisciplinary approach bringing together the most important stakeholders. To enhance this approach, the conference and the proceedings include the keynotes' presentations as well as the short papers presented during the lightning talks. Such short papers have been reviewed and selected on the basis of the new and interesting contributions they are able to make to the field of e-democracy.

The first part of the proceedings contains the keynotes' presentations. Our distinguished and experienced speakers are Douglas Schuler, Caroline Haythornwaite, Axel Bruns and Stefan Gehrke, they cover several aspects of electronic deliberation, citizen participation and open data to provide food for thought and stimulate discussions.

The second to the forth part of the proceedings present the academic papers that have been reviewed in a double-blind peer-review process. The second part deals with the field of e-democracy and e-participation, with papers analysing the general contribution of e-participation to democracy (Östling), the influence of social networks (Szabo) as well as practical experience and applications from several countries (for example, Zafiropolous et al.).

Papers on open government and open data are presented in the third part of the proceedings. Papers discuss amongst others the application and the influence of open government methods in the public service (Geiger/von Lucke), analyse the use of social media for governments for monitoring and managing self-reputation online.

The forth part contains selected papers from the area of e-voting analysing the application of different voting technologies (Demirel et al., Mac Namara et al.), discussing the verifiability of voting systems (Dubuis et. al) and present new findings on voter trust in the Netherlands (Lober) as well as an analysis of electronic decision-making in the EU (Balthasar).

The short papers are published in part five and present interesting and new research as well as practical experiences from all fields of electronic democracy, thus enhancing and embracing the interdisciplinary approach of the CeDEM11 conference.

The editors would like to thank all contributors and authors for the participation in CeDEM, because knowledge and expertise are the cornerstones of successful academic conferences.

Furthermore, the editors would like to thank the Austrian Federal Ministry of Science and Research and the Austrian Federal Computing Centre for supporting the publication of these proceedings.

Finally, the editors would like to thank Michael Sachs and Nicole Waldorf for the management and organisation of this conference and ensuring its continued success.

*Peter Parycek*  
*Manuel J. Kripp*  
*Noella Edelmann*

# Keynotes





# Deliberation that Matters

*Realizing the Potential for Civic Intelligence*

## Douglas Schuler

*Program Director for the Public Sphere Project; Member of the faculty at The Evergreen State College, Olympia, Washington, USA*

**Abstract:** *This paper is intended to provide additional discussion for a presentation that was given at CeDEM11, the Conference for E-Democracy and Open Government in May 2011 (Schuler, 2011).*

*Deliberation is an important aspect of civic intelligence, the ability of societies and other collectivities to address civic ends through civic means. Civic intelligence asks the question, "Will we be smart enough, soon enough?" It is through the lens of civic intelligence that ideas for promoting more widespread use of deliberation are presented. This paper talks less about deliberation as it occurs (or could occur) in particular times and places (or what I call deliberation-in-the-small) and more about societies in which deliberation is (or could be) central to the way they operate (or what I call deliberation-in-the-large). Deliberation-in-the-large looks at how deliberation arises and its consequences in society. The paper looks at the current — and possible future — contexts / environment for deliberation. It also makes several recommendations as to how we might proceed in making deliberation more of a conscious, explicit, and public project / goal.*

*This paper is intended to raise relevant points and suggest useful perspectives for promoting deliberation worldwide, rather than provide a definitive or comprehensive program.*

**Keywords:** Deliberation, civic intelligence, deliberation-in-the-small, deliberation-in-the-large, global project

## 1. Deliberation is Critical

**H**istory is riddled with collective actions whose explicit and primary objectives were death and destruction. War is the clearest and most direct expression of these objectives, although oppression and environmental abuse also take their tolls acting within a variety of space- and time- frames.

Although these manifold lapses in civic intelligence have provided untold misery throughout humankind's visitation on the planet, there is mounting evidence that the worst is yet to come. The unprecedented combination of large populations with increasingly strong demands, shrinking and increasingly despoiled natural resources widening economic inequality, and tighter and increasingly more complex interconnections between people worldwide could work together to help create unpredictable and vast "perfect storms." The recent food shortages around the world (and the civil strife that generally accompanies them) that seem to be increasing in frequency may be foreshadowing more intense disasters ahead. The specter of these dystopian futures could be the occasion for collective reasoning (deliberation) on a large scale. It could also be the occasion for increased suspicion, xenophobia, and wars — the "solutions" of yesterday. The acute need for

collective deliberation not only to forestall some of humankind's habitual non-solutions but to construct collective capacity for addressing future challenges is what could be called a civic intelligence emergency.

Deliberation works towards the reconciliation of shared problems in a conscious way that is viewed as legitimate by all parties involved. The alternatives to this are (1) not addressing problems that are known to exist (because they are believed to be insolvable, natural or, even, beneficial); (2) reconciling differences through exploitation or force (asymmetric solutions); or (3) simply ignoring shared problems and "letting the chips fall where they may."

Not only does deliberation increase the chances of avoiding violent "solutions" to collective problems, collective thinking (deliberation) about the problems we currently face is more likely to result in outcomes that are less catastrophic than they might have been, thus improving our chances for surviving them. Ideally deliberation can build civic intelligence.

The possibility that the quality of humankind's future may hinge on our inclination and ability to engage in meaning deliberation introduces a degree of urgency that is generally alien to academics and others in this field. The rest of this paper is devoted to a discussion of how, working together, we could translate this urgency into a deliberative project or projects that would have some likelihood of being ready by the time they were needed.

## 2. "Ordinary" People are Key

When I use the modifier "ordinary" to describe people I use it to identify those people who generally are not of the political or economic elite. I prefer to use the word "citizen" to mean these people, regardless of whether they're "ordinary" or "extraordinary" and whether or not they are recognized as holding formal citizenship.

Citizens are needed not only to ratify decisions of elites but to be the source of innovation as well. After all, in many cases citizens who are directly affected by an issue are likely to know more about it than academics or policy-makers physically remote from the problem. Citizens in many cases must also be the guardians and protectors since political and economic elite in their capacity as gatekeepers, bankers, lawmakers, etc. tend to reroute public money into their own pockets.

Progress in deliberation makes little sense if citizens — ordinary and not-so-ordinary people — are not central players. Yet citizens are generally not in the forefront of the work of deliberation, nor is there much effort on the part of government or others to make it so.

We need to consider a wide range of options to expand this work — and these ideas — within the citizenry. Forming various partnerships will likely be key. It will be important to consider non-traditional approaches that popularize this work without compromising the integrity and values of the deliberative community.

## 3. Business as Usual Isn't Enough

Putting our faith in the systems and trajectories that are already in place is, of course, one option. After all, there are a plethora of reasons that support this view. Certainly all of the existing institutions have legitimizing beliefs, objectives, and slogans that support the view that they will do the jobs that are required of them. And, realistically, who has the time to fight or to transform the powerful institutionalized forces that have brought us to where we are? It is not easy for individual institutions to change course, let alone large numbers of them. Complexity and sheer size of the institutions means that the institutions are more like battle ships and less like speed boats capable of dexterous course corrections. Institutions, without radically new material circumstances or strong encouragement from outside, or both, are unlikely to waver from the trajectory they are already

following. And, at the same time, powerful individual interests are often invested in maintaining the status quo.

The political and economic elites who nominally are "running the show" aren't the only ones guided by inertia. The citizenry represents the other side of the coin. They are invested in letting the ordained experts and bureaucrats take charge because they have little time (or interest) to invest in this and they're likely to be ignored anyway. And — at least in the United States — where the movement is for "small government", the idea is to get rid of government entirely so that the "free market" can "govern", thus providing citizens with another reason to not get involved but from the opposite point-of-view.

#### 4. Challenges to Successful Deliberation

A civic intelligence orientation suggests that it's useful to view the world from two vantage points. The first considers the widely distributed collectivity that consists of current and potential stakeholders while the second focuses on the environment "outside" of that collectivity that influences and is influenced by the deliberative activities of the collectivity. The world "out there" includes characteristics of the deliberative issues confronting the deliberative stakeholder collectivity — the issues that require deliberation. It also includes the people and institutions who help determine what shape the environment for deliberation is and will be.

One of the first considerations of the first vantage point is our own mental model. This includes the "rules of engagement" with the rest of the world. Unfortunately, these "rules" often implicitly or explicitly call for *non*-engagement, for example keeping the work known only to a select group of academics. We also may not have sufficient appreciation of the importance of our work and for that reason may not believe that it is ready for prime time.

There may also have other deficits; we may lack the requisite store of knowledge that would actually prove useful in setting up deliberative processes. There could be a lack of partners with an adequate interest or skill levels. Our hoped-for partnerships might never gel into an effective working relationship. We may have an inability to communicate with other groups and/or lack of experience communicating between groups. Furthermore we could lack deliberative venues (or resources to develop them) or ultimately be unable to forge connections between deliberation and action.

We are also faced with another vexing challenge: any consideration of civic intelligence must consider civic *ignorance* as well. The world is not lacking for organizations and people who cultivate civic ignorance — and here I mean ignorance, like intelligence, that is *actively* constructed; i.e. it's not merely *lack* of knowledge, which can be seen as *neutral*). A study by Greenpeace as reported in the *Financial Times* (March 4, 2011) provides an interesting example. The article stated that the wealthy Koch brothers in the United States "spent \$24.9m between 2005 and 2008" to fund what Greenpeace calls a "climate denial machine" whose primary aim was to muddy the discussion (and, hence, the minds of citizens) in regard to the findings of the climate research community.

#### 5. Deliberation that Matters

How do we meet the challenges posed in the section above? The first is that we need to consider both deliberation-in-the-small and deliberation-in-the-large at the same time. If we ignore deliberation-in-the-small then deliberation-in-the-large makes no sense. If we ignore deliberation-in-the-large then deliberation-in-the-small, however effective it might be, will go nowhere.

The working hypothesis is that legitimate deliberation within communities and — most importantly — across communities would be necessary (but not sufficient) for addressing the challenges of our era. This hypothesis cannot, of course, be proved to be true or false. Assuming it to be true, however, presents immense challenges and minimal danger. It explicitly endorses the belief that disputes can be addressed in a civilized manner without recourse to violence or exploitation; at the very least, it gives us permission to try. Beyond that it helps set up the *possibility* of a better future, thus establishing some directions in which to set our civic intelligence towards.

Intelligence itself is not one thing but a system of integrated functions. Therefore, if we choose to build on a notion of civic intelligence, we would need to establish a variety of informational, communicative, and cognitive resources. And in an era of more intensely integrated and distributed information and communication networks it is important to note the new opportunities and challenges that this brings. For one thing, the distributed nature of the networks means that deliberative (as well as other communicative) processes and capabilities as well as relevant information resources need not be present equally in all locations; they can be unequally represented and distributed across a variety of locations that are linked in a variety of ways. The flip side of this situation is that the functionality and data stores can be (and *are*) so "distributed" as to be not connected. One interesting issue arising from the topography of the deliberative networks is that there is apparently no way to know if the complex is optimum or near-optimum. This is the problem of intentionally imposing order (or structure) on a complex that is inherently unordered. The flip-side of this challenge is that a too-rigid structure (however it was imposed) could stifle innovation or other productive development of the socio-technological complex. One approach to this is to explore ways in which indirect coordination can occur.

A critical aspect of this endeavor is our own consciousness since these defines our approach to the world and to each other. At a minimum this includes how we think (and know), how we act, and how we interact with the world. The following list suggests a variety of new interactions that we'd need to seriously adopt:

- Work, with partners and autonomously
- Consciously build community
- Communicate
- Build online systems, resources, and tools — among other things
- Institutionalize and establish organizations that promote deliberation
- Experiment, but test in the field — not in the lab!

I have also been exploring the idea of advancing this cause through a public declaration or manifesto. I presented (and informally proposed) this idea as both the Stanford Declaration and the Leeds Declaration (Schuler, 2010) after the venue in which the idea was proposed. The following paragraph taken from the Leeds Declaration discusses the purpose of such a declaration:

*The purpose of this declaration is to raise the stature of citizen deliberation with the hopes of increasing its reach, effectiveness, inclusiveness, and legitimacy. In the preamble we can acknowledge that this is an extremely complex project that will require years of nuanced, creative and thoughtful negotiation and collaboration. We are aware that this project will have to address an extremely broad range of social and cross-cultural factors. We, however, believe that beginning this discussion in an explicit and open way is preferable to many other varieties of globalization that lack this transparency.*

Finally, it may turn out that projects like this will require new habits of work and new institutions. This could also include the idea of doing things without pay. Although it may be difficult to imagine

this as viable, one option would be to essentially tithe a certain percentage of time (or other resource) for work that could be said to support this project. This allows one to essentially free him or herself from the existing constraints and work in a way that is guided by the needs of the project. While this vision may only serve as a hopefully useful thought-experiment to identify actual social needs, it may also turn out that the vision doesn't have to be pursued without remuneration.

## 6. Inventing the Future by Building It

Alan Kay, the inventor of the Dynabook, remarked that "The best way to invent the future is to build it." While this statement may be untrue on a parallel earth, it's certainly true here. The society-as-machine model where social roles are tightly constrained within a strict "division of labor" is not likely to create the strong sort of deliberation-orientation that society needs to address the challenges it faces. Deliberation is a central capability in a society that takes its own civic intelligence seriously. It's time to spread that message — and the work — effectively and expeditiously. We *can* reinvent our future — but we must start now.

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### About the Author

*Douglas Schuler*

Douglas Schuler has written and coedited several books, including *Participatory Design: Principles and Practices* (Erlbaum, 1994), *New Community Networks: Wired for Change* (Addison-Wesley, 1996, and most recently, *Liberating Voices: A Pattern Language for Communication Revolution* (MIT Press, 2008). He is president of the Public Sphere Project (<http://www.publicsphereproject.org/>) and former chair of Computer Professionals for Social Responsibility. He is also a co-founder of the Seattle Community Network, a free, public access computer network supporting community and civic engagement that first went online in 1994. He is a member of the Faculty at The Evergreen State College in Olympia, Washington, a non-traditional liberal arts college. He has a masters degree in computer science (University of Washington) and a masters degree in software engineering (Seattle University).





# Democratic Process in Online Crowds and Communities

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**Abstract:** *This paper explores the underlying structures that support participation and reputation in online crowd and community-based peer productions. Building on writings on open source, peer production, participatory culture, and social networks, the paper describes the social structures as ends of a continuum of collective action from lightweight to heavyweight. This is followed by an examination of the recognition, reputation and reward systems that support these collectives, and how these affect who controls and who contributes information. The aim of this is to gain insight for understanding e-participation in these different, potentially democratic, forums.*

**Keywords:** Crowds, communities, peer production, social networks, participation, collective action, online communities, crowdsourcing

**Acknowledgement:** Papers on lightweight/crowd- and heavyweight/community-sourced peer productions have been presented previously at the *Hawaii International Conference on System Sciences* (2009), at the conference on *Knowledge Communities* held in Reno, Nevada at the Center for Basque Studies (2009), and as part of the Leverhulme Trust Public Lecture in a series on “Learning Networks” in 2009-10. Thanks go to participants at these events for their comments and support in pursuing these ideas.

In 2005, Bill Gates wrote that we now live in an “information democracy” made possible by the information freely available on the Internet, but adds that “while we’ve gone a long way toward optimizing how we use information, we haven’t yet done the same for knowledge” (p.84). While there is still a long way to go in devising tools to enhance ways of extracting knowledge from the vastness of Internet information space, the collective action of individuals worldwide is already at work on the problem. We are seeing now the emergence of many ways in which knowledge collectives are forming on the Internet, providing structure, focus and communities that add meaning to information. While online communities were the surprise of the first wave of online organizing, crowds are the more recent manifestation of collective action. Meantime, individual presence online has evolved from having a web page, as marked by the first Web 1.0 wave of online participation, to the kind of relational visibility and interactivity that marks Web 2.0 contribution and participation. Of great interest in terms of information democracy are the patterns and configurations within that sphere that affect equity in that democracy. Why, for example, do some contributions gain greater visibility than others? What reputation and recognition systems are being enacted online that shape the information landscape? And, what are the implications of these configurations for a voice in such a democracy?

Among the many emerging forms of organizing online are the two extremes of crowds and communities. Elsewhere I have articulated a set of organizing principles that distinguish crowds and communities, yet place them at two ends of a continuum (Haythornthwaite, 2009, 2011). The

work builds on research about structures and motivations associated with open source (Raymond, 1999), peer production (Benkler, 2006), and participatory culture (Jenkins, 2006), as well as drawing on my own work and that of others on structural aspects of social networks both offline and online and motivation for contribution in crowds and communities (Wasserman & Faust, 1996; Scott & Carrington, 2011; Wellman et al, 1996; Haythornthwaite, 2005, 2008; Budhathoki, 2010).

Examining the structures that support online crowds and communities suggests a continuity in knowledge organizing, with crowdsourced examples falling at what I have referred to as a 'lightweight' end of contributory behavior and community-based examples at a 'heavyweight' end (where weight refers to the commitment to the collective rather than to the importance of the work). I chose the terms lightweight and heavyweight to avoid connotations associated with other terms for such collectives, such as crowds, cooperatives, collaborations, communities, and peer productions, as well as to avoid associations with common examples such as Wikipedia which is crowdsourced yet contains in its Talk pages structural aspects of communities. My interest in these forms is in teasing out the organizational and motivational structures that underpin collective forms of organizing, leaving the judgment of collaboration, community and democracy to be addressed through evaluation of what a particular collective has actually enacted.

This paper uses this attention to organizational forms and motivations to suggest what is affecting the implementation of an information democracy. The paper begins with a recap of the ideas of lightweight and heavyweight peer production as outlined in earlier papers. This is followed by an examination of the recognition, reputation and reward systems that support these collectives, and how these affect who controls and who contributes information. The aim is to gain insight for understanding e-participation in these different, potentially democratic, forums.

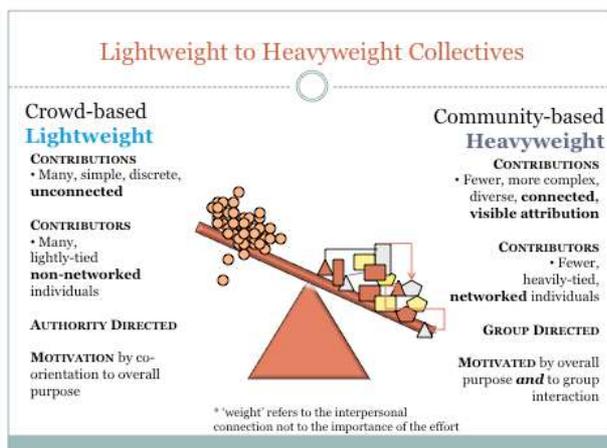
## 1. Lightweight and Heavyweight Forms of Organizing

Online crowds and communities describe two very different forms of organizing. The former harnesses the reach of the Internet and the ubiquity of access to draw in contributions from many different individuals. In keeping with the idea of crowds, we expect a lot of contributors all moving toward the same goal, maintaining attention to an event external to themselves – the crowd at a football game, demonstrators at a political rally. We also expect the crowd to disperse as the event ends, moving on individually to other pursuits. In keeping with the idea of the Internet, we expect common access, and easy submission toward an overall goal. We can also add a longer timeframe to our crowds as collective action is not chained to a real-time event and a co-located critical mass of participants. And, in keeping with organizational ideas, we expect similar contributions, anonymous and independent, that together support a larger enterprise, as in the piece work that sustains a manufacturing operation.

By contrast, in keeping with the idea of communities, we expect a more limited set of contributors, committed to each other, the community, and the goals of that community. In keeping with group behavior, contributors belong because they possess some credential, whether that is as simple as living in the same geographical neighborhood or common membership in an organization, or a more complicated set of acquired credentials, such as that necessary to claim membership in the medical or academic community. By contrast with crowds, communities demonstrate diversity in roles and niches; tasks and inputs differ, reflecting expertise and differentiation among contributors; outcomes depend on interconnection of tasks and people that serve and create the community as a whole. The timeframe for a community extends beyond a single event, and beyond the participants themselves; communities maintain a structure where individuals may entry and exit, yet the whole retains its shape and purpose.

There are many more attributes to describe crowds and communities. But since, as noted above, the terms carry such established connotations, to articulate the attributes without labeling the resulting form, I switch now to using the lightweight to heavyweight continuum as a way to address structures rather than extant examples of online collectives.

Figure 1 provides a visual depiction of the light- to heavyweight forms of collectives. In brief, the *lightweight* end of the figure describes the most instrumental of crowdsourced enterprises. Examples at this extreme lightweight end include participation in distributed computing efforts that allow access to a participant's idle computer cycles, such as applications that use the Berkeley Open Infrastructure for Network Computing (BOINC), e.g., SETI@home. Also at the lightweight end are sites that ask for human action that requires little learning or apprenticeship. Examples include GalaxyZoo (<http://galaxyzoo.org>) which asks contributors to answer a series of questions about galaxy shapes based on what they see in an image of a galaxy; and Distributed Proofreaders (<http://www.pgdp.net/c/>; also discussed in Benkler, 2006) which asks individuals to proof read and correct texts that have been created using optical character recognition (OCR) programs by comparing to the original image. A similar venture in the commercial realm is Mechanical Turk which asks contributors to complete small tasks for small amounts of money (e.g., 2 cents a response). Moving a little further along the lightweight end, we can add in sites like 23andWe where participants who have already submitted a sample for genomic testing (see 23andMe) are invited to participate in surveys that are aggregated for research studies of genetics. And still along the relatively lightweight end are the contributory portions of online wikis, such as Wikipedia for general knowledge, and OpenStreetMap for geographical data.



**Figure 1: Lightweight to Heavyweight Collectives**

What is common across these and similar lightweight peer productions is that it takes little to be allowed to contribute: little time to learn how to contribute and little time to make the contributions, with minimal rewards for participation. As depicted in Figure 1, contributions are basically the same, and they are separate and distinct. No coordination is required with other contributors, nor with previous contributions; each task is independent and does not depend of completion of earlier tasks. This is piece work, completed by independent contractors, unknown to each other, but tied by common connection to the site or activity on the site.

By contrast, the *heavyweight* end describes collectives where participants are tied both by the connection to the site or activity *and* by the connection to each other. These collectives distinguish involvement by meeting strong requirements for credentials either developed within the community as novices become experts, or by invitations to join extended to those considered already qualified. Becoming a recognized member of the collective requires learning and adopting community practices. Tasks are completed in concert with others, and with awareness and attention to the

work, opinions and practices of others. These collectives are exemplified by virtual communities, online discussion groups, distributed teams, and collaborative research groups. Through processes of group awareness, combined with attention to the motivation for the group's existence, norms and practices are developed and followed that support group processes. Among the processes that members of heavyweight peer productions learn and practice are proper forms of discourse (Miller, 1994), collaboration, and communication (DeSanctis & Poole, 1994; Orlikowski, 2002; Haythornthwaite Lunsford, Bowker & Bruce, 2006; Haythornthwaite, 2006).

What is common across heavyweight collectives is that it takes time to become and be known as a member; and it takes adherence to norms to remain a member. Through observation of other members' actions they gain and act in the group based on their understanding of others place in the collective, their expertise, and the group structure (i.e., they gain transactive memory, such as who is the expert on what, who knows what, or who is friends with whom (Wegner, 1987; Krackhardt, 1987; Moreland, 1999; Hollingshead, Fulk and Monge, 2002). Such knowledge helps individuals locate as well as allocate information in the network, supporting the differentiation of individuals and their roles in the group. These actions build the social capital of the group, which includes group practices in support of information and knowledge retention and mobilization (Cohen & Levinthal, 1990; Lin, 1999; Burt, 2000; Haythornthwaite, 2010). Social capital can also include the process through which community norms are policed and controlled, from group 'policing' that shuns trolls and off-topic discussion (McLaughlin et al, 1995), to contracts that provide trust in community practices through the support of legal structures (Burt, 2000).

After many years of research on virtual communities, it is generally accepted that these kinds of heavyweight communities can and do exist online, and can be found in e-learning groups, academic discussion groups, online multi-player games, and more. Over the years, many authors have articulated the differences between offline and online groups, notably in asynchronous participation, lack of visual presence of members, etc., yet, community norms have also emerged over and over again, adapted and transformed to the venue of computer-mediated communication (e.g., Baym, 1995; Jones, 1995; McLaughlin, Osborne, & Smith, 1995; Haythornthwaite, Kazmer, Robins & Shoemaker, 2000; Kendall, 2002; Preece & Maloney-Krichmar, 2005; Haythornthwaite, 2005)). We are at the point where debating whether community can 'exist' online is not as important as articulating what makes a better or worse community online, and how to keep up with its evolving forms (Haythornthwaite, 2007).

While virtual communities demonstrate the heaviest end of the continuum, wikis provide structures for community discussion that support a middle ground on communities. Their combination of front-stage information input and revision can be balanced by a back-stage discussion and debate on proper posting as well as interpersonal connection. They remain a middle ground because of the limited scope of attention, e.g., to the specific application (encyclopedia or mapping system), or information point(s) for participation (to the specific entry or range of entries, or to specific regions for mapping). Similarly in online support groups, lists and discussions, when the orientation to a condition, profession, region or purpose is narrow and remains narrowly observed, the collective demonstrates a middle ground between light and heavyweight. Discussion and internal recognition of actors exists, but remains concentrated on the topic at hand.

## **2. Social Network Connectivity**

Underpinning these ideas of light and heavyweight peer productions are the principles of social networks and social network ties, and the discussions that follow build on these principles to explain lightweight (crowd) and heavyweight (community) behaviors. Such peer productions rest on contributions by individuals to a collective whole, with interpersonal interactions ranging from

minimal, highly instrumental connections to frequent, multi-topic and multi-purpose, emotional connectivity. Studies of social networks have given us a vocabulary and set of techniques for addressing collectives through the social connections between actors rather than through aggregate behavior (e.g., Scott & Carrington, 2011). In social network terms, actors maintain relations (e.g., working together, socializing) that form ties (work ties, friendship ties); across a population of interest, these ties reveal the configurations of interaction that define the social network (e.g., work relationships among members of an organization).

The nature of ties is important for the discussion here. Ties are said to vary in strength from weak to strong, with strength discussed instrumentally in terms of number and types of relations maintained, frequency of interaction and reciprocity in exchanges, and less instrumentally in terms of the importance (to the actor(s)) of the relations maintained, and the intimacy of the relationship. A SN tie is said to exist if a connection exists between actors, and from ties we build to networks.

The first observation in relation to the light and heavyweight models is that a direct connection between contributors in the lightweight model is not required. Individuals add to a peer production without the need to interact with others or others' contributions. However, at this very light end, we can observe a connection through use of the site. Thus, two actors may be considered to be tied (very weakly) because they make contributions to the same site. This type of connection is derived from the idea of common exposure to information, and hence the development or pre-existence of a common orientation to a subject. Thus, if we read the same book (as in many city reading programs, e.g., Chicago's 'One Book, One Chicago'), we are exposed to the same ideas and thus have some common ground on a subject. It adds to the homophily between actors. Taking the same idea to crowdsourcing, we can make the assumption that individuals who contribute to a common project or site have some commonality in their attitudes or interests. Such is the basis for saying that participants in lightweight collectives are tied by their common connection to the peer production, and a *coorientation* to its purpose (Chaffee & McLeod, 1973).

Heavyweight peer productions demonstrate strong tie structures between actors in the network. Strong ties are multiplex, i.e., built on multiple points of commonality and interaction, supported through engagement in multiple relations, use of multiple forums for discussion, and reciprocity in exchanges. Notable for heavyweight collectives is that the ties are interpersonal, maintained between actors in the network. Of particular salience for distinguishing between lightweight and heavyweight peer productions is that visibility of actors and their individual and network interactions is necessary to build and sustain strong tie networks. Visibility builds the community as a recognizable structure to others, and also builds internal structures that define the collective, and, in the case of self-perpetuating networks, supports the collective independent of the individuals involved (i.e., persistent social structures that transcend individual membership). Visibility allows newcomers to a community to see and follow norms. Note that not all members of a heavyweight peer production or a community need to be strongly tied to every other member: novices, lurkers, and occasional contributors are all important for maintaining a community long-term. The point is that a heavyweight structure must exist and be continuously reinforced through adherence to and enactment of social norms (Contractor & Eisenberg, 1990; DeSanctis & Poole, 1994). Such a structure allows for visibility, contribution diversity, role differentiation, community monitoring and regulation, and reputation, recognition and reward structures in accordance with community norms.

### 3. Participation in Crowds to Communities

New forms of organizing that bring in crowds of strangers or support distributed communities of interest raise questions about individual motivations and perspectives on participation and engagement in these emerging democratic forms. As contributing online becomes technologically easier – whether clicking to give the 'thumbs-up' to a favorite posting, blogging on a topic of

interest, or contributing to wikis – the question remains of why individuals take the time and effort to make such a contribution. Theories and research on individual motivations about such behaviors are beginning to emerge, often with the aim of supporting frameworks for the design of social or commercial online collective efforts. Diversity in these enterprises is such that terms such as ‘community’, with its connotations of common ground and common goals, and ‘democracy’, with connotations of equal and open participation, are judgments that should only be applied *post hoc*, i.e., after evaluation of what the collective activity has been enacted. We also need to consider the tipping points of where collective action, e.g., in crowds, becomes a collective movement, e.g., in communities.

As above, to separate judgment of outcomes from structures, I continue to use the terms lightweight and heavyweight to help distinguish forms of organizing from outcomes. Building on the position outlined above, the remainder of this paper turns to consideration of the motivators and recognitions that provide the momentum for participation in the two ends of this continuum. A wide interpretation of participation is taken in keeping with ideas of an information democracy, ubiquitous learning, and participatory culture (Gates, 2005; Jenkins, 2006; Peters, 2007; Cope & Kalanzis, 2009). The discussion aims to articulate the array of participatory behaviors that support democratic activity from a single-click vote in lightweight structure to long-term engagement and debate in heavyweight peer productions.

### 3.1. Motivation

The Internet beckons as a forum for the open exchange of information and ideas. Yet, as initiatives for collective action appear, the question remains of why individuals will spend their time contributing to these efforts and/or how to motivate individuals to contribute. Mechanical Turk uses minor monetary rewards to gain attention, but what do other sites provide? In discussion of open source and open access contribution, writers such as Raymond (1998, 1999), Benkler (2005, 2006), and Willinsky (2005) all point to the dual motivation of a *personal-but-shared everyday need* as motivation for contribution to peer productions. Adapting this idea to the continuum of light to heavyweight forms of organizing, we can map onto this a range in commitment to sharing, commitment to the collective in being the forum for addressing the need, and personal closeness and engagement in the processes that support addressing the need.

In lightweight initiatives, the individual who contributes does not interact directly with others, and their contribution to a larger goal is mediated through the structures and intent of the site organizers. They cannot modify the rules of the game except by not playing. To engage they must trust in – or not care about – the use site owners make of what they contribute. The sites themselves must appeal to something greater than the reward for local contribution. As noted above, coorientation to an purpose even beyond the goals of the site organizers can act as a major motivator. Here, for example, is a comment on contributing mapping data to Google after the earthquake in Haiti, with emphasis added:

*Yes, I generally don't want to just give my data to Google without getting anything back and so yes I am a strong supporter of a share-alike license normally. But the reason I want a share-alike license is because I don't want to work for free and want to get paid for my work. Not with money but normally with more data. However here in Haiti, **my payment would be that this work might save lives or at least help make it less devastating [sic] for some. This is more than Google can ever give back!** [Comment from amm at Fri, 22 Jan 2010 23:10:28 +0000; emphasis added] (<http://www.openstreetmap.org/user/Harry%20Wood/diary/9332>)*

Motivation can also be generated as instrumental crowds create and add their own structures that support a personal connection and strengthen the relationship to an instrumental enterprise. For example, the 'DC Vault' compiles statistics on contributions to distributed computing applications (such as SETI), inviting participants and teams to show off their scores:

*Welcome to the central Hall of Fame in the Distributed Computing world.*

*The DC Vault is the place to compare your team's performance against others, the place to look out for when you plan your next taunting fest, the place you can refer others to and brag about how devilishly high ranked your team is ... or not.*

*Compare your team's performance and ranking in many different categories or look at the overall picture, highlight your team of choice, compare teams at a glance, anything is possible with the links above!*

*If your team has recently joined a listed project or if you wish to enter your team into the competition, please use the provided forms in the main menu to either edit an existing team or add a new team!*

*The dedicated DC Vault forums found here have been set up to be the central place for interteam banter and taunting. Comparing teams and planning the next move to enhance your team's overall and/or category ranking is now made easier by the DC Vault stats. Join in and exchange yourself with the huge DC community.*

*Team Ninja is proud to bring you this premier statistics service and we look forward to it being used by your team and we appreciate comments on its functionality and ideas for improvements! (Retrieved March 21, 2011 from: <http://www.dc-vault.com/index.php>)*

Motivation can start as an orientation to an active, such as gaming, but be supplemented through internal mechanisms that support a more heavyweight form of interaction. This comment about such structures in a game environment describe just such a development:

*Like most games, the ones produced by Zynga and its peers appeal to people's natural competitive instincts. Leader boards and a host of other features allow players to show off their status within a game to their friends. But the games also encourage lots of co-operation among players, who build rapport by, say, sending virtual gifts to each other or handing virtual currency to new players when they join a game. "The best virtual goods have real currency," says Mark Pincus, Zynga's boss. He reckons that the games have become so popular because they combine fun with the various ways to strengthen relationships that Facebook and other networks have brought online. (Economist, January 30, 2010, p. 13-14. Emphasis added: underlined portions point to aspects of crowd/lightweight engagement; italic highlights community/heavyweight engagement; and italic underline summarizes the crowd plus community aspect.)*

Bound into these orientations and seemingly side activities are aspects of recognition, reputation and reward that underpin lasting ties to others and to the peer production as a whole. The next section explores these in more detail.

### 3.2. Recognition, reputation and reward

Reputation is built on visibility of contributions. Hence, it is immediately apparent that the kind of anonymous, non-differentiated contribution that defines a lightweight collective has very lean mechanisms for building a reputation. No identification of the individual is needed for contributions to count in a crowdsourced production, e.g., it doesn't matter if you are identified for your contribution, nor if you sign in under different names each time. Indeed, avoiding a reputation may be the very motivator for contributing, e.g., as individuals can add and edit without embarrassment about potential errors or inappropriate posting. Because each contribution is essentially identical

(‘like’ votes, clicks, computer cycles), what reputations are created can only address contributions quantitatively, e.g., in the number of items submitted, tasks completed, clicks made, votes cast, or in number of in-degree links to a website. A contributor to lightweight collective may also only be able to judge the worth of their contribution by a numeric count of its use: Huberman, Romero and Wu (2009) found that contributions to YouTube fall off in numbers of downloads, contributors stop adding YouTube videos. Thus, overall, an essential element of lightweight recognition, reputation and reward systems is that they are predicated on quantitative assessment.

By contrast, heavyweight collectives operate through visibility and continuity in individual persona, and reputations built on the recognition of others in the network. The DC Vault example above shows how a lightweight endeavor may add reputation (or have reputation added) to its features. Yet, there is still a distinction between the basic construction of the lightweight production mechanisms where individual identity does not matter, and the heavyweight mechanisms where identity is vital. Reputation grows from the recognition given by community members to the contributions of individuals, and is an indicator of successful conformity to community standards and norms.

But, perhaps more significantly, the value of such recognition varies and depends on the status of the individual giving the recognition. In a heavyweight collective, it matters *who* finds the contribution and comments on or uses it. Reputation depends not only on instrumental, countable aspects of recognition, e.g., number of links, also on *who is recognizing whom*, i.e., what site links to yours. Consider for example the difference between a rave book review of an academic book when given by a student versus a senior scholar. The voice of the latter carries more importance and garners further recognition for the author than the former. Recognition from a high-ranking member of a network about a contribution enhances the reputation of the contributor beyond the value of a straightforward count of citations. By contrast, a cite from a low-ranking member to a high-ranking one adds very little to the latter’s existing reputation; such recognition may carry no more significance than a quantitative measure of contribution. To have members sufficiently distinguished by ranks to make their attributions have this kind of differential influence requires a heavyweight structure and long-lasting acceptance and conformity to rank and reputation norms. Lightweight systems only have the option of using rank-free ties, because no basis for rank can exist in a truly lightweight production system.

*Reputation is a network effect.* It is a form of social capital, that emerges from the actions and attentions of members of a social network to other members of the network, dependent on the structures they build and enact. A major difference then between lightweight and heavyweight systems is that the former have no internal mechanisms for enacting reputation. If these are to exist, even at a basic quantitative level, they must be designed into the system by designers and operators of such systems. Thus, recognition and reputation are under the control of authorities beyond the individual contributor. At the heavyweight end, it is human, collegial (aka peer) evaluation that provides the most relevant feedback, with evaluations emerging from and reinforcing community values. While both lightweight and heavyweight production require contribution by peers, the reputation and recognition system for lightweight collective contribution operates *outside* the control of the peer group, while for heavyweight collective the system it operates *inside* the peer group. Overall, lightweight recognition systems can only address contributions, whereas heavyweight systems can address both contributions and contributors (see also Duguid, 2006), and the networks they form.

### 3.3. Implications for Democratic Process

This brief and by no means complete evaluation of structures that support and are emerging from new forms of organizing raise questions about how they will or could be used in democratic

processes. Some questions that arise around e-voting are: Will voters approach such online activity as a crowd or community based initiative? What differences will it make if they perceive voting and participation as a crowd activity (vote and leave) or a community activity (vote and stay to sustain the outcome)? Will this be reflected in differences in individual participation rates, sense of obligation to vote, engagement in debate before or after voting? Will there be differences in framing debate, i.e., modeling a light or heavyweight approach? What outcomes can be expected in participant demographics, knowledge of issue, or engagement with issues?

Some further questions arise around new roles for participants in sociotechnical, participatory culture / e-democracy. Are we in or moving to an 'information democracy', and if so, what mechanisms of reputation are affecting what information gains supremacy, trust? Already we know that offline structures affect who can and does contribute to the information cyberscape (e.g., see Crutcher & Zook, 2009, who report how information online more greatly represented affluent areas of New Orleans after Hurricane Katrina than poorer areas). Further, what tensions exist between interests of the individual actor, and the actor in the network, and desire and use of anonymity versus named, attributed contribution? How will this affect contribution and participation online?

This paper has attempted to lay out some of the structural features that distinguish commitment, trust and contributory behavior in crowd and community collective structures. As participation, both formal and informal, turns to online, internet-based collective forums, the more important it is to understand the facilities and constraints of the different organizing systems and the effects these have on e-participation, voting, information sharing and democratic process.

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# Towards Distributed Citizen Participation:

*Lessons from WikiLeaks and the Queensland Floods*

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**Abstract:** *This paper examines the rapid and ad hoc development and interactions of participative citizen communities during acute events, using the examples of the 2011 floods in Queensland, Australia, and the global controversy surrounding Wikileaks and its spokesman, Julian Assange. The self-organising community responses to such events which can be observed in these cases bypass or leapfrog, at least temporarily, most organisational or administrative hurdles which may otherwise frustrate the establishment of online communities; they fast-track the processes of community development and structuration. By understanding them as a form of rapid prototyping, e-democracy initiatives can draw important lessons from observing the community activities around such acute events.*

**Keywords:** participation, e-democracy, acute events, Queensland floods, *Wikileaks*

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**T**here are many possible definitions of ‘e-democracy’, to the point that the term is perhaps suffering from its misapplication to cases where it simply describes the provision of services by governments to citizens via online media. For the purposes of this article, we utilise a broad definition of e-democracy as the active participation of citizens in the public discussion and deliberation of matters of public concern and policy, and in the organisation of communal activities and initiatives to address such matters, through the use of online, digital media.

This definition inherently highlights the importance of *active participation* – meaning not simply access to information, but direct and productive engagement with it, in turn generating material (ideas, comments, contributions) which may again be shared with other participants using the same or additional online media spaces. The quality of such active participation in e-democracy, much like the quality of active user participation in any other online space, depends on the sustained presence of a substantial community of users (and the sustainability of their presence for these users, in the face of other personal and professional demands on their time which they may experience in their everyday lives).

Studies of online communities (e.g. Bruns, 2008; Baym, 2000), and indeed of communities in general (e.g. Hebdige, 1979) have demonstrated that one key prerequisite for the establishment and sustainability of functioning communities is the development of a balance between a shared purpose – a common community credo which all members of the community can subscribe to at

least to some extent – and a sufficient diversity of ideas and opinions within the community – to generate new and unexpected impulses and thus save the community from developing a predictable, stifling tendency to follow a common ‘groupthink’ pattern. This requirement also has direct implications for the structure of the community itself: though it is common that from ongoing processes of participation, key members will emerge from the community, bestowed with greater social capital and higher levels of authority than rank-and-file participants, these community leaders must not be allowed to establish positions of such unassailable authority that they are placed in a position to *determine* ‘groupthink’ and direct the course of discussion within the community. Instead, the participant community must remain permeable for new members who are prepared to contribute constructively to continuing deliberative processes, and must hold the promise that through sustained participation such new members, too, will be able to accumulate social capital and advance to positions of authority within the community. Indeed, such promise of community recognition, and the aspects of competition with other participants which are associated with it, can – as long as such competition is not allowed to supplant topical discussion as the principal driver of participation in the community – act as a significant incentive for members to contribute to the community activities (also see Bruns, 2009).

These interrelated dynamics of communal discussion and personal status are clearly internal to the community itself, regardless of whether that community exists as an offline association of individuals or an online group of users, or both; any technological support structures for the community, for example in the form of dedicated online discussion and collaboration spaces for community members, can only aim to guide and support such internal processes (or at the very least, to avoid stifling or counteracting them), not to create them from scratch. This is an important point especially also for community building projects within the e-democracy field: the ultimate aim of such projects should usually be to enable self-determined, self-directed, and above all self-motivated communities to manifest themselves, rather to develop spaces where any sense of shared purpose (and thus, of community itself) remains dependent on the artificial interventions of project staff. From a practical perspective, not least also considering the inherent vagaries of funding and staffing for e-democracy activities, projects whose participant communities do not develop their internal momentum to the point that they become self-sustaining are likely to fail – and the long list of defunct projects in this area is a clear indication of how difficult such continuous momentum is to achieve.

These difficulties are also closely associated with the problems of ownership which such projects will face. While potentially afforded a more direct connection with policymakers, e-democracy projects operated by government departments and institutions may be subject to tight operational controls and governance regulations, substantially limiting the degree of freedom of self-determination which can be provided to the participant community; by contrast, projects operated by independent civil society organisations may benefit from a substantially greater operational freedom, but conversely their relative lack of accountability to recognised authorities also enables official stakeholders to more easily dismiss their outcomes as partisan and non-representative.

Bruns & Swift (2010) have suggested that this “atmosphere of crisis [that] surrounds virtual deliberation and indirect representation in the early 21st century” (Coleman, 2005a, p. 195), which results from the limitations of both government-to-citizen (g2c) and citizen-to-citizen (c2c) models, may be able to be addressed at least in part by exploring hybrid solutions which seek government support *for* (and participation *in*) citizen-to-citizen spaces – a g4c2c model whose arms’-length government involvement mirrors to some extent the hands-off government support for public service broadcasting in many developed nations. Indeed, applying the PSB model to e-democracy more literally, in 2001 Blumler & Coleman called for the establishment of a ‘Civic Commons’, operated as a public-held institution in analogy to the BBC:

*“Our proposal for a civic commons in cyberspace aims to create an enduring structure which could realise more fully the democratic potential of the new interactive media. This would involve the establishment of an entirely new kind of public agency, designed to forge fresh links between communication and politics and to connect the voice of the people more meaningfully to the daily activities of democratic institutions. The organisation would be publicly funded but be independent from government. It would be responsible for eliciting, gathering, and coordinating citizens' deliberations upon and reactions to problems faced and proposals issued by public bodies (ranging from local councils to parliaments and government departments), which would then be expected to react formally to whatever emerges from the public discussion. This should encourage politicians and officials to view the stimulation of increased participation not as mere 'citizens' playgrounds' but as forums in which they must play a serious part.” (2001, p. 15)*

However, such earlier calls for the development of a stand-alone public agency for e-democracy may have fallen prey to the early-2000s, pre-Web 2.0 enthusiasm for building new online platforms. The proliferation of e-democracy platforms (driven in part by the various competing funding schemes for online projects which are available to civil society organisations, academic researchers, Web developers, and government agencies) may also have resulted in a dilution of existing public enthusiasm for participating in such spaces, and thus diminishes these communities' chances of success, as it has become increasingly difficult to predict which of the many projects in existence today will remain in active operation in the longer term – beyond the initial startup publicity. At the same time, this still-prevalent 'roll your own' mentality also obscures the fact that there are a number of very well-established, long-term sustainable spaces for online community participation which have as yet been under-utilised for e-democracy purposes – from thematic sites such as *Wikipedia*, *Flickr*, and *YouTube* to generic social media sites like *Twitter* and *Facebook*. While public broadcasters and similar government-authorised but independently-run organisations may play an important role as facilitators of g4c2c engagement processes, therefore, they may need to do so through their activities on extant social media platforms rather than only through their own Websites. Updating their 2001 'Civic Commons' vision to a Web 2.0-compatible model, Coleman & Blumler therefore describe this 'Civic Commons 2.0' as “a space of intersecting networks, pulled together through the agency of a democratically connecting institution” (2009, p. 182). What such proposals aim at, then, is the development of modes of citizen participation that are distributed – yet nonetheless also *coordinated* – across the various Web 2.0 platforms which citizens are already using, rather than centralised in a purpose-built environment that potential users would first need to sign up to.

## 1. Acute Events and Social Media

Just how this 'space of intersecting networks' might be structured in practice still remains unclear from this overall discussion, however – and indeed, in practice the answers to that question may be as diverse as the potential issues and topics which such Civic Commons 2.0 spaces may aim to address. However, recent events provide a number of highly instructive pointers to possible configurations of the Civic Commons 2.0 space – in particular, a class of events which might be best described as 'acute events' (Burgess, 2010): crises and other rapidly developing events which generate a substantial level of *ad hoc* community engagement in online environments.

From a research perspective, the rapidity with which such events – and their online responses – develop has the benefit of bypassing or leapfrogging, at least temporarily, most organisational or administrative hurdles which may otherwise frustrate the establishment of online communities, and of fast-tracking the processes of community development and structuration; within hours or days, large communities with complex internal structures that extend across a range of intersecting

online platforms and draw on a variety of technological tools can be established. Such communities are largely self-organising, exhibit substantial levels of participant engagement, and may generate significant outcomes in terms of ideas and information; their development can be understood as a process of rapid prototyping as various members of the community take the initiative to explore the use of new tools for gathering, compiling, processing, and sharing the information that is circulating within the community – those tools which are found to be useful to the greater community are retained and developed further, while those which do not meet significant acceptance are quietly discarded again.

E-democracy initiatives may benefit from observing community responses to such acute events in a number of ways, then. On the one hand, what technological tools and organisational processes are found to be useful and valuable there may also be able to be adopted and adapted to these initiatives' own needs; similarly, the participation and conduct of official actors as part of the wider community can be critically reviewed, and may provide insight for the further fine-tuning of the social media engagement strategies that are in use in such institutions; finally, *some* e-democracy projects may even be able to structure their overall operations around a series of scheduled 'acute events' (for example highlighting particular themes and topics) that attract specific groups of participants, rather than simply providing an open-ended space for discussion and deliberation that is functional but provides its potential users with little reason for why they should address any one specific topic at any one given time.

With these intentions, then, the following discussion will examine two recent acute events: the 2010/11 Queensland flood crisis, and the (continuing) controversy around *WikiLeaks* and its founder and spokesman, Julian Assange. Clearly, these events differ in a number of key elements – underlying themes, geographic reach, temporal dynamics, the involvement of government agencies and other institutions, etc. –, but both provide vital pointers for e-democracy projects.

### 1.1. The Queensland Floods

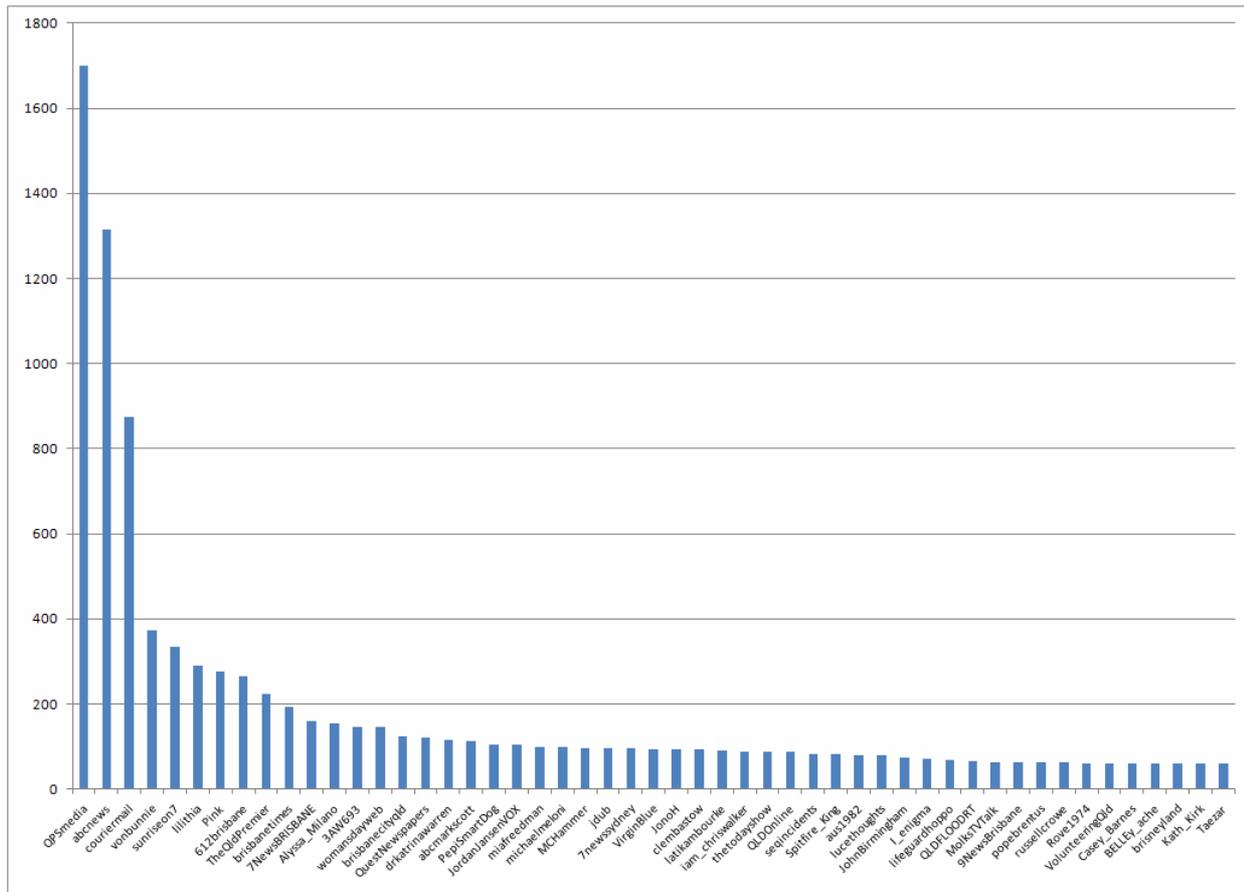
The Australian state of Queensland received an unprecedented amount of rainfall during December 2010 and January 2011, resulting in widespread flooding across large areas – a flood emergency was declared for half of the Queensland territory, with an area the size of France and Germany combined estimated to be under water. Additionally, while early flooding occurred in the relatively sparsely populated west of the state, later floods affected larger regional populations centres like Rockhampton, on the central Queensland coast, and further heavy rain finally caused widespread flooding in the state's southeast corner, where major towns Toowoomba, Ipswich, and finally the state capital Brisbane were severely affected. Arguably, the flood peak in Brisbane, in the early hours of 13 January 2011, also marks the peak of the overall flood crisis in Queensland; in Brisbane alone, some 30,000 properties were partially inundated by floodwaters.

As a major environmental crisis, the floods were of course covered extensively by the Australian and international mainstream media. Especially as they began to affect major population centres, however, social media such as *Facebook* and *Twitter*, as well as content sharing sites *Flickr* and *YouTube* which were used by many locals to distribute first-hand footage of the situation in their local areas, also began to play an important role. In this, the southeast Queensland flood events must perhaps be considered separately from the wider inundation of other parts of the state, as events here developed a somewhat more urgent dynamic: while flooding in central Queensland followed a familiar pattern of relatively gradual river level rises which – while nonetheless devastating for affected residents and businesses – usually leave sufficient time for warnings and evacuations, a number of southeast Queensland towns, starting with the regional centre of Toowoomba, experienced rapid and devastating flash flooding which caused small creeks to swell to raging torrents within minutes, carrying off cars and other heavy items without warning. Here,

following a pattern established in other unforeseen disaster events, social media played an important role in capturing and disseminating first-hand footage of the flash floods, in effect operating as an unofficial, distributed early warning system; later, social media users also shared further links to mainstream news reports and footage of the destruction caused by the same torrent in the Lockyer Valley below Toowoomba. The floodwaters washing through the area made their way to the downstream cities of Ipswich and Brisbane over the following 48 hours.

As these initial reports of devastation heightened flood fears in Ipswich and Brisbane, social media became an increasingly important element of the flood mobilisation efforts. On *Twitter*, the #qldfloods hashtag rapidly emerged as a central mechanism for coordinating discussion and information exchange related to the floods (hashtags are appended to tweets in order to make them more easily findable for other users, and many *Twitter* client applications provide the functionality to automatically receive all messages using a specific hashtag); while other hashtags such as #bnfloods (for information specifically relating to the *Brisbane* aspects of the overall Queensland flood crisis) or, with characteristic Australian humour in the face of adversity, #thebigwet were also used by some participants, they were unable to establish themselves as equally prominent alternatives – most likely indicating that *Twitter* users were concerned to avoid any fracturing of the discussion into several disconnected subsets.

Notably, too, the *Twitter* accounts of several official sources quickly adopted the #qldfloods hashtag for their own tweets. Indeed, the social media use of several of these organisations underwent a rapid development process as the emergency unfolded; this is best illustrated using the example of the official *Facebook* and *Twitter* accounts of the Queensland Police Service (QPS). Initially, QPS had mainly shared its own advisories and news updates through its *Facebook* page, with messages automatically crossposted to *Twitter*. This was problematic for a number of reasons, however: first, the lower 140 character limit for messages on *Twitter*, compared to *Facebook*, caused several of these crossposted messages to be truncated and thus unusable (especially when embedded hyperlinks were broken in the process); additionally, this also meant that users on *Twitter* may first have had to navigate from *Twitter* to *Facebook*, to see the full, original message, and then to follow any embedded links to their eventual destination; and even this may only have been possible for users who already had *Facebook* accounts. Further, for reasons of site design, *Facebook* messages are more difficult to share with a larger number of users than those on *Twitter*, where a simple click of the ‘retweet’ button passes on an incoming message to *all* of one’s followers; and similarly, ongoing conversations are more difficult to manage on *Facebook* – where the amount of commentary attached to each of the QPS’s posts was rapidly swamping important information – than on *Twitter*; indeed, *Facebook* knows no equivalent to the concept of the hashtag, which allows a large number of users to conduct an open, ongoing, public discussion centred around a common topic. These shortcomings were quickly (and courteously) explained to the QPS media staff by a number of vocal *Twitter* users, and the QPS used both its *Facebook* page and its @QPSmedia *Twitter* account in equal measure throughout the rest of the flood crisis; in fact, @QPSmedia received by far the most @replies from other users in the #qldfloods community during the four key days of 11 to 14 January 2011:



**Fig. 1: @replies (including old-style 'RT @user' retweets) to #qldfloods users during 11-14 Jan. 2011**

Fig. 1 also indicates the continuing importance of institutional sources during this event: in addition to @QPSmedia, other prominently featured accounts are those of the Australian Broadcasting Corporation (ABC)'s @abcnews, Brisbane newspaper @couriermail, breakfast TV show @sunriseon7, local ABC radio station @612brisbane, @TheQldPremier, Brisbane online newspaper @brisbanetimes, commercial TV news @7NewsBRISBANE, and the Brisbane City Council's @brisbanecityqld, *inter alia*. A full analysis of the nature of the @replies to these institutional *Twitter* users is beyond the scope of this article – some @replies to news agencies may have complained about incorrect information in their coverage, for example, while other notable accounts (such as that of popstar Pink) are featured prominently here only because their general messages of support were widely retweeted by their followers – but this graph provides at least a basic overview of the distribution of attention within the overall #qldfloods community (also see Bruns, 2011).

It should be noted that a number of these accounts, especially again including the @QPSmedia account, were also active in responding to messages from other *Twitter* users, and/or in retweeting their messages; this reciprocity will have further cemented their position in the centre of the overall network. Additionally, some *Twitter* users also set up dedicated accounts to retweet and thus further disseminate important information (@thebigwetfeed, @qldfloodfeed), or utilised their existing account to retweet whatever authoritative information they found worth passing on. Anecdotally, this appeared to be the preferred activity for users who were following the flood crisis, but had no first-hand information or advice of their own to pass on; the dedicated retweet accounts also provided a means for *Twitter* users to follow a vetted subset of the flood information on *Twitter* without having to deal with the entire volume of #qldfloods messages.

Such phenomena point to the substantial level of instant community self-organisation on *Twitter* (and in other social media spaces) at the height of the crisis. Once #qldfloods had become clearly established as the central gathering mechanism for flood-related information, it began to be used to report what major roads had been closed or were still open; to call for assistance or supplies (from sandbags to medical equipment) in specific locations; to coordinate flood response activities; to point to important online resources (such as *Google Maps* of road closures or expected flood levels); and, importantly, to debunk any rumours which had begun to spread. Indeed, in addition to (and combined with) the overall #qldfloods hashtag, the Queensland Police Service also regularly posted its #Mythbuster tweets, directly addressing various rumours (from stories that Brisbane's Wivenhoe Dam had burst to suggestions that its near-critical level could be reduced by getting all Brisbane residents to turn on their taps).

On *Twitter*, hashtag functionality clearly played an important role on a number of fronts, then – both for coordinating the #qldfloods discussion overall, and for highlighting individual aspects of it. In addition to the #Mythbuster hashtag, others especially addressed specific suburbs (such as #Rosalie, #Chelmer) or connected the flood discussion with relevant other communities (e.g. by including #Auslan in a call for interpreters, to seek the attention of Australian sign language users). Rank-and-file users also took care to repost information from the authorities under additional hashtags if the original tweets had not been properly hashtagged themselves. That said, attempts to introduce a somewhat more complicated hashtag syntax aimed to enable the automatic processing of tweets for a collaborative map of the flood situation appeared to be only marginally successful. While a number of tweets like

*#loc Gailey Road Taringa #CLOSED near 5'ways roundabout. Police presnt. #Bnefloods #qldfloods #thebigwet*

were made by #qldfloods participants, they were not particularly prominent – most likely because the absence of readily available tools (including smartphone applications) to generate this syntax meant that users would have had to memorise and manually enter these standard codes while creating their tweets (the GPS functionality available with modern smartphones was similarly rarely used; in Australia, this is true during non-crisis periods, too).

As important as the use of *Twitter* and *Facebook* themselves during the flood events was their use for pointing to further online resources, too – with such resources including many pre-existing sites such as the Website of the Australian Bureau of Meteorology (BOM), which provides up-to-the-minute weather radar and river level observations as well as forecasts and warnings for a wide range of locations, the sites of Brisbane City Council and Queensland State Government, and the sites of major infrastructure providers (such as electricity and telephone companies). But beyond – and in addition to – such official sources, the flood event also saw the rapid establishment of a number of user-initiated online resources: some sites were set up to mirror official sites whose servers were struggling to cope with the increased amount of page requests; some pulled together the information from a variety of sources in a faster and more user-friendly format (for example by marking road closures on *Google Maps*, or providing a simple list of links to flood forecast maps); some set up eyewitness sites providing photos, videos, and even live Webcam footage of the rising Brisbane river. Some such activities also incorporated information from open data resources made available by Australian governments at various levels as part of their Government 2.0 initiatives.

Many such activities also carried over – if at lower volume and visibility – into the post-flood cleanup period (which is continuing at the time of writing, and has been estimated by the Brisbane Lord Mayor to take up to two years); here, social media have been used to provide and/or link to information on road conditions and the restoration of electrical, phone, public transport, rubbish collection, and other essential services; to advise on the availability of refugee shelters and other

council facilities; to call for and organise cleanup volunteers, and provide advice on cleaning homes and salvaged household items; and to organise support for specific localities or community groups. The post-flood era has also seen a further diversification of *Twitter* hashtags, now that #qldfloods is no longer an appropriate description: alongside #bnecleanup, suburb names and other more specific hashtags have also been used to coordinate more localised activities. Similarly, on *Facebook* a wide range of pages organising donations of funds and supplies as well as coordinating various local, interstate and overseas support activities have been set up.

Overall, what has been particularly notable in the Queensland (and here, especially the southeast Queensland and Brisbane) flood events has been the relatively responsive structure of engagement between ‘official’ social media accounts and ‘everyday’ users – in good part stemming, no doubt, from a sense that ‘we’re all in this together’, and from the realisation that any successful flood response both during and after the acute event itself would necessarily have to rely on the broad-scale mobilisation of the Brisbane community. This sense of community, across the majority of institutional and individual participants in these social media spaces, was also maintained in significant ways by the reposting of valuable information from users on the ground by the official institutional accounts. The joint effort by the southeast Queensland community to respond to the flood threat, and the overwhelming response by local and even interstate residents to calls for cleanup volunteers (to the extent that volunteer centres were at times overloaded with people offering to help) was not simply or predominantly a result of the social media activities which we have described here, of course – the authorities’ efforts to manage the crisis through other media also played an important, and most probably more important, part. What it does point to, however, is the crucial importance of engaging with citizens through whatever channels are available, accessible, and effective – regardless of whatever communicative preferences may have existed in government organisations before the event. Indeed, one key observation to be made about the distributed, multi-channel media response to the Queensland floods is that citizens and officials *together* determined the media mix, and continued to fine-tune it as the event unfolded; the substantial shift which we have observed in the Queensland Police Service’s media practices during the flood crisis provides just one key example here. This successful emergency response was also a success of e-democracy, therefore.

As Coleman & Blumler point out,

*“effective democracy depends upon governments at every level being held to account and responding to those it claims to represent. For this to happen, there need to be channels of common discourse between the official and informal political spheres.” (2009, p. 136)*

Social media provided one such channel of common discourse between Queensland citizens and their government institutions, and – with the permission and indeed with the active help and support of citizens – the various accounts of these institutions were able to place themselves in key positions within the social networks emerging around the flood crisis, but only *because* they chose to engage and respond rather than simply push out information. Only the support of other users – through retweets and other means of sharing and distributing information – provided these accounts with the social capital to guide and direct the overall community effort.

Even in spite of this generally positive assessment, however, it should also be noted that this mobilisation of community responses to the flood crisis was ultimately not entirely successful. More could have been done sooner – to protect more properties from flood damage by sandbagging them, to remove more household items from flood-threatened properties, to evacuate more residents before the flood reached Brisbane. For many residents, it seems, their trust in official advice, and their willingness to follow it, was only fully established once the flood danger was highly imminent, and any beliefs that the authorities had exaggerated the threat could no longer be

sensibly sustained. Whether the heightened trust in government authorities and the spirit of collaboration and joint problem-solving which this crisis is likely to have generated will last into the future, and whether it may be mobilised again in support of other e-democracy activities, remains to be seen.

## 1.2. WikiLeaks

The global controversy around the *WikiLeaks* whistleblower site – and here, especially the intense attention devoted to it in the wake of its gradual publication of leaked US diplomatic cables, which started in late 2010 and is still continuing – makes for a very different case study of citizen mobilisation and participation, of course. Where in the Queensland floods case, state authorities and ‘average’ citizens were largely pulling together in their effort to address the flood threat and cleanup task, here a very obvious fault line emerges between government interests and citizen activities. While the online response to the Queensland floods can be seen as originating in the g2c sphere, then (with key emergency services providing vital information *to* citizens, and a broader network of mutual support and cooperation rapidly emerging around those central nodes, eventually approximating a g4c2c structure), in the *WikiLeaks* case activities must be characterised as predominantly involving c2c engagement, with very little direct government participation – let alone support.

Indeed, even the exact nature of the organisational structures at the centre of the *WikiLeaks* phenomenon remains nebulous, due not least to the secrecy which surrounds *WikiLeaks* as an entity itself. Indeed, media coverage especially of the ‘cablegate’ affair has tended to reductively identify *WikiLeaks* mainly with its controversial founder and self-described editor-in-chief Julian Assange – perhaps exactly because in and of itself, the *WikiLeaks* organisation has remained so intangible –, but this focus on Assange (and his personal circumstances) has tended to obscure the fact that even while Assange himself was remanded in custody by British authorities on allegations of sexual assault, *WikiLeaks*’ publication of US cables continued unabatedly. Evidently, then, while he remains an important figurehead and media representative for the site, *WikiLeaks*’ day-to-day operation does not depend on Assange’s direct involvement.

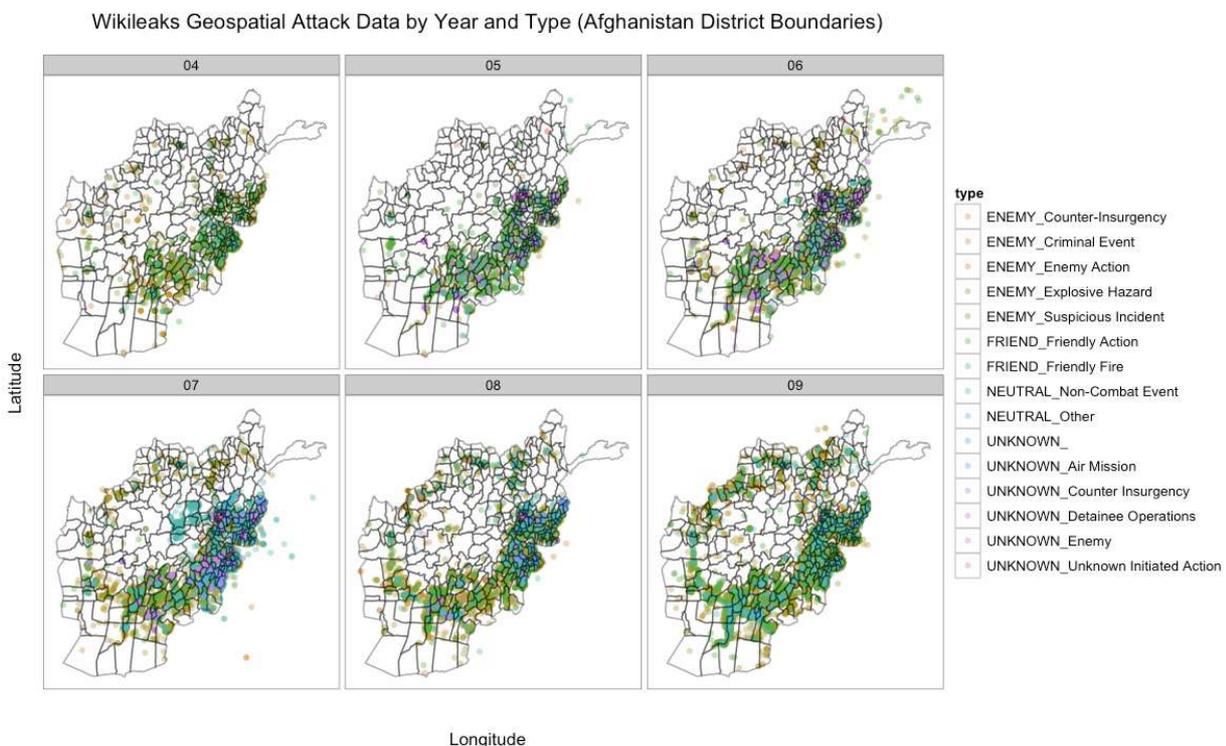
Beyond Assange himself, then, the *WikiLeaks* Website itself (and its staff) are at the centre of the c2c effort which sustains *WikiLeaks*. Founded in 2006, the site has been positioned as a safe harbour for leaked documents of various provenance, legal status, and format, usually granting immediate access to entire document collections made available to it; notably, its gradual release of the diplomatic cables since November 2010 diverts from its standard *modus operandi* – indeed, Greenwald (2010) estimates that as of December 2010, less than one percent of the total cable collection had been released publicly. Additionally, the cable release is also unusual in that *WikiLeaks* is operating in direct partnership with a number of major media organisations around the globe – chiefly, *The Guardian*, *The New York Times*, *Der Spiegel*, *Le Monde*, and *El País* – which appear to be granted access to the cable contents before they are made public on the site itself. While little reliable information on this matter is available, we may speculate that these partnerships are designed to enable *WikiLeaks* to influence the news agenda at least to some extent, maintaining a focus on the contents of the cables rather than merely on the legal prosecution of Julian Assange.

The central position of the *WikiLeaks* site within the wider network that surrounds it is comparable to the similar positioning of other online c2c initiative sites within their respective networks, with similar implications – while such sites are able to provide some degree of leadership for the movements they aim to coordinate, they also provide a single point of failure that may threaten the overall enterprise. This became obvious in the *WikiLeaks* case in the wake of several attempts to shut down the site or undermine its operations – for example when content host

Amazon Web Services (AWS) or domain name service EasyDNS withdrew their support for the site. These actions demonstrated how centrally the discoverability and availability of Websites to the wider public depends on such crucial infrastructure services, and their disabling is therefore an obvious strategy for interested parties wishing to disable a site.

However, the *WikiLeaks* case also saw a range of immediate counteractions by a loose coalition of *WikiLeaks* supporters and sympathisers, during which various alternative DNS services and content mirrors for the main *WikiLeaks* site were established across a distributed network of servers. Although beyond the scope of this paper, a useful comparison of this response to what was regarded by many supporters as a direct attack on *WikiLeaks* by government authorities, through these service providers as intermediaries, with the response to the attacks by music industry bodies on Napster (as the central point of failure of early, centrally coordinated filesharing networks) that saw the adoption of Bittorrent and similar technologies as distributed alternatives for filesharing, would be instructive: in both cases, far from disabling these networks, the attacks on their central nodes led to a rapid decentralisation of network structures which has made them more resistant to future attacks. (Similar to the music industry's focus on suing individual filesharers, the recent focus on exploring Assange's *personal* culpability for revealing state secrets, rather than on pursuing *WikiLeaks* as the organisation responsible for doing so, also demonstrates this shift.)

Other practical contributions to the *WikiLeaks* effort – especially in relation to the release of the diplomatic cables – include the development of various advanced tools for the searching, filtering, and processing of *WikiLeaks* contents. Writing in *Wired Magazine*, for example, Shachtman (2010) reports on new tools for visualising the progress of the Afghan War by drawing on the data contained in the Afghanistan War Logs, which *WikiLeaks* had released earlier in the year:



**Fig. 2: Visualisation of the progress of the Afghan War, 2004-9, by Drew Conway (2010)**

Such efforts also mirror similar forms of user-driven, crowdsourced processing of large public datasets elsewhere – notably, for example, *The Guardian's* harnessing of its readership in sifting through the expenses records of UK Members of Parliament, which it had obtained under Freedom

of Information legislation, as part of its investigation into the parliamentary expenses scandal. Ultimately, they employ the same overall logic as do the open data initiatives – data.gov, data.gov.uk, *et al.* – which have been instituted by various governments around the world.

A very different form of community mobilisation around *WikiLeaks* is also evident in the emergence of a self-styled online guerrilla which has orchestrated coordinated attacks against a variety of entities rightly or wrongly perceived as *WikiLeaks*'s 'enemies' – including, for example, Amazon Web Services and EasyDNS, as well as Paypal and Mastercard (both of which stopped the transfer of public donations to *WikiLeaks* at least temporarily). This guerrilla is led by the more militant core of Anonymous, a nebulous group of hackers, organising its activities through Internet Relay Chat and other online fora, which has a lengthy history of actions against a wide range of online targets. In support of its *WikiLeaks*-related activities, Anonymous has made available a public toolset that allows everyday sympathisers of *WikiLeaks* to participate in coordinated Distributed Denial of Service (DDoS) attacks – a well-known method for overloading Web servers with page requests, thereby causing them to crash and their hosted Websites to be unavailable.

More broadly, efforts in support of *WikiLeaks* range from such drastic activist activities – which could be characterised as electronic warfare, but also as an online equivalent of picketing businesses – to more conventional forms of showing support: the establishment of online and offline support groups, public rallies, and financial donations to fund both *WikiLeaks* as such and Assange's legal defence in particular. Especially the latter activities have also attracted a number of celebrity supporters – from lawyer Geoffrey Robertson, who is supporting Assange's defence team, to filmmaker Michael Moore. Additionally, social media have also been used in significant ways to distribute information about *WikiLeaks*' (and its opponents') activities and Assange's legal case, well beyond (and to some extent in direct response to) their mainstream journalistic coverage. The use of both *Facebook* and *Twitter* by a large and diverse community of interested users to share information about these issues demonstrates the role of these social media platforms in facilitating what Hermida has described as "ambient journalism": "a multi-faceted and fragmented news experience, where citizens are producing small pieces of content that can be collectively considered as journalism. ... In this sense, Twitter becomes part of an ambient media system where users receive a flow of information from both established media and from each other" (2010).

However we might assess the social utility of *WikiLeaks*'s core activities, then, it becomes clear that along with the support movement which it has managed to generate, the site can be seen as an example of a successful c2c e-democracy initiative – whose closest parallels amongst 'accepted' e-democracy projects are, perhaps, initiatives such as *MoveOn* in the US or *GetUp* in Australia. Such projects utilise their central Websites as rallying points for citizen engagement and activism, as well as to ask for donations and other expressions of support; they provide the tools for their members and sympathisers to organise online and offline activities in support of specific causes, as well as for seeking and collating the information available from open datasets; and they encourage the formation of self-sustaining spin-off groups and initiatives well beyond the core site itself. They are, in other words, aiming to maximise the distribution of their messages by encouraging the development of a distributed, multi-channel, multi-platform, self-organising network of supporters and participants – a network which, in *WikiLeaks*' case, also minimises the risk of technological failure. Additionally, they seek the endorsement of celebrity champions and partnerships with media organisations in order to gain greater authority and maximise the dissemination of their messages – but this media exposure, which draws attention to spokespeople and other leaders, can also threaten to undermine the largely bottom-up organisation of the project.

Similarly, like these activist organisations, *WikiLeaks*, too – if we take its statements at face value – aims to affect the political process by encouraging public discussion and debate on a strong evidential basis. Its mission statement directly links the leaking of secret information to the idea of open government:

*“The power of principled leaking to call governments, corporations and institutions to account is amply demonstrated through recent history. The public scrutiny of otherwise unaccountable and secretive institutions forces them to consider the ethical implications of their actions. ... Open government answers injustice rather than causing it. Open government exposes and undoes corruption. Open governance is the most effective method of promoting good governance.”* (WikiLeaks, 2010)

Indeed, some suggest (perhaps overenthusiastically) that the site’s coverage of the political situation in Tunisia served as an immediate catalyst for the fall of that country’s autocratic regime in early 2011, making this “the first *WikiLeaks* revolution” (Dickinson, 2011).

*WikiLeaks*’ success in generating such substantial attention and support – surpassing many more conventional activist organisations – must certainly be attributed in good part to its alternatively fearless or reckless publication of state secrets and concomitant attitude towards government and corporate authorities. Compared to *MoveOn* or *GetUp*, for example, which have various personal and organisational ties to the political establishment in their home countries, *WikiLeaks* is positioned far more clearly outside the system, and this ‘outlaw’ status (also carefully cultivated by Assange himself) surely adds to the site’s public appeal, even to the point of romanticisation. However, it also mirrors the disenchantment with ‘politics as usual’ that is notable in many western democracies (as well as, it goes without saying, in most autocratic regimes). Statements about *WikiLeaks* by various political leaders only strengthen this position – so, for example, public sentiment towards *WikiLeaks* in Australia, where only 19% of the population support prosecuting Julian Assange for the US cable leaks (Lester, 2011), diverges fundamentally from the views of Prime Minister Julia Gillard, who labelled Assange’s actions as “grossly irresponsible” and “illegal” (*ABC News Online*, 2010) – let alone from those of US Vice President Joe Biden, who called Assange a “high-tech terrorist” (MacAskill, 2010).

This significant difference in appraising *WikiLeaks*’ (and Assange’s) actions may also contribute to making participation in supporting the site more attractive for ‘average’ citizens: it may confer a genuine sense of ‘fighting the system’ by discovering, reading through, sharing, or otherwise processing the hitherto hidden information which *WikiLeaks* has made available – however banal and inconsequential its actual contents may in fact turn out to be. Again, the same dynamic was likely also at play for participants in *The Guardian*’s MPs’ expenses crowdsourcing project. Additionally, of course, the highly controversial nature of *WikiLeaks* is also designed to maximise its media exposure, which in turn again improves its chances of attracting participants. Other c2c e-democracy projects, which may employ considerably safer strategies that are designed to challenge but not fundamentally offend the overall political system, may fail to garner as much media and popular attention – from this perspective, then, *WikiLeaks* could also be seen as another step in a continuing radicalisation of politics, however.

The palpable (and possibly growing) mistrust of politicians, governments, and the media which can today be observed in many nations may give rise to two different tendencies, then – on the one hand, a rise in radical opposition to established political frameworks (as also embodied by the US Tea Party movement or the UK Independence Party, for example); and on the other hand, a growing popular demand for greater transparency in political decision-making. The latter demand is addressed, more or less enthusiastically, by a number of governments through ‘open data’ and ‘Government 2.0’ initiatives, but – especially where such initiatives are limited or altogether fail to

eventuate – has also given rise to the emergence of the ‘leak’ as a standard mode of public communication (Bieber, 2010): both examples of a development towards “transparency tyranny” which *Trendwatching.com* first identified for corporate information (2007).

*WikiLeaks*, then, combines these two tendencies by instituting a kind of radical transparency tyranny which, building on a wide and diverse network of supporters and operating mainly through distributed, bottom-up, c2c structures, advances well beyond the delimited and controlled experiments in open data that have been established as top-down, g2c services. Its deliberate distance from and opposition to state institutions – indeed, to state institutions around the world, to such an extent that it has been possible for Rosen to describe *WikiLeaks* as “the world’s first stateless news organization” (2010) – has protected the site from government retribution and censorship (as Rosen also notes, “Wikileaks is organized so that if the crackdown comes in one country, the servers can be switched on in another”), but has also made it virtually impossible for any more constructive dialogue between citizens and official authorities to be conducted through the site. In fact, the radicalisation of some of *WikiLeaks*’ supporters – chiefly, the online guerrilla forming around the Anonymous activists – makes it difficult to assess whether even *WikiLeaks* itself, and Julian Assange as its nominal leader, are still in control of the dynamic which they have set in motion. The network surrounding *WikiLeaks* may have become *too* distributed, *too* decentralised.

Even so, an eventual transition from *WikiLeaks*’ radical-oppositional c2c activism stance towards a more constructive g4c2c model that *does* involve some government participation still does not seem altogether impossible – if at present highly improbable. The most obvious move in this direction is the approval of the Icelandic Modern Media Initiative (IMMI) by the Allþing, the Parliament of Iceland (where public opinion and support has been especially positively disposed towards *WikiLeaks* for some time now) – it requires “the government to introduce a new legislative regime to protect and strengthen modern freedom of expression, and the free flow of information in Iceland and around the world” (IMMI, 2011). Indeed, *WikiLeaks* representatives were directly involved in developing the IMMI legislation, and a company related to *WikiLeaks* has now been founded in Iceland (*IceNews*, 2010).

If realised in practice, initiatives such as IMMI may be able to rescue *WikiLeaks* from its status as ‘outlaw’ outside the social compact of society, by changing that compact itself, and would thereby enable governments to engage with the organisation and its followers through other than defensive and punitive measures. An official sanctioning of *WikiLeaks* watchdog activities – however unorthodox they may be by our current standards – would have an effect similar to previous whistleblower protection laws which cover journalistic publications, but on a much wider, societal scale.

As Stephen Coleman notes, while “the framing of 20th- century politics by broadcast media led to a sense that democracy amounted to the public watching and listening to the political elite thinking aloud on its behalf”, the participative online space of Web 2.0 “opens up unprecedented opportunities for more inclusive public engagement in the deliberation of policy issues” (Coleman, 2005b, p. 209). Conversely, if a gradual legitimisation of *WikiLeaks* – through the IMMI project or other similar initiatives – turns out to be unable to be achieved, it is very likely that in spite of its popular support, the site will increasingly be dismissed as a simply disruptive factor which claims to work towards a better future, but fails to engage with those political actors who pursue similar goals from within the establishment. Such patterns are familiar from previous political upstart movements which failed to convert their initial *ad hoc* support into a long-term strategic mobilisation of supporters.

## 2. Lessons from WikiLeaks and the Queensland Floods

There are a great number of current ‘e-democracy’ and ‘Government 2.0’ initiatives around the world, many of which pursue goals such as those articulated by the Australian federal government’s Government 2.0 Task Force:

- *“enhancing government by making our democracy more participatory and informed;*
- *improving the quality and responsiveness of service delivery, enabling them to become more agile and responsive to users and communities;*
- *cultivating and harnessing the enthusiasm of citizens, and allowing users of government services greater participation in the design and continuous improvement of public services;*
- *unlocking the economic and social value of public information as a platform for innovation;*
- *making public sector agencies more responsive to people’s needs and concerns; and*
- *involving communities of interest and practice outside of the public sector in providing diverse expertise, perspectives and input into policy making and policy networks.”*  
(2009, p. xi-xii)

The two case studies examined here, however, demonstrate that in pursuing these goals it is useful not only to look to the tried-and-tested approaches for building new Websites for government-to-citizen or citizen-to-citizen engagement, but also to analyse the rapid *ad hoc* forms of participatory organisation which are forged in a more distributed fashion during acute events, in the waters of a major natural disaster or the fires of a global political controversy. What we can observe in the Queensland floods and the *WikiLeaks* cablegate is a largely intuitive and very speedy transformation of extant, inherited structures – respectively, of g2c information provision and c2c political activism – to address the emerging requirements of urgent communicative crises: a transformation which in both cases trends towards the g4c2c model (even if in the case of *WikiLeaks*, especially, a great many hurdles have yet to be overcome). The acuteness of each event serves as catalyst and accelerator for this transformation.

Several specific lessons arise from these two cases (also cf. Bruns & Bahnisch, 2009):

### 2.1. Low Hurdles to Participation

Participation in the initiative by potential supporters is maximised if the hurdles to participation are kept as low as possible. In the case of the Queensland floods, while the Queensland Police Service was able to use *Facebook* to post more detailed and complex messages about the current situation, it was *Twitter* with its far more basic communicative infrastructure – where public messages are inherently accessible to all users, and hashtags can be used as a simple and effective tool for conducting a collective discussion even without a need for users to be followers of one another – which was substantially more useful for disseminating these messages. Additionally, attempts to complicate the system – for example through the introduction of a more complex hashtag system, beyond #qldfloods and #thebigwet – failed: a clear (if tacit) exhortation to everyone concerned to keep things simple. *Twitter* is used in similar ways to support and share information about *WikiLeaks*, of course – and in this case, for better or for worse, even participation in acts as previously difficult as orchestrating a DDoS attack against perceived enemies is made possible for ‘average’ users, simply by downloading the necessary software.

## 2.2. Distribute across Multiple Platforms

Both cases also demonstrate the importance of relying on more than a single point of access (and thus, a single point of failure) for effective engagement – especially during moments of crisis, of course. Both the key information sites during the Queensland floods and the *WikiLeaks* site were multiply mirrored, on an *ad hoc* basis, by other participants in order to ensure that a single server failure or shutdown cannot bring down the entire network of activities. Similarly, the use of a variety of other communications platforms – again including *Facebook* and *Twitter* as key components, of course, but also the various mainstream media channels used during the floods or acting in partnership with *WikiLeaks* – also enabled potential participants to engage in ways which suited their own communicative preferences. However, this multiplatform approach also necessarily dilutes the overall message, of course – making it important to be able to respond quickly across the different platforms, too (as in the case of the Queensland Police Service’s ‘Mythbuster’ updates).

## 2.3. Generate a Sense of Community

Even across the different platforms which may be in use, it nonetheless remains important to ensure a sense of common aims and intentions. This is most easily possible in the face of a common enemy, of course – the floods, or ‘the political establishment’, in our two case studies –, but more generally, too, especially where government or other authorities are involved in citizen engagement activities it is important to avoid a ‘citizens vs. authorities’ stance at any cost. What takes place here is “the pursuit of self-organising, reflexive, common purpose among voluntary co-subjects, who learn about each other and about the state of play of their interests ... [and] the emergence of media citizenship” (Hartley, 2010). This, of course, is also an important argument in favour of the more *intermediate* government participation of g4c2c models (where authorities participate in, but do not own the conversation) over g2c models (where there is a more *immediate*, linear connection between citizens and government).

## 2.4. Allow Community Development

Crucial to the development of both case studies examined here was the relative autonomy of distributed participant communities in relation to the participating institutional authorities (such as emergency services, or the *WikiLeaks* leadership group itself). So, for example, it was the wider *Twitter* community which settled on #qldfloods as the predominant hashtag for discussing and disseminating flood-related information – and this hashtag was subsequently adopted by the QPS and other emergency services, as well as participating media organisations, for their own tweets, too. This requires the constant observation of what the wider community of participants are doing in their own participative practice, rather than the more detached presence of authorities who see their role as mainly providing information to the community, through channels of their own choice; it also requires the acknowledgement, and possibly the rewarding, of valuable contributions and contributors in the community. On the other hand, an overly hands-off approach to the community, as we see practiced by *WikiLeaks* staff, may result in community dynamics slipping out of reach – leading, for example, to the kind of uncontrolled guerrilla cyber-warfare which is practiced by the Anonymous group and its sympathisers in the name of, but outside the control of *WikiLeaks* itself.

## 2.5. Earn Social Capital

What immediately follows from the preceding point is that in the community-driven, distributed social media environments we have described here, social capital is earned, not inherited, even by those participants acting on behalf of established authorities. The reason that those tweeting and

posting *Facebook* updates on behalf of the Queensland Police Service were respected by the wider social media community following the Queensland flood events was not the inherent status of the Queensland Police force in Australian society, nor even perhaps the flood rescue and relief activities performed by police officers in the field, but the way that the QPS *Twitter* and *Facebook* accounts themselves performed: as valuable sources of information; as quick, informative, and level-headed respondents taking part in the community discussion; and fellow, equal members of both online and local communities. Mere reliance on the overall social clout associated with the police service badge would not have produced comparable results.

These, then, are key lessons which it would also benefit other e-democracy initiatives to learn. What remains an open question, by contrast, is the extent to which the nature of these two case studies as focussed around acute events has influenced their outcomes. By definition, acute events are acute: they focus popular attention and attract potentially large communities of participants and contributors, at least for the duration of the event itself. This is necessarily different for e-democracy initiatives whose themes and topics are less inherently problematic or controversial, and/or unfold over a much longer period of time; here, there could be legitimate fears that too much distribution and dispersion of the community of participants across diverse platforms and spaces could dilute key community-sustaining processes themselves. However, neither the size of the participant community, nor spatial, temporal or topical concentration, are inherent guarantees for the success of a citizen engagement project – smaller-scale issues whose timelines are less pressing may comfortably be debated by a smaller number of contributors over a longer period of time, without necessarily generating outcomes that are any less productive. The five key lessons identified above, at any rate, are not time-, topic-, or community-specific.

At the same time, however, it may be useful to consider the possibility for citizen engagement activities in e-democracy projects to be explicitly organised around a series of (at least moderately) acute events – to position and highlight key issues and questions as challenges for the community in order to concentrate debate and deliberation. Clearly, these would not be as monumental as the acute events we have observed here, but even on a much smaller scale this enhanced focus may be helpful. Such an organisation cannot be attempted without consultation with the community itself, however, and without taking place in the spaces preferred by the community, as any perceptions of artificial, top-down interventions by site operators must be avoided in order to maintain the g4c2c approach. Should this ‘acute events’ approach be possible, then it seems likely that it would generate a better quality of citizen engagement than merely thematically organised approaches to e-democracy that force participants to sign up to centralised spaces.

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## About the Author

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Dr Axel Bruns is an Associate Professor in the Creative Industries Faculty at Queensland University of Technology in Brisbane, Australia. He is a Chief Investigator in the ARC Centre of Excellence for Creative Industries and Innovation (CCi), and has been a Senior Researcher in the Smart Services Cooperative Research Centre. Bruns is the author of *Blogs, Wikipedia, Second Life and Beyond: From Production to Producership* (2008) and *Gatewatching: Collaborative Online News Production* (2005), and the editor of *Uses of Blogs* with Joanne Jacobs (2006; all released by Peter Lang, New York). Bruns has coined the term producership to better describe the current paradigm shift towards user-led forms of collaborative content creation which are proving to have an increasing impact on media, economy, law, social practices, and democracy itself. Producership provides a new approach to conceptualising these phenomena by avoiding the traditional assumptions associated with industrial-age production models (see <http://producership.org/>). Bruns's Website is at <http://snurb.info/>.



# How pricing PSI may ruin innovation

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**Abstract:** *After Open Data and Open Government have left the niche of engaged civil society activists into the political daylight, it is not surprising, that we have now a discussion about a „business-model open data“. Some say, open data has already been paid by the tax payers, others reflect aloud about a pricing model for PSI<sup>1</sup>. The author banks on the power of innovation of the crowd, developing new apps with raw open data and is afraid that pricing PSI will ruin this innovation.*

**Keywords:** Open Data, Open Government, PSI

**We ought to have known!** Not a long time ago, the term „Open Data“ was used by only a few insiders - often politically motivated programmers from civil society. After U.S. President Barack Obama had announced his Open Government Directive some time after his election and launched the related web page [data.gov](http://data.gov), the term was on everyone's lips. Some countries followed quickly (eg. The United Kingdom), others still take their time (eg. Germany).

The digital civil rights movement had been faster than government. They created impressive examples, partly on their own initiative and to some extent organized, which show the accomplishments of Open Data. Administrations and politicians sometimes adopted a critical attitude towards these developments because they allowed a different insight in political relations, which wasn't desired at any rate. One example is the English website [farmsubsidies.org](http://farmsubsidies.org); it's German equivalent had to be switched off a short time after the date of launch.

Civil society Open Data supporters merged and formed associations or initiatives to raise the issue of Open Data onto the political agenda. In Germany, these were for example the Open Data Network and the Government 2.0 network. The initiative's postulations were clear: „The Open Data movement calls for a basically charge-free provision of information for the processing of data.“ And here the dispute starts: Should there be a charge for the provision of Open Data? Has the collection and storage of data not already been funded by tax money and has therefore already been paid? Do payment models prevent the creative and innovative development of Open Data Apps?

The battle lines seem pretty clear. While one side claims that the provision of quality data records would have to cost money after all (staff, time, etc.) which has to be paid by potential users, the other side considers Open Data as too valuable to lock it behind a governmental/state-run paywall.

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<sup>1</sup> Anotation by the Editors: Public Sector Information

My opinion as a member of the Open Data Network is that pricing Open Data will prevent innovation and lower the benefits (financially and socially) in the end than a preferably cost-free provision. In other words Open Data itself creates and generates more value than the sale of this data sets. Several countries, for example The Netherlands have understood this principle.

What are the benefits?

More transparency

More participation and self-empowerment

Improvement of commercial products and services

New commercial products and services

Stimulator of innovations

Improvement of services for citizens

New governmental services for citizens

Efficiency improvement in government agencies

Effectivity improvement in government agencies

More knowledge / new insights

To mention all the countless successful examples all over the world for all these benefits would go beyond the scope right now. In many countries it is a governmental intention to support Open Data at regional or even state level and they are already working hard on the implementation. Predominant aim must be the governmental release of all Open Data information – and we are not talking about personal data or state secrets. And we are not demanding to do it immediately and all at once. But there are low hanging fruits to begin with: data records which already meet the requirements of Open Data but haven't been published under free licences yet. Wouldn't it be a good idea/a possibility to start with these and talk about the hidden treasures on microfiches and in offices files in the long run?

The Open Data activists are very much concerned about the government taking this issue very seriously: They fear that government might turn Open Data into a giant IT-project in which all the data sets will be processed in a perfect way and be driven through a central publishing process. This doesn't work out, it is expensive and of no account. We don't need costly, low-grade products of minor information quality – instead, we need raw data!

This is about establishing a process of improving and up-dating administration. Open Government breaks the traditional value chains and the question arises who ultimately develops and provides administrative services. In the future this will be increasingly done by third parties – citizens, companies, civil society. There are worldwide Apps for democracy competitions in which third parties - and not administrations – have created highly innovative applications voluntarily and without being paid, which raised millions of dollars in the end.

The government might see this as a reversal of the norm. The standard should be the cost-free publishing of data in several machine-readable formats. Exceptions should be well founded and must be tightly regulated. Then corruption and waste of money will have little chance to prevail. Every citizen will become a potential employee of the audit court. What sounds like a threat towards the established policy is rather a great opportunity: Because of the enormous public debt we have to rely on everybody's creativity in order to reduce expenses while improving the quality of governmental services at the same time.

Open Data could be a new currency then, which stimulate innovation and promote economic growth. There is no possibility to calculate a classical return of investment for the issues “promoting democracy” and “better governance”, not least because democracy is not a commodity.

Let us continue with patience, cooperativeness, gradualistic policy, and above all by good examples – then everybody will be able to benefit from Open Data.

First and foremost, democracy!

## About the Author

### *Stefan Gehrke*

Stefan Gehrke was born in Hamburg/Germany in 1965 and raised in Lemgo. After the A-Level-examination he studied law in Gießen and Bonn. After six years working as an assistant for two members of the German Parliament, several jobs for newspapers and TV as well as taking the state examination, he started to absolve a desk traineeship at the Frankfurter Allgemeine Zeitung. After a short time being a sport editor for FAZ he discovered the (at that time) new medium Internet in 1996 and changed to ZDF-Online which gave him immediately the chance to go as a reporter to the Olympic Games in Atlanta. After further stations, for example "Deutsche Post", "RTL-NewMedia" and as Managing Director of the German Association for IT-security "Mcert" he was managing pol-di.net e.V. / politik-digital.de for three years, ending this January. With a former colleague he founded “buero fuer neues denken”, an agency for political communication.



# **E-Democracy & E-Participation**

(peer-reviewed)





# How democratic is e-participation?

*A comparison between e-Petition and e-Parliament cases in four European countries*

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**Abstract:** *The proposed paper offers an original theoretical framework for analysing electronic (e)-participation cases and a contribution to improving the actual practice of e-participation. The empirical cases under study range across various countries (Italy, France, Sweden and the UK) and different institutional contexts (top-down versus bottom-up driven initiatives). This paper should be a valuable contribution to the field since cross-national studies of e-participation are clearly lacking, especially in Europe. In particular, the paper is exploring the link between e-participation design and its benefits or shortcomings — factors that have generally been overlooked by scholars and will benefit from further exploration.*

**Keywords:** e-participation, e-democracy, democratic quality, institutional design, citizen engagement

## 1. The institutional design and quality of e-participation

**E**-participation has become an important part of the political landscape in Europe but little is actually known about its effects on European democracies. There is a multitude of e-participation projects that, in theory, enable citizens to set the political agenda and influence policy processes. The proclaimed goals of these projects are usually related to the improvement of the democratic practice in some form. However, the reality is more ambiguous: some projects are dominated by lobby groups or political elites; others show poor deliberation quality and are disconnected from policy making. From a theoretical perspective, it is not even clear what democratic standards e-participation is supposed to attain, making success very difficult to measure. I am addressing this problem by constructing my own theoretical framework and indicators for evaluating e-participation projects, in particular their democratic quality. The quality is assessed by using selected democracy dimensions: accountability, equality, responsiveness and freedom (as illustrated in Table 1). I assume that there is a causal link between the institutional design of e-participation projects and the quality of these projects.

**Table 1. The operationalization of democratic quality with respect to e-democracy projects (based on Coleman and Blumler 2009; Diamond and Morlino 2005; Morlino 2009; and Janssen and Kies 2004)**

Dimension	Indicators
Equality	Participation without domination of any group(s)/interests
	No discrimination on the basis of gender, race, religion, language, opinions, social or personal conditions etc.
Freedom	Type of moderation

	Respect for privacy
Responsiveness	Citizens' influence on policy and policy agenda
	Citizens' influence on topics discussed and e-techniques
Accountability	Access to balanced and comprehensive information
	Information to participants about how their inputs are received and handled

The institutional design is framed according to Fung's participatory dimensions, which determine whether an e-democracy project will be successful or not: (i) eligible participants, (ii) communication mechanisms, and (iii) influence on policy (Fung 2006). The first dimension deals with participant selection mechanisms that include (i) *recruitment of lay stakeholders*, (ii) *random*, (iii) *targeted* and (iv) *self-selection*<sup>1</sup>. The second dimension focuses on how participants communicate and decide upon policy. On the one extreme of this scale, participants are passive (*i*) *spectators* who receive information about a policy issue. Moving towards a more active approach, the project design enables participants to (*ii*) *express* and (*iii*) *develop preferences*, i.e. transform their opinions and preferences. The latter mechanism is close to deliberative ideals, which promote negotiation, clarification of persisting disagreements and discovery of new options based upon reasons, arguments and principles. Finally, the third dimension deals with the influence of participation on policy-making. Its first mechanism is about exercising (*i*) *communicative influence* that can mobilize people for or against a policy issue and at the same time influence the decision-makers e.g. by the sheer mass of people involved or by their testimonies. The second mechanism is (*ii*) *advice and consultation*, whereby the officials commit to receiving input from participants but reserve the right not to use it when making the final decision. At last, as addition to Fung's model, the (*iii*) *mandatory consideration* mechanism indicates that the policy-makers have committed to formally consider, but not necessarily to implement, citizen proposals already at the outset of the project.

The link between the institutional design and the democratic quality is explored through in-depth, cross-country comparison of similar e-participation cases. The case studies include e-petitioning initiatives and e-Parliament projects i.e. initiatives aimed at allowing citizens to monitor and actively engage in the legislative activities of parliaments. Most of them are pioneering cases without equivalents in their respective country. These projects are analysed from the point of view of both their initiators and participants by drawing on an analysis of project documentation and usage statistics; results of online user surveys and interviews with project creators, public officials and politicians.

## 2. E-Parliaments<sup>2</sup>

The general e-democracy trend in the public sector tells us that state authorities are taking a rather conservative approach to technology-based engagement with citizens. Governments have invested more in provision of one-way information and e-services rather than in the more interactive applications allowing for partnerships with citizens (Gibson et al. 2004; Smith 2009; Zittel 2004). The situation is similar among national parliaments; they are reluctant to use the more innovative digital media like forums, blogs and social networking to communicate with citizens

<sup>1</sup> Only a selection of Fung's mechanisms is used in this paper since not all of them adapt to e-democracy projects under study.

<sup>2</sup> E-parliament is here defined as the application of information technology to the documentation and dissemination of legislative activity. E-parliament projects aim at providing information and statistics about: individual legislators, legislative proposals, votes thereon, and texts of legislation.

(Berntzen et al. 2006; Williamson 2009). At the same time, a new generation of e-Parliament projects has emerged in the past few years. They combine information from parliamentary websites with social media tools in order to render the activities of elected representatives more transparent and to engage citizens in parliamentary affairs. Many of them use debate platforms, where citizens can discuss the work of their representatives, and have applications that allow users to vote on parliamentary bills and compare their votes with those of their representatives (Sasaki 2010). E-Parliament projects are also keen investors in social networking tools like Facebook and Twitter, which help them to sustain interaction with their users. What is remarkable about these projects, is that most of them do not originate from parliaments but emerge from the grassroots-level, and are carried out prevalently by NGOs and volunteering citizens. In the following section, we explore two of these projects: OpenParlamento in Italy and NosDéputés in France. These projects are driven by non-profit organisations and were launched almost simultaneously, in 2009. They both offer information and statistics about parliamentary activities and the possibility of discussing the legislative acts directly online. OpenParlamento has slightly more advanced applications with respect to the NosDéputés, e.g. the possibility of voting on legislative proposals, describing their content and amending them by making changes directly within the text.

## 2.1. Comparison between OpenParlamento and NosDéputés

### 2.1.1. Equality

Both OpenParlamento and NosDéputés have self-selected participants, which means that all citizens who wish to engage have an equal right to do so. At the same time, this implies a risk that certain groups may prevail among project participants<sup>3</sup>. In terms of equality, it is also important to distinguish between active and passive participation. A project might show a perfect distribution of participants in line with the population of reference but the disadvantaged groups could still remain without voice in the online debate. In fact, passive online participation generally prevails over the active one, and OpenParlamento and NosDéputés are no exception to this tendency. In the case of OpenParlamento, the misbalance between passive and active participants is particularly flagrant when the involvement requires written input. As shown in Table 2, the number of OpenParlamento site visitors and registered users far exceeds the number of descriptions of and comments to legislative acts. The OpenParlamento users also have the possibility to vote in favour or against proposed legislation and in this respect the ratio of active participation looks more encouraging. The number of votes (8,165) with respect to the number of OpenParlamento users (12,237) is quite high. This might be due to the easiness of casting a vote — just pushing a button — compared to the hassle of putting together intelligible comments. Although OpenParlamento has more site visitors and even 13 times more registered users than NosDéputés, NosDéputés users are much more active. To date, they have made more comments (870) than the OpenParlamento users (821). The equality issue still remains; even if at the first glance the ratio of active/passive participants seems better on NosDéputés, only about every fourth user has actually posted any comment.

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<sup>3</sup> The actual socio-economic characteristics and digital skills of OpenParlamento and NosDéputés users will be explored by a forthcoming online survey.

**Table 2: Comparison between OpenParlamento and NosDéputés users (OpenParlamento<sup>4</sup> and NosDéputés<sup>5</sup> project statistics 2010)**

Total figures 2009-2010	OpenParlamento	NosDéputés
Site visitors	421,897	370,100
Registered users	12,237	966
Votes on legislative acts	8,165	n/a
Comments to legislative acts	821	870
WIKI descriptions of legislative acts	154	n/a

A deeper analysis into user posts on OpenParlamento and NosDéputés shows a scattered pattern of activity. A large share of OpenParlamento comments (64 percent) focuses on merely three legislative acts. If we examine the related comments, it becomes clear that most users limit their interventions to one or two comments, while a minority overshadows the debate with over ten comments. A pattern of domination also emerges on NosDéputés; the six most active users have produced over 30 percent of all comments, while 74 percent of users have made no comments at all. Moreover, it is also plausible that same individuals have registered and provided comments under several user names, which means that the domination might be even stronger than it appears from the aforementioned statistics. The generally uneven ratio of few active users versus the many registered ones confirms the evidence about minority domination presented in the literature. Only about ten percent of Internet users, or five percent of the whole European population, are effectively involved in producing content or offer reviews/feedbacks (Osimo 2008). Online communities usually have a very small core group of contributors — estimated to one percent of visitors — that actively posts, asks and answers questions, while the rest are mostly passive readers (Glencross 2009; Jakob 2006 in Bittle et al. 2009).

With regard to discrimination, while NosDéputés lacks any specific user rules, OpenParlamento aims to be free from censorship and wants all persons, opinions and political positions to be respected equally. It is forbidden to offend the dignity and reputation of persons, threaten other visitors or insult persons, ethnic groups, gender, religions, economic conditions and political opinions. At the same time, both OpenParlamento and NosDéputés have a noninterventionist approach to moderation; posts are reviewed only post-factum and not in a systematic way. Notwithstanding the large freedom given to users, offenses and personal attacks on OpenParlamento occur very rarely and have never occurred on NosDéputés. No posts have ever been reported or removed from the project sites, which implies that the users are exceptionally well-behaved.

### 2.1.2. Accountability and freedom

The institutional design of OpenParlamento and NosDéputés foresees *development of preferences*. The project applications allow participants to explore, to learn about issues and, to some extent, develop their preferences and perspectives. The accountability criterion under study implies that balanced and comprehensive information about legislative acts should be accessible to all users. Both OpenParlamento and NosDéputés rely on official data as the main source of information, which as such presumes a certain level of objectivity. By offering nitty-gritty and user-

4 Data covering July 2009 – June 2010.

5 Data covering September 2009 – October 2010

friendly information based on parliamentary facts, the two projects are presumably more objective and accessible to lay citizens than the traditional media channels. OpenParlamento and NosDéputés are supposedly the main unified and easily accessible points of parliamentary information in their respective countries. With the launches of OpenParlamento and NosDéputés, parliamentary information in Italy and France became accessible not only to experts and specialized journalists but to all citizens capable of using computers.

The second accountability dimension assesses whether participants are informed about how their inputs are received and handled. Both OpenParlamento and NosDéputés are non-profit organisations with no apparent connection to parliament or any other political players. Hence, unsurprisingly, neither OpenParlamento nor NosDéputés provide any of this information, nor offer any direct channel for interaction between citizens and decision-makers. Members of parliaments are free to engage in discussions and comment their legislative proposals on OpenParlamento and NosDéputés but they have not officially committed to it. In reality, their interest has been scarce; there is no evidence that any members of parliament (MPs) ever responded to users.

Concerning the extent of moderation, both OpenParlamento and NosDéputés publish user contributions on their websites immediately and then apply ex-post moderation. Should a contribution violate the law or the publication rules, it is eventually blocked. OpenParlamento and NosDéputés have no specific moderation guidelines but use an ad-hoc, as opposed to systematic, approach to verification. The moderators are not necessarily knowledgeable about the issues posted or debated by users, which could prevent them from spotting erroneous information or manipulation by users. OpenParlamento also makes use of a sort of peer-review of contributions, where every user has the possibility of notifying errors and reporting abuses to the administrators. This type of liberal approach to moderation seems to work out well; abuse in terms of falsification or manipulation is basically nonexistent and no user has ever been banned from OpenParlamento or NosDéputés.

OpenParlamento and NosDéputés also have a liberal approach to identification of participants. When registering, users are asked just enough information to respect the law, i.e. name and email address. These data are requested for reasons of transparency and identification of abuses. With regard to data protection, there is a potential issue with the partially commercial organisation behind OpenParlamento<sup>6</sup>. However, according to the project team, there is a strict division between the Depp association and the Depp Srl. The former does not allow the latter or third parties to access its users' personal data or information about their behaviour on the OpenParlamento website.

### 2.1.3. Responsiveness

In terms of responsiveness, there is no evidence of citizens' influence on policy and policy agenda on OpenParlamento or NosDéputés. This is not surprising based on what has been said in previous sections; the two projects have few effective links with MPs; and the latter have never engaged in the projects' debate forums. Moreover, MPs purportedly consider OpenParlamento and NosDéputés as visibility channels rather than tools that could help them in their legislative activities. Nevertheless, in the French case, there is some anecdotal evidence of the project's influence on MP's behaviour. After the release of the first NosDéputés study on absenteeism, which received a lot of media coverage, the French National Assembly started to enforce existing rules to fine MPs absent from obligatory sessions. Moreover, after the second absenteeism study, MPs who were particularly pointed out by the media increased their presence in the Assembly.

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<sup>6</sup> Apart from Depp, the association in charge of OpenParlamento, there is also a private company called Depp Srl that commercialises some of the OpenParlamento services.

As for the online debate agenda (the second responsiveness indicator), it is basically shaped by what goes on in the respective parliament and not by the project users. Concerning users' influence on e-techniques, both OpenParlamento and NosDéputés portals are based on free and open source software, which implies that users can read and change the code. OpenParlamento explicitly invites users to suggest new applications and to comment on the existing ones. They also run a blog section about applications under development where users are prompted to comment. In the case of NosDéputés, user involvement is somewhat limited by the complexity of the code; few users have the necessary skills and time available to innovate it. Overall, the influence of users on e-techniques seem to be quite limited in OpenParlamento and NosDéputés.

### 3. e-Petitions<sup>7</sup>

The history of petitions can be traced back as far as to pre-modern Imperial China, while in Europe, the right of petitioning was first recognized, albeit indirectly, as early as in the English Magna Carta in 1215 and reaffirmed in the English Bill of Rights of 1689. In recent years, petitions have regained their importance in formal decision-making processes in Europe, not least because of the spread of digital technologies. The Internet has given a significant boost to petitions by enabling their promotion through interactive websites with ample background information and campaigning tools like social networking, web alerts and referrals. The Internet also allows a large number of people to sign petitions very rapidly and independently of the time of the day or signers' location. The match between the formalised petitioning process with new digital tools has a strong potential to vitalise public engagement (Åström and Sedelius 2010). In fact, some e-petitions, largely supported by the public, have managed to put pressure on governments, such as those launched on the UK Prime Minister's website, which have turned out to be embarrassing both for Tony Blair, when 1.8 million persons signed the petition about ending road pricing, and to Gordon Brown, when nearly 100,000 citizens demanded his resignation. However, in terms of political results achieved so far, the e-petitioning panorama is rather disappointing.

In this paper we are exploring the e-petitioning projects Malmöinitiativet in Sweden and Bristol e-Petitioner in the UK, both run by municipalities. Malmöinitiativet, which was launched in 2008, is the first e-petition system in Sweden. It was modelled according to the Bristol e-Petitioner, launched already in 2004. Both Malmöinitiativet and Bristol e-Petitioner offer citizens the possibility of raising and signing e-petitions. Besides, Malmöinitiativet's users can debate the proposed petitions on an online forum since March 2010.

#### 3.1. Comparison between Malmöinitiativet and Bristol

##### 3.1.1. Equality

Both Malmöinitiativet and Bristol e-Petitioner use self-selection of participants but there are significant differences between them in terms of actual engagement. To date, Malmöinitiativet has attracted over 400 petitions<sup>8</sup> (about 10 new petitions per month on average), while its archetype with more population of reference, the Bristol e-Petitioner, only gets about 30 e-petitions per year. Malmöinitiativet's results are also excellent compared to other established e-petition initiatives in communities with larger populations. For example, the Scottish Parliament, ruling over circa 5 million inhabitants, receives about 170 e-petitions per year; while the Queensland Parliament with

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<sup>7</sup> A petition is defined as a request to change something, usually made to a government official or public entity. In general, it comes in the shape of a document addressed to an official and signed by numerous individuals. A petition may be oral rather than written, and nowadays it may be sent using the Internet.

<sup>8</sup> Statistics from December 2010.

its 4.4 million inhabitants gets about 30 petitions per year (The Parliament of the Commonwealth of Australia 2009). The situation with regard to the number of petition signatures looks differently. Malmöinitiativet has received considerably fewer signatures (8,615) than the Bristol e-petitioner (74,363 signatures). These signature statistics are quite significant in relation to the number of city inhabitants; especially in the case of Bristol where they correspond to circa 17 percent of the city population (if we assume that the signatures are unique).

**Table 3. Comparison between project statistics in Bristol e-Petitioner and Malmöinitiativet (2010)**

	<b>Malmöinitiativet</b>	<b>Bristol e-Petitioner</b>
Target population (Malmö and Bristol city)	293 909	433 100
Petitions	410	210
Signatures	8 615	74 363

In the case of Malmöinitiativet, we can also observe ‘peaks of domination’ among petitioners, e.g. in one instance, a single person created 29 out of 94 active petitions on the same day. Few active users tend to dominate the petitioning process by producing a lot of contributions. In fact, there are only two very active petitioners but they have created 48 petitions (16 percent of the total) and 21 petitions respectively (7 percent of the total) (Åström and Sedelius 2010). Yet, the participation arena is not completely subjugated since these petitions have not received a lot of support in terms of signatures, 120 persons signed the aforementioned 48 petitions (0.01 percent out of the total) and 232 persons signed the 21 petitions (0.03 percent of the total).

Overall, the demographic characteristics of users of Malmöinitiativet and Bristol e-Petitioner confirm the traditional pattern of under-representation of certain groups like women and disabled in politics. People with higher education prevail over those with lower education among Malmöinitiativet’s lead petitioners. Malmöinitiativet and Bristol e-Petitioner users show some very similar characteristics, e.g. there are more men than women, and fewer people from younger, as well as from older age groups in relation to the population in the respective city (see Table 4). Most petitioners are men belonging to the age group ranging from 20 to 59 (Åström and Sedelius 2010; Whyte et al. 2005). Surprisingly few – only four percent - of Malmöinitiativet’s petitioners are under 20. On a positive note, it is worth noting that the black and minority ethnic groups are represented on Bristol e-Petitioner in proportion to the Bristol population<sup>9</sup>(Whyte et al. 2005).

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<sup>9</sup> The survey results were not conclusive since seven percent of respondents declined to answer the ethnicity question.

**Table 4. Demographic characteristics of Bristol and Malmo e-petitioners (Whyte et al. 2005<sup>10</sup>; Åström and Sedelius 2010<sup>11</sup>)**

		Bristol e-Petition signers (%)	Bristol City population (%)	Malmo e-Petitioners (%)	Malmo City population (%) <sup>12</sup>
Age	Young	13 (under 25)	23 (16-29)	4 (under 20)	18 (0-15)
	Mature	63 (25-50)	23 (30-44)	39 (20-39)	45 (16-44)
	Middle-aged/elderly	24 (50+)	35 (45+)	35 (40-59) and 14 (60+)	22 (45-64) and 15 (65+)
Gender	Male	62	49	65 <sup>13</sup>	49
	Female	38	51	35	51

Data on digital divides is so far only available for Malmöinitiativet and it indicates that the project might be perpetuating the digital inequalities. According to a recent Malmöinitiativet survey<sup>14</sup>, its active users — those who have created at least one e-petition — are very advanced Internet users. All survey respondents use the Internet daily, 75 percent of them read blogs and circa 30 percent state that they run their own blogs. The majority are also well-familiar with social networks. On the positive side, the same survey also implies that the use of Internet in politics is effective in reaching groups that would otherwise remain outside the political processes. Over half of the respondents said that they would not have made their proposals if not through Malmöinitiativet and 94 percent believed that Malmöinitiativet has made it easier to petition Malmö City (Åström and Sedelius 2010). This pattern is in line with the findings of the Bristol e-Petitioner evaluation, which affirmed that Bristol e-Petitioner has largely been used by people who have not previously been involved in community actions (Whyte et al. 2005).

Discriminatory contributions are an exception in Malmöinitiativet, while it is yet unclear to what extent they occur on Bristol e-Petitioner. With regard to petition guidelines, they are very similar in both the projects, the key principle is that irrelevant, offensive or factually inaccurate petitions are rejected.

### 3.1.2. Accountability and freedom

On Bristol e-Petitioner citizens can only *express preferences* by creating or signing a petition, while the institutional design of Malmöinitiativet also allows users to *develop preferences* through its recently launched online forum, which allows discussion among users, and politicians. To date, the discussion forum has rather few contributions but the large amount of clicks (11,517) on forum posts indicates that there are many lurkers, i.e. the customary 'silent majority' in e-forums. Lurking

10 The Bristol e-Petitioner evaluation included a survey of e-petition signers, but did not include any site visitors who decided not to sign any petitions. Response rate: 54 percent (478 out of 890 e-petition signers).

11 The statistics embrace those who have created at least one e-petition and responded to the project evaluation questionnaire.

12 Statistics Sweden (SCB) statistics from 31 December 2009 and 1 January 2010.

13 The gender statistics embrace all those who have created petitions on Malmöinitiativet, not only the questionnaire respondents.

14 These survey results have to be considered with caution since the sample of e-petitioners was very small (39 persons) and included only the most active participants.

is a widespread behaviour; previous studies indicate that lurkers make up over 90 percent of online groups (Nonnecke & Preece 2000).

Concerning background information accompanying petitions, it mostly consists of one-sided accounts in favour of the petition topic. In the case of Malmöinitiativet, the amount of information provided by petitioners has been rather scarce (Åström and Sedelius 2010). Another drawback, is that Malmöinitiativet's users are not informed about how their inputs are received and handled by the relevant authorities. In contrast, the Bristol e-Petitioner has adopted a procedure where citizens' petitions are automatically referred to a council officer, committee or councillor for consideration. The Bristol Council deliberates internally regarding each petition and records the response in meeting minutes. Most often the response is communicated directly to the lead petitioner. In the future, the Council plans to publish all the answers online.

In both Malmöinitiativet and Bristol e-Petitioner, petitions are checked against the respective terms and conditions available on the projects' websites. If factual inaccuracies are found in the text, the moderators contact petitioners and gives them the opportunity to reconsider the petition wording. In the case of Bristol e-Petitioner, if a petition is considered inadmissible, the moderator informs the petitioner about the reasons for the decision in writing. With regard to user privacy, Malmöinitiativet and Bristol e-Petitioner ask for a minimum of personal details at website registration (name, email and physical address) and this data is not verified or crosschecked in any way.

### 3.1.3. Responsiveness

The institutional design of Malmöinitiativet predisposes for an indirect impact on policy and policy-makers, a so-called *communicative influence*. This means that they offer a space for activating people for or against a policy issue. In contrast, the Bristol e-Petitioner applies *mandatory consideration* of e-petitions, which means that policy-makers are committed to formally consider citizens' proposals. Mandatory consideration unsurprisingly brings about more political responsiveness than the mechanism of communicative influence. While Malmö City Council has debated only one petition, which was eventually rejected, the Bristol e-Petitioner has a record of implemented petitions.

Three of the successful petitions— *Keep Banksy art, Save the railway path and Better lighting and more police patrols on the cycle path* — got many signatures and received extensive coverage by the local, national and even international media. The *Save the railway path* petition, which attracted the highest number of signatures (10,206) for any e-petition started in Bristol since the system was launched in 2004, gained wide publicity via the Sustrans and other 'green' networks, public demonstrations and meetings, campaign websites and online groups. These converging factors among successful Bristol petitions — broad media coverage, many participants and mobilisation — reflect what have been said in the literature. Scholars affirm that projects characterized by civic organisations or citizens that mobilize for collective actions and push issues forward, high media visibility and a large number of participants are more likely to influence policy (Creasy et al. 2007; Goldman 2007 in Fagotto and Fung 2009; Janssen and Kies 2004). The more participants and media attention, the more the decision-makers feel pressured to take citizens' views into account (Smith 2009). However, even if Bristol e-Petitioner shows some degree of political responsiveness, overall it is rather limited; according to the Bristol Council homepage, only five out of 210 petitions had any impact during the seven years that the project has been active.

In the case of Malmöinitiativet, the absence of a standard procedure for processing petitions was a deliberate choice made by the steering group in charge of the project. They decided that there should be no requirement to answer petitioners and that a dialogue between them and the e-

petitioners should not be taken for granted. In practice, the members of steering group as well as the political secretaries of parties are free to consult the e-petitioning pages, pick the 'best proposals' and report back on them to their party. The politicians see Malmöinitiativet in terms of an open forum for ideas and opinions rather than as a petition service.

Finally, regarding the second responsiveness indicator, citizens' are basically unlimited in deciding the debate agenda on Malmöinitiativet and Bristol e-Petitioner. Users can choose topics freely and launch as many petitions as they want. Concerning citizens' influence on e-techniques, none of the two petition projects encourage citizens to contribute to the development of their applications or codes. This stands in contrast to the civil society-driven e-Parliament projects, which both run on open source software and are prompting user to develop their e-democracy applications.

#### 4. Conclusions

There is a general tendency among state actors to take a conservative approach to e-democracy. Most of them are mainly interested in one-way information provision to citizens and not so much in citizens' feedback about legislation or policies. The Italian, French, Swedish and British projects under study confirm this tendency. The politicians are hesitant towards communicating with citizens online and reluctant to respond to their proposals. The type of policy influence mechanism used seems to be important in this context. OpenParlamento, NosDéputés and Malmöinitiativet all apply *communicative influence* mechanisms and have no apparent policy impact. In contrast, Bristol e-Petitioner applies *mandatory consideration* of e-petitions and has a record of implemented petitions. However, even if Bristol e-Petitioner shows some political responsiveness, it tends to be rather limited; only five out of 210 petitions had any impact in the seven years since the project start. In the case of e-Parliament projects, the non-responsiveness could be a question of ownership. The national parliaments do not own these projects and probably have difficulties in finding a reason why they should be involved. At the same time, their involvement is not excluded in the future; it might just need a trigger. When OpenParlamento indirectly involved MPs into project design by sending them a questionnaire<sup>15</sup>, an impressive 16 percent of the MPs completed it and came up with relevant suggestions.

Overall, some intervening factors seem to have increased the chances of political consideration and responsiveness among the four projects under study: broad media coverage, a large number of participants and civic mobilisation. This finding is very much in line with previous academic assumptions (Creasy et al. 2007; Goldman 2007 in Fagotto and Fung 2009; Janssen and Kies 2004; Smith 2009).

In terms of equality, all the projects under study apply self-selection of participants. In the e-petition cases, the demographic characteristics of users generally reflect the traditional patterns of under-representation in politics of certain groups like women, the disabled, youths and the elderly.<sup>16</sup> There is also evidence of a misbalance between passive and active participants in all projects, which is particularly flagrant when the involvement requires written input. Moreover, in many instances, the debate and contributions tend to be overshadowed by a minority of participants. Hence, the self-selection mechanism does not seem to be suitable for ensuring an equal representation and voice of all the relevant citizen groups.

The soft project-moderation approach applied in all cases gives substantial freedom to participants on the one hand, while on the other hand, the moderators are not equipped with any

<sup>15</sup> The questionnaire asked for advice on how to monitor activities in parliament.

<sup>16</sup> The gaps in data about the characteristics of projects users will be complemented by online surveys in February–March 2011.

tools to distribute the debate space equally, nor prevent people from dominating the debate or discriminating against each other. This could be considered a neutral moderation approach but in practice, it might contribute to entrenching inequalities among participants. Generally, most of the projects are promoters rather than censors of citizens' contributions. Moderation is kept to a minimum and, in one case, a part of the responsibility is moved over to users, who can report erroneous posts or irregularities to the project teams. The soft moderation approach seems to be winning; abuse in terms of falsification or manipulation of information is basically nonexistent and no user has ever been banned from the projects. At the same time, projects seem fully committed to respecting the privacy of users and their data.

All of the projects under study, apart from Bristol e-Petitioner, allow users to develop their *preferences*. However, this does not seem to have any effect on the accountability or freedom dimensions. In both Malmö and Bristol, individual petitioners are in charge of putting together background information about what they propose. The information tends to be rather scarce and mostly consists of one-sided accounts in favour of the petition. At the same time, the Malmöinitiativet's discussion forum, which could have been a way for complementing the amount of information by active involvement of users, has not really taken off. In contrast with the e-petition projects, access to information is arguably the indicator on which e-Parliament projects excel most. They are arguably the main unified and easily accessible points of parliamentary information in their respective country. With the emergence of OpenParlamento and NosDéputés, essential parliamentary facts became accessible to all citizens with Internet access and computer skills in Italy and France, as opposed to sole experts and specialized journalists. These e-Parliament initiatives have enabled many citizens to take an informed and well-grounded stance on political issues.

In conclusion, most of these findings confirm the Fung's assumptions about the weight of institutional design on the quality and success of e-participation projects (Fung 2006). However, these results are only preliminary and will be complemented with both online user surveys and a Qualitative Comparative Analysis (QCA) of a larger number of e-participation projects in spring 2011.

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I am a PhD candidate at the European University Institute (EUI) in Florence, Italy. My research interests include electronic democracy, public participation and democratic innovations. I am particularly interested in understanding how digital technologies are used in public participation processes and how they can strengthen citizens' role in politics. Prior to embarking on my PhD, I have worked for a science policy consultancy and in international organizations, where I covered the areas of democratic governance, human rights as well as monitoring and evaluation.



# Institutionalising eParticipation in Europe

*Policy challenges and a way forward*

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**Abstract:** *Institutionalisation of eParticipation is the next big challenge of the forthcoming years for Europe as a whole. After the wave of demonstration projects funded under the joint (EU Parliament and Commission) Preparatory Action on eParticipation, it is important to make one step forward by taking stock of the positive and getting rid of the negative outcomes, to avoid reinventing the wheel every time and to channel (presumably decreasing) resources towards future initiatives that really make a difference and have long term impact. To this end, it is recommended that the European Commission and Member States should focus more and more on technological (scaling-up) and institutional (sustainable change) aspects, particularly in the framework of the new eGovernment Action Plan's implementation process.*

**Keywords:** institutionalisation, sustainability, eParticipation Preparatory Action, eGovernment Action Plan

**Acknowledgement:** This paper derives from a much shorter presentation I did on 7<sup>th</sup> December 2010 at an ePractice workshop on eParticipation in Brussels. I am very grateful for the comments received thereafter. Errors are mine.

**B**eginning of this year, the eParticipation Preparatory Action has come to an end. Launched in 2005 by the joint effort (and funding) of the European Parliament and Commission, the Action aimed to promote participation of EU citizens in parliamentary and decision-making processes, supported by ICT (Information and Communication Technologies), and through this to contribute to better legislation and policy-making at European, national and regional level. In three years of implementation (2006-2008), 20 trial projects have been funded, covering a wide range of domains, such as climate change and energy, consumer protection, environment and planning, plus the MOMENTUM support action, which helped coordination and collaboration amongst those 20. In a nutshell, the trial projects have represented:

- 30 pilot sites
- 18 EU Member States
- 100,000 citizens engaged
- 50 public sector entities
- 70 MEPs

(Chrissafis & Rohen 2010, p. 92).

In terms of investment, we can estimate a fall-out of about 20 Million Euros of public and private resources, or about 200 per citizen engaged. This together with other flagship initiatives of the EU, notably the PEP-NET network of eParticipation practitioners and a number of FP5-6-7 and CIP

(formerly eTen) projects in related ICT domains, has certainly contributed to creating, developing and consolidating the “embryo” of a European market for quite a few leading tools, applications and services – notably ePetitioning in the UK and Germany (Panagiotopoulos & Al Debei 2010, Public-i 2011, Lindner & Riehm 2010), moderated online discourses and participatory budgeting / planning in Germany and elsewhere (Luehrs & Molinari 2007, Luehrs et al. 2009, Demos-Plan 2011), online visualization of political arguments, mostly in the UK (ODET 2010, Debategraph 2011), and Electronic Town Meetings in Italy, particularly in Tuscany (Molinari 2010a, Avventura Urbana 2011)<sup>1</sup>.

Social impact has also been relevant, with an average calculation of

- 3,300 citizens per pilot
- 2,000 per public sector entity
- 1,400 per MEP involved

derived from the figures summarised before. Finally, it is worth mentioning as a side product of EC policy action - yet probably not unintended, as the rationale of the DEMO-NET NoE is there to demonstrate - the characterization of a nascent socio-technical discipline, namely eParticipation research (Sæbo et al. 2008), which has been gaining visibility and value among academics and practitioners alike. The growing number of international conferences that have dedicated a section to eParticipation also testifies this.

Several studies and reports concerning the participatory processes and technologies adopted in the Preparatory Action trials have already been published. Some of them are stored online in the MOMENTUM knowledge base. However, available information is more focused on the technology trials description rather than the impact they had on the underlying public sector processes. By far, the question of how participatory processes can be permanently established during the follow-on phase subsequent to trial completion, i.e. during the setup of what would ideally be a participatory policy cycle (comprising agenda setting, policy formation, implementation, monitoring, evaluation, and reformulation), has yet to be systematically addressed.

In this paper, we would like to focus on the (normative: see Rose et al. 2007) issue of how to ensure better policy impact of future and prospective eParticipation initiatives, particularly at the level of EU Member States. It is now rather undisputed amongst researchers and professionals that the deployment of tailored ICT solutions is a key prerequisite for successful involvement and engagement of people in public policy and decision-making. It is then high time that the debate concerning eParticipation should move away from the discourse of *whether*, and start addressing the question of *how*. This is a pretty new development, which we propose to call *institutionalisation of eParticipation* within the political and administrative processes (or procedures / proceedings, depending on the cases) of a given public sector organisation or governance system. It somehow takes a distance from the recent focus set on *sustainable eParticipation* by another relevant strand of literature (see Luehrs & Molinari 2010 for an overview). There, the conditions are reviewed and analysed that facilitate adoption and repeated (sustainable) usage of ICT tools, applications and services. It is a descriptive goal, but also instrumental to project appraisal, i.e. to assessing, in a structured way, the case for progressing any further with a proposed method, channel or tool for

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<sup>1</sup> A small remark is perhaps required. We did not include eVoting technologies in this shortlist, although they deserved it, only because we are complying with the “strict” definition of eParticipation, the one introduced by Ann Macintosh (2004), which makes a distinction between ICT for voting and citizens engagement. Likewise, we are not touching upon the eLegislation domain, which we see as quite distinct from eParticipation, though there may be overlaps between the two: for instance, when citizens are engaged in the legislative process by means of ICT supported tools. For an (old) review of eLegislation state of the art, see Luehrs & Molinari (2007).

eParticipation (Molinari 2010b). Here, the more ambitious target is to explore which legal, political and/or administrative infrastructure could/should be created that would facilitate sustainability, i.e. the establishment of eParticipation, not as a one-off exercise, but an integral dimension of some (if not all) policy and decision-making cycles.

The remainder of this discussion is structured as follows. Section 1 briefly overviews and makes comments on the results and outcomes of the eParticipation Preparatory Action, based on existing information available via the MOMENTUM portal and on collateral project and policy publications. Section 2 frames the proposed challenge of “institutionalising eParticipation” within the scientific literature and the professional (consultancy) work that deals with related issues. Section 3 draws some recommendations for future action by the European Commission and partly the EU Member States, in the framework of the recently launched eGovernment Action Plan 2011–2015.

The reader is cordially invited to moderate her or his expectations regarding this paper, which can only be taken as a very preliminary approach to an issue that, if adequately cultivated, requires far more theoretical reflections and pragmatic actions than those modestly proposed here. What is nevertheless our ambition is to provide a rationale for further intelligence into and stock taking out of the results of the eParticipation Preparatory Action, to see what can be durably learnt without dampening too much the enthusiasm of those who imagined a faster and deeper transformation of policy making practice as a result of that experience.

A joint EC and Member States initiative remains crucial in that direction; this is why we will start by commenting on the most recent EU policy document (published on 15<sup>th</sup> December 2010) that is directly referring to this domain: the European eGovernment Action Plan 2011–2015.

## 1. Paving the ground

The word ‘eParticipation’ is quoted only once in the eGovernment Action Plan, which may not be that bad at all. This occurs in the section on ‘User Empowerment’, a header that means “*increasing the capacity of citizens, businesses and other organisations to be pro-active in society through the use of new technological tools*” (European Commission 2010, p. 6). Among other things, like public service reform, transparency and open data policy recommendations, empowerment also means “*that governments should ... allow effective involvement of citizens and businesses in the policy making process*” (European Commission 2010, p. 6).

Member States are committed to so doing. Over the period of coverage of this Action Plan (i.e. 2011-2015), together with “*the Commission and other representative institutions such as [national and the EU?] parliaments*”, EU27 central governments “*should develop services that involve stakeholders in public debates and decision-making processes building on pilots and demonstration*” (European Commission 2010, p. 9).

Service is a different word than pilot or trial. In this context, it has to be understood as an eGovernment, or ‘tGovernment’ (transformational Government<sup>2</sup>), service, i.e. as a public service

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<sup>2</sup> According to Wikipedia (2011): “*Transformation programmes differ from traditional e-Government programmes in four major ways:*

*They take a whole-of-government view of the relationship between the public sector and the citizen or business user.*

*They include initiatives to e-enable the frontline public services: that is, staff involved in direct personal delivery of services such as education and healthcare – rather than just looking at transactional services which can be e-enabled on an end-to-end basis.*

*They take a whole-of-government view of the most efficient way managing the cost base of government.*

*They focus on the “citizen” not the “customer”. That is, they seek to engage with the citizens as owners of and participants in the creation of public services, not as passive recipients of services”.*

For the Whole of Government view, see OECD (2007).

provided via electronic means, aimed at strengthening participation, building on the results of prior experimentation.

Unfortunately, in the Action Plan there is no explicit reference to the results of the eParticipation Preparatory Action. Is that enough to discard them as irrelevant to the purpose? We are tempted to say no, for the reasons stated in the Introduction, and also because, where the Action Plan speaks about the need for “*further exchanges of knowledge and best practice*” building upon existing and upcoming FP7 and CIP projects, this might not be reasonably interpreted as a wish to put the process of “service building” on hold, for at least two reasons:

- The institutional competence of “governing” FP7 and CIP projects lies more with the Commission than with the Member States;
- The “*exchanges of knowledge and best practice*” belong to the demonstration, not to the service engineering phase.

So our argument here is that whatever lessons we can learn and stock we can take (for both good and bad) out of the 20 trial projects of the Preparatory Action, it is everybody’s interest to stay focused and elaborate further on them.

### 1.1. Where do we stand?

Following this line of reasoning, the next question becomes: what findings should be highlighted after the trial results? On the basis of the information contained in MOMENTUM knowledge base, and particularly Deliverable 2.7 consolidating the results of all 20 projects, EU27 countries can be broadly divided into three groups (see Figure 1).

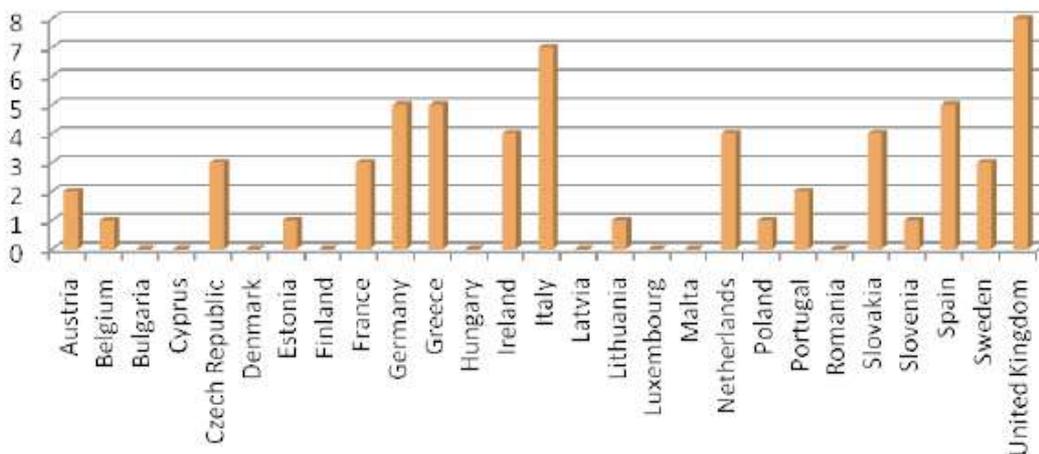


Figure 1: Participation of Member States in the Preparatory Action trials (Charalabidis et al., 2010)

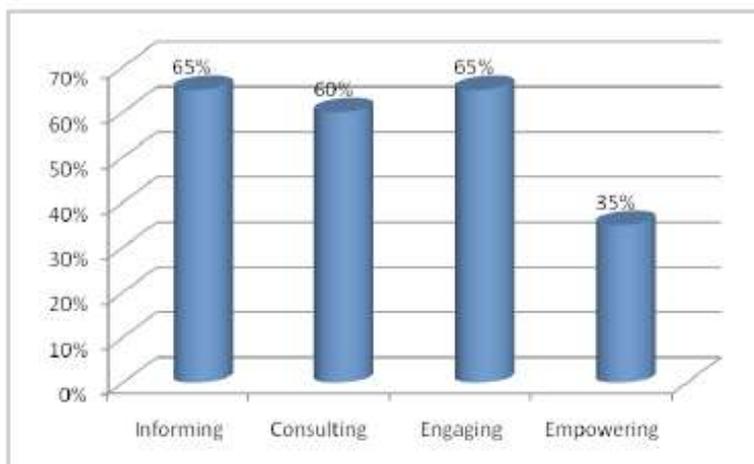
**A. Countries with no participation:** BG, CY, DK, FI, HU, LU, LV, MT, RO. Here, the urgent need is apparent: to complement the information from the Preparatory Action with eParticipation trials from other (European, national and regional) programmes and projects. For instance, Denmark and Finland have a long-standing tradition of civic participation and a number of notable initiatives are known to be in place, involving extended ICT usage.

**B. Countries with intense participation:** DE, EL, ES, IE, IT, NE, SK, UK. Again, due to lack of counterfactual or complementary information, we might be tempted to award a trophy of activism to countries where the reality of eParticipation is quite on the opposite side: in fact, apart from the recurrent presence of a few “usual suspects” (or “champions” of European eParticipation) coming

from these countries, an over-representation in the technology demonstration trials may also mean “absence of an established (Government) marketplace” for these tools, applications and services.

**C. Countries with medium participation:** AT, BE, CZ, EE, FR, LT, PL, PT, SI, SE. Staying in the middle, as a residual group, these countries are even harder to interpret, particularly at this highest (bird’s eye) level and without making more specific reference to the in-house situation of each.

It is also important to note the kind of User Empowerment activities that have been put in place by the various trials. As the next Figure shows, one out of three projects (notably from the 2007 and the 2008 “waves”), have focused on these all along the participatory processes established. Of course, there are several overlaps between stages that are due to the very nature of the processes themselves.

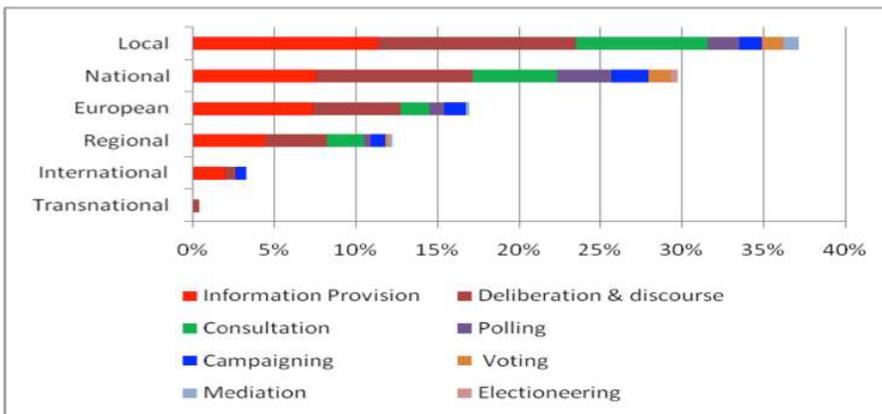


**Figure 2: Stages of User Empowerment<sup>3</sup> in the Preparatory Action trials (Charalabidis et al., 2010)**

Unfortunately, country-specific detailed information is missing from this analysis, which could also be a commitment for future research — provided that the caveats mentioned above are taken into account.

Another important source of inspiration to assess state of the art activities may be the European Study on eParticipation carried out in 2008–2009 on behalf of the European Commission by three leading research institutions in this domain (see Millard et al. 2009). The following two diagrams are taken out of a public presentation of the Study results delivered by Nielsen (2010).

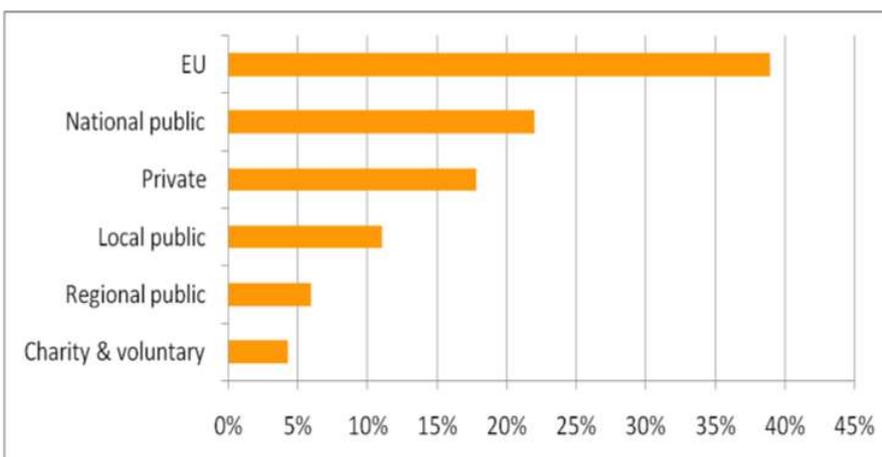
<sup>3</sup> Key: according to Charalabidis et al. (2010, pp. 129-130): “*Informing*: represents one-way communication channel between decision-makers and the citizens. It is implemented through information provision from government to citizens (governmental websites) *Consulting*: is a limited two-way communication channel between government and citizens, aiming at opinion gathering. Citizens get acquainted of specific issues by decision-makers and provide them the potential of contributing their opinion. *Engaging*: is a more enhanced two-way channel of communication, compared to consulting. In this context, discussion on policy proposals between citizens and decision-makers takes place aiming at policy formation. *Empowering*: constitutes citizens engagement in policy-making on a partnership basis”.



**Figure 3: Type and scale of eParticipation initiatives in Europe (2008) (Nielsen, 2010)**

Although this evidence cannot be strictly compared to the Preparatory Action, due to both the date of collection and the different statistical basis, one important and unequivocal message comes out of it, which could also be confirmed by a deeper inspection of the EU funded trials: namely that *eParticipation is a matter of local relevance*. Thus, the commitment taken by the Member States (i.e. the respective central governments) in the eGovernment Action Plan to “*develop services that involve stakeholders in public debates and decision-making processes*” would remain generic and unfulfilled, without a substantial effort in the direction of lower-tier public administration (national, regional and/or sub-regional, depending on the predominant structuration of competences in each governance system and on the size of the country itself).

That effort might well not be of financial nature, particularly in these times of crisis. As the next diagram shows, EU level funding was already making a big difference for the promotion of eParticipation in Europe in the year 2008; and we would not be surprised to see that this biased distribution of funding sources was also maintained in the following years.



**Figure 4: Funding sources of eParticipation initiatives in Europe (2008) (Nielsen, 2010)**

On the other hand, it would be unfair — not only unfeasible — to commit to EU funding as an exclusive or prevailing incentive to institutionalising eParticipation at national level, again for two reasons:

- By definition, FP7 and CIP funding awards European level projects, not national ones;

- Focusing on services at Member State level requires national funding, or a renovated attention to the “business model” of eParticipation (Al-Debei et al. 2010).

## 1.2. Where should we go?

In light of the above considerations, a strategy for institutionalising eParticipation should be made up of two concurrent aspects, that we call *Scaling Up* and *Sustainable Change*.

A Scaling Up strategy should be aimed at enforcing and stimulating the potential of the nascent marketplace of eParticipation tools, applications and services at Member State level in Europe. The main instrument should be the migration from one-off small pilot projects to city level, regional and nationwide services. This would create reciprocal advantages not only for the solution providers (obviously) but also for the public sector organisations involved, in terms of access to reliable, tested and also possibly cheaper solutions that would not need to be developed from scratch, but could come up with a track record of past successful implementations and a clear transferability profile, focused more on the accompanying actions (e.g. community building, dissemination) than on technology take-up, requirements analysis and validation.

A Sustainable Change strategy should be aimed at “embedding” eParticipation, like a permanent add-on, in the current setup of public decision-making processes and administrative procedures. Here the main instrument should be to explore (theoretically) and assess (pragmatically) what the conditions are that make eParticipation a firm component of an open policy architecture (Millard et al. 2009). There are many possible directions to take that could help achieve this, and for some of them the reader is referred to Section 3 of this paper. However, three recommendations are clearly emerging, from a cross reading of the Preparatory Action trials, to make eParticipation sustainable:

1. *Public processes are important.* These are the natural “loci” where policy action (and change) take place;
2. *Institutions are important.* By these, we do not only mean existing laws and regulations, but also traditions, cultural and social norms, which equally contribute to shape the instantiated forms of participation;
3. *Technology take-up is also important.* There is a big mismatch between availability and usage of (process) technology in the EU national and regional public sector, which has to be taken care of somehow.
4. To clarify this two-pronged strategy even further, the example could be made of the ongoing CIP project entitled PARTERRE. The European Union has made it compulsory for planning authorities to involve statutory consultees and the general public on all plans and programmes that require e.g. an Environmental Impact Assessment, or a Strategic Environmental Assessment, according to several directives that have been duly transposed into the national legislative frameworks of all EU27 Member States. This implies conducting unavoidable consultation exercises that are costly and require specific expertise to be carried out. Currently, there is no obligation to use ICT tools in order to execute them.

The PARTERRE project, started in September 2010, is taking two ICT prototypes that have successfully addressed these issues in two previous Preparatory Action trials and is piloting them in five European countries, according to the CIP (formerly eTen) “logic”, i.e. by taking into account the specificities of the respective legal, cultural, political and socio-technical systems:

- DEMOS-Plan, developed by TuTech in Germany and deployed across the board in the federal state of Hamburg, allows planning authorities to conduct online consultations with statutory consultees and the general public, and automates the consultation process. This saves money by not sending paper documents by post and offers new innovative ways for the consultees to submit their opinions and formal objections.

- The Electronic Town Meeting, brought to Europe by the Italian company Avventura Urbana and repeatedly trialled in the Region of Tuscany, is a standardised procedure for conducting high quality deliberation events with large numbers of participants in several locations simultaneously. This allows an informed judgement and a clear prioritisation of issues by the (representative) sample of citizens involved.

Both products and services yield results from ICT automation of “mandatory participation” that are useful to the local planning authority and easy to integrate into its existing processes. They support the planning authority in complying with the legal duty to consult whilst ensuring that costs are kept under control, both in absolute terms and on a per capita basis. In brief, PARTERRE is validating an integrated, pan-European service that combines DEMOS-Plan and the Electronic Town Meeting to offer a comprehensive system covering both online and offline consultation. To fully validate its market potential, the project is now analysing the “business model” of institutionalising successful eParticipation solutions into the spatial planning and strategic environmental assessment policy scenarios.

## 2. Moving ahead

To make one step forward, it is now appropriate to frame the concept of “institutionalisation of eParticipation” within the scientific literature and the professional (consultancy) work that deals with organisations. In academic research, four main aspects are often associated with the definition of institutionalisation, which are *stability*, *leadership*, *value*, and *diffusion* (Litzler et al. 2007).

In their seminal book, Berger & Luckmann (1967) characterise institutionalisation as the process of creating stable meanings through language convergence and social interaction among peers. Likewise, Stinchcombe (1968) posits that institutionalisation is associated with stability over time. In the eParticipation literature, it is often claimed that real progress amounts to coming out of the logic of one-off pilot experiments (Aichholzer et al. 2008). In the higher education domain, Curry (1992) suggests that institutionalisation is an attribute of stable organisational change. If changes or innovations are not institutionalised, they are likely to be terminated. According to this author, the same factors affecting organisational change also determine whether an innovation endures (becomes stable) or not.

One of the primary drivers of institutionalisation is leadership. Leaders, at least functional if not also positional, are always needed to support any durable change in an organisation (Curry 1992). Leaders are important for preparing an organisation for change by creating a favourable cultural climate and by aligning the internal values and norms to the innovation rules and requirements, so that change can be sustained.

Another important factor strictly associated to leadership and stability is value. In a classic book, Selznick (1957) argues that institutionalising means “infusing with value”, and that leaders play a key role in making sure that what is considered valuable to an organisation is also maintained. By this view, when eParticipation is institutionalised, this means that it is established and considered valuable by policy makers and civil servants alike. Institutionalisation reflects the culture of an organisation, and results in the need to continue with the structuration activities that its members perceive as valuable.

Finally, institutionalisation has a lot to do with the diffusion of practices, policies, and instruments outside an organisation (Scott 1995). If other public sector organisations would take up ICT tools, applications and services trialled at one institution, this diffusion would be a sign of the value of the project and of the leadership of the institution that has trialled it first. On European scale, the OMC (Open Method of Coordination) should become the obvious means to achieve broad international diffusion of eParticipation. This is an intergovernmental means of governance, recognised in the

Lisbon Treaty, which is based on the leadership of the Commission and the voluntary cooperation of the Member States, and rests on 'soft law' mechanisms, such as guidelines, indicators, best practices and the incentive of 'peer pressure'. The OMC has achieved very good results in several thematic fields, including European Governance (Eberlein & Kerwer 2004), but has never yet been tried in the establishment of eParticipation.

Monitoring and measuring the level of institutionalisation is also a core managerial issue for private and public organisations undertaking process improvement — and their consultants as well. Part of the CMMI (Capability Maturity Model Integration) approach developed at Carnegie Mellon Software Engineering Institute is SCAMPI, which is a Standard CMMI Appraisal Methodology for Process Improvement (SEI 2011). Key areas where maturity can be rated include Organisational Innovation and Deployment (OID) and Organisational Process Focus (OPF). Conceptually, it would be possible to introduce abstract, generic descriptions and metrics of how eParticipation processes are becoming institutionalised within a public sector organisation. Ultimately, high-level guidelines could be prepared on to how best manage eParticipation in public decision-making, as there are no consolidated methodologies, process models or pragmatic approaches at the moment. This might help develop a much more detailed workflow of a participatory policy process, where one could identify the important phases of the process, the relevant technologies to be used in each phase, and the data (and document) flows that emerge between phases.

### 3. A possible way forward

In outlining the previous scenarios, inevitably the mind goes to the possible role of the European Commission. Fortunately, the Ministerial Declaration on eGovernment, approved in Malmö by the competent EU27 Ministers in November 2009, and that explicitly informs the structure and contents of the eGovernment Action Plan 2011-2015, provides specific indications in that respect. Three key priorities are identified:

*“**Coordinate** ongoing and future European eGovernment projects so they align with the forthcoming action plan in order to facilitate sharing and avoiding unnecessary duplication of work”.*

(...)

*“Solutions to assure the **sustainability** of pilots and actions under these projects and programmes should be explored”.*

(...)

*“The coordination of activities should take into account the **specificities** of different Member States”*

(bold highlights are ours). Unfortunately, in the eGovernment Action Plan, there are no indications on how to reconcile these three priorities in the domain of eParticipation. Furthermore, scaling up (from pilots to services) is not an easy goal *per se*, particularly in the short-to-medium run, and the risk is high that a generic invitation to do so remains unfulfilled.

5. To avoid such a risk, EU27 Member States should be called towards roadmapping (sustainable) ways of institutional change in their processes, procedures and proceedings, and an OMC-like, “co-petitive” approach might support that. Some operational recommendations we would like to make in that direction are the following:

- Take stock of the eParticipation Preparatory Action trial results, by jointly focusing on the technological (scaling-up) and the institutional (sustainable change) aspects emerged there, to be further assessed in the framework of the eGovernment Action Plan’s implementation process;

- Structure ePractice.eu as a repository of best practice of eParticipation tools, applications and services, and a source of ‘intelligent benchlearning’ of European experiences – also compared to the international evidence available from the private sector (such as vitalizing-democracy.org);
- Launch a feasibility study for an Observatory of European eDemocracy, which should be aimed at:
  - Evaluating the reuse potential of the major ICT solutions developed and trialled in Europe so far;
  - Building up a similar infrastructure to <http://www.eastin.info/home.aspx?ln=en&pg=keynote> (functioning as technology repository, in Web 2.0 logic, with national chapters and possibly in relation to country standards, languages and regulations);
  - Streamlining evidence-based reform guidelines at City, Regional and National level;
  - Exploring coherence and scope for integration of eParticipation within national (e.g. youth or immigration) policies;
  - Grounding the future assessment of the Member States’ performance by a set of instruments (official statistics, activity indicators, implementation records) on a systematic basis;
- Promote/Endorse a pan-European eDemocracy Forum:
  - Gathering academic experts, technology providers, practitioner networks (e.g. PEP-NET) and stakeholder communities (e.g. associations of EU Regions);
  - Discussing common guidelines and standards for public sector organisations wishing to adopt electronically supported participatory processes with their constituencies;
  - Promoting the diffusion at national level, of state-of-the-art ICT solutions for permanent and/or ad hoc consultation of citizens and businesses on selected policy issues.

Whatever is the extent to which these or other different initiatives are adopted by the European Commission and selectively by the Member States, it is our conviction that the normative question of ‘how to institutionalise eParticipation’ will become growingly important in the years to come. Hopefully, it would deserve far more detailed analysis than what has been outlined here, and a more critical evaluation of its potential to ensure better policy impact of prospective eParticipation initiatives, particularly at the level of EU Member States.

The bottom line: after the wave of demonstration projects funded under the Preparatory Action on eParticipation, it is important to take one step forward by taking stock of the positive and getting rid of the negative outcomes, to avoid reinventing the wheel every time and to channel (presumably decreasing) resources towards future initiatives that really make a difference and have long term impact.

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# Challenges to local e-democracy

*A conceptual analysis of a bottom-up study of e-democracy practices in a multicultural Swedish municipality*

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**Abstract:** *This paper takes off from a case study of an e-dialogue – a form of e-democracy in a multicultural Swedish municipality. In spite of high policy pressure and commitment the application was a failure. We thus discuss four potential challenges to e-democracy based on the case study, with general implications. We have identified four challenges: the limits of technology; the lack of issues; the lack of real influence; and a weak sense of community. While these may explain failure, if addressed they may also open up possibilities for success.*

**Keywords:** E-democracy, municipalities, influence

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**S**wedish municipalities are opening up policy-making and decision-making processes from previously closed government structures into a complex structure of networked governance. In these processes participation and accessibility for citizens, civil society actors and stakeholders are central. They are striving to improve legitimacy by inclusion and openness. Information and communication technology (ICT) are empowering and have the potential to open up governing processes for dialogue and influence. The use of the Internet for voting and representation may be the most far-reaching reform based on this new technology. There is potential for democratic developments by improved usage of technologies in democratic processes (e-democracy).

E-democracy can also be seen as a response to declining levels of political participation and decreasing public trust that undermine the legitimacy of democratic institutions. Politically motivated citizens, especially among younger generations, appear to be channelling their political interest towards forums outside traditional democratic institutions. Instead of joining traditional political parties citizens are seeking out organisations and groups that are more tailored to their specific political interests (Holmberg & Weibull, 2008; Dalton, 2004). Local democracy takes place in municipalities, and in Sweden municipalities have a high level of autonomy. Municipalities often approach these challenges by forming e-democratic arenas to invite and meet citizens and discuss issues of their general local interests online. In the broader context of e-government, e-democracy is an opportunity to make practical use of technologies but can also be seen as an attempt to make old-fashioned, non-Internet-based (without e-) institutions and structures survive in an e-society.

ICT and e-democratic tools are supposed to have the advantage of being easily accessible and flexible to individual demands, and this can be used to increasingly engage the public. Instead of being forced to travel to a specific location on a specific date and time in order to participate in a political meeting, citizens can use ICT to access information, give their opinions and even interact with others from the comfort of their home and at the time of their choosing. There are also opportunities to express opinions in different ways and in less formalised structures with lower thresholds to enter. Several studies have pointed out such general potential for bringing technology into democratic processes (Heeks, 2006; Fountain, 2001). There is a common European policy ambition to reconnect with citizens and reinvigorate democracy through the use of the Internet, smart phones and other forms of information and communication technologies (ICT). Even if e-democracy is not an explicit objective, the core values are still there in documents like the Action Plan 2011-15 (EU, web, Action Plan).

E-democracy has been on the agenda in a multicultural municipality in the southern suburbs of the capital region of Sweden for some years. In order to increase integration and political legitimacy, the municipality of Botkyrka has introduced extensive e-democracy arenas for citizens. The new arenas have been motivated as deliberative and inclusive as well as tools for increased integration. Both local council members and key actors in municipal public administration made great efforts to develop and promote e-democracy. The expectations of the new on-line forum for integration and participation were high. But after a few years these on-line forums, chat groups and other ICT-based communities are still almost empty, since it was not in use. There are no active discussions going on. No more than a handful of citizens have entered and tried to start discussions. Not even when the designers of the system introduce new topics and advertise them on the municipal Website does anyone take up the thread. It is not an overstatement to say that e-democracy in Botkyrka is a failure. This is a case study of local failure in introducing e-democratic forums, to discuss the main challenges identified and discuss their general implications.

### **Aim of the paper**

The aim of this paper is to discuss the challenges that made e-democracy fail in Botkyrka municipality, general implications from this case and potential to overcome such challenges. The analysis focuses on the interpretations and presentations given by policy documents, policy makers and administrative professionals. The paper proceeds in three steps. First we briefly contextualize e-democracy in Sweden and present the municipality of Botkyrka. In the second section, we discuss the four identified challenges conceptually and in relation to the literature in the field. Finally, we draw some concluding remarks and discuss general implications to overcome these challenges and the potential for making e-democracy work in a sustainable and legitimate way.

### **Case study methods**

Botkyrka is one of the municipalities in Sweden where e-governance and experiments with e-democracy has progressed the furthest. This development has been recognised by the Swedish Association of Local Authorities and Regions (SALAR) who point out Botkyrka as a forerunner (SALAR, 2009). That in combination with the local interpretation for the failure were the main reasons for choosing Botkyrka for this particular case study. In addition, the high level of immigrants and a youthful population makes it interesting.

The case study grounding this conceptual discussion is part of a joint research project at Linköping University between political science and information systems. The study utilised a qualitative research method where the empirical foundation for the study was drawn from interviews with local municipal council members and civil servants, official policy documents and investigations of the implemented e-democracy measures.

Our part of the case study took off from a key interview with a high-level professional, who in addition to the story of e-dialogue in Botkyrka also pointed out the key policy documents and opened for other interviews. The continuing selection of informants among the municipal

administration and local council members was a “snowball” process, where one informant pointed to the next. A total of five personal interviews, two focus group interviews and extensive document studies of policy documents, Website/community studies made up the field work. In this analysis we consider the municipality as a unified actor. However, if approaching related issues there could be opportunities for analysing differences among local council members and professionals. Another aspect could also have been to include a citizen survey in the study, but that has not been made so far in this study. There were neither any users of the e-dialogue to interview or in other ways approach. However, in a related study in the same municipality a colleague studying public e-services did focus group interviews with citizens and in response to a brief question regarding e-democracy they had neither experiences nor any comments to make on the issue (Jansson, 2011).

The analysis presented in this paper has a grounded approach. When all interviews were transcribed and an initial analysis of the documents had generated key quotas, we categorized the arguments and found the challenges towards e-democracy in Botkyrka. Through this categorization the four challenges presented and discussed here appeared to be the main categories. That clear empirical impression was related to other studies and will be presented below and further tested through our conference seminar.

## **1. E-Democracy a crucial part of ICT and e-government**

E-Democracy is a crucial part of the use of ICT in general and e-government in particular. When promoting ICT in local communities large efforts are often put into ideas of participation and inclusions through e-democracy tools. This section presents the case study.

### **1.1. Sweden an advanced ICT nation - contextualising the case study**

Sweden is often seen as an early adapter of technological developments and belongs among the international leaders with regards to e-government (see e.g. Flak, 2005; UN e-government survey, 2008). This is both a strong policy aspiration and a practice in governmental bodies in general as well as firms and private use as a symbol of modernity and progress. In 1999 the Swedish government committed itself again to the ambition of becoming an internationally leading information society accessible to all (gov't bill 1999/2000:86), aiming to improve efficiency, 24/7 access and security (Ilshammar Bjurström & Grönlund, 2005; Wihlborg, 2000).

The Swedish government has also long noted the potential of ICT as possible tools for strengthening democracy by for instance improving the dialogue between political officials and the citizenry. E-democracy is used as a complement to the norm of the representative democracy. There are several arguments for this progressive attitude towards the use of technology for democratic purposes in general. Democracies need to be constantly re-invented and today citizens' willingness and capacity to participate in the traditional political process is changing together with society as a whole. It is therefore argued that it is important that the structure of the democratic system is continuously reviewed and revised to perform its duties in local policies as well as practices.

### **1.2. Municipalities - a testing ground for e-democracy**

Swedish municipalities have a strong constitutional local autonomy. Thus the policies and practices regarding ICT have mainly developed locally and been adapted to local circumstances, interests and capacities. Municipalities have their own administrative procedures and attempts at coordination and harmonisation risked resistance which would delay and undermine the progress of e-governance. However, a voluntary national association of municipalities (Swedish Association of Local Authorities and Regions, SALAR) has found that the level of e-governance development is more substantial among municipalities with a population greater than 30,000. Municipalities have of course been influenced by developments in other places but it can still be said that local authorities have served as a testing ground for e-governance initiatives. This is especially the case with regards to e-democracy. The development of e-services and e-administration can be found on

all levels of the government structure but e-democracy has primarily been attempted on the municipality level.

The municipalities are thus the organisational context where the Swedish work to realize e-democracy takes place from “piecemeal experimentation and embryonic policy” (Coleman and Norris, 2005). In the Swedish institutional setting the municipalities have the tools and often the ambition to re-invent and develop democracy.

### 1.3. Botkyrka - a context for experimenting with e-democracy

Botkyrka has a population of approximately 81,000, which makes it a rather large municipality by Swedish standards. It is situated in the southern part of the Stockholm region and has been described as one of the most international municipalities in Sweden. Over 100 nationalities are represented within the municipality; 51.4 percent of the inhabitants have an immigrant background<sup>1</sup>. This can be compared to inhabitants with an immigrant background in Sweden at large: 17.8%. Botkyrka has in some respects been regarded as a transit municipality for newly arrived immigrants, who after a while move on to other municipalities in Sweden. This has resulted in insufficient knowledge about how Swedish society functions and a general low degree of political awareness. Botkyrka has often had one of the lowest voter turnouts in the country and the ambition of the project was to raise the political awareness of the public in an attempt to get more people to vote. Because of this many immigrants in Botkyrka have refrained from actively involving themselves in politics. This is a situation that the local officials view as deeply unsatisfactory (Botkyrka municipality, 2008). Another defining characteristic of the municipality is its youthful population. The average age is 36.9 years (compared to 41 years in Sweden at large). The multicultural and youthful make-up of the municipality can be seen as two main factors behind the municipality’s active policies towards increased democratic participation.

There is also a general ambition to promote new technologies and be a modern municipality. The local council has adopted a policy document on “e-” in general, not just referring to e-democracy. A key statement in this document is to:

*By actively taking advantage of the benefits of IT technology, we can instill the belief in citizens and others that Botkyrka is an attractive town with good municipal services. The fact that Botkyrka also has a reputation for being at the forefront of modern technology will facilitate future recruitment, while increasing our ability to retain skilled and dedicated personnel. (Authors' translation, Botkyrka municipality 2008, p. 2)*

The strategy document declares that the construction of a democratic system can never be considered complete. This document shows, however, more of an internal perspective considering the municipality as an organisation rather than a community as a group of citizens.

The e-democracy strategy document especially emphasises the need to approach the younger generation in new ways in order to engage them in the political process. Younger generations are believed to be more issue-oriented and less willing than previous generations to accept entire issue programs of traditional political parties (Botkyrka municipality, 2008). This conviction has support by many scientific studies that have found that younger people appear to be more issue-oriented than older generations and that they are therefore more likely to join single-issue organisations like Greenpeace and Amnesty instead of traditional political parties (see e.g. Norris, 1999; Amnå, 1999; Dalton, 2004). Botkyrka municipality (2008) therefore argues that a structural adjustment of the democratic systems is required in order to encourage political engagement by younger citizens.

*Fewer and fewer people engage in politics as members of political parties or take positions of public trust. Voter turnout decreases. Meanwhile, political interest and knowledge in general has remained at least as high as before. But the conditions to exercise their democratic rights*

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<sup>1</sup> Born abroad or with both parents born abroad.

*are not equally distributed, neither between men and women of different ages nor in groups with different social and ethnic backgrounds. Large groups risk being placed outside of the democratic process - or are already there. Growing distance between different groups and political marginalization undermines confidence in the democratic system. (Authors' translation, Botkyrka municipality 2008, p. 2)*

These remarks show that the municipality views the crisis of the representative democratic system as a motivating factor for democratic engineering. The trend of declining levels of political participation is a democratic challenge. There is an obvious risk in placing more people outside of the political process and thereby contributing to increased marginalisation of already politically weak social groups. Democratic engineering in the form of e-democracy is therefore used in an attempt to revitalise the political process and mobilise the citizens to actively engage in politics. In this way they aim to stimulate a democratic dialogue. There is an inclusive focus facilitating women and men from all social groups to take advantage of their democracy.

#### **1.4. The Botkyrka e-dialogue - an empty e-democratic forum**

One of the primary vehicles for involving the general public in local politics through the use of ICT is an e-dialogue that was made available to the public in 2006. The e-dialogue is a virtual forum located on the municipal Website where registered users can initiate and discuss political issues of their own choosing together with other registered users. Non-registered users can enter the e-dialogue and read what has been submitted but they can not actively engage in the discussion before registering and logging in. The e-dialogue is described to visitors of the forum as a possibility to influence political decisions at an early stage of the policy-making process. It is stated on the Website that local politicians will listen to the views that are expressed in the forum, participate in the dialogue and take the views expressed with them into the decision-making process of the representative democratic system. However, it is also emphasised that the e-dialogue is not a decision-making body and that the forum serves as a complement to the physical advisory citizen panels that are conducted in the six municipal areas. This logic is further reinforced by the fact that the e-dialogue forum is structured around the same municipal areas as the physical advisory citizen panels. Upon entering the forum the user has to choose a dialogue of a specific municipal area before reaching subordinate forums dedicated to specific issues. No forum exists on the e-dialogue where political issues involving the municipality as a whole can be discussed.

The e-dialogue can be accessed through the municipal Website but is not easily found upon entering the site. No reference is made to the e-dialogue on the main municipal home page and it requires a minimum of four clicks before entering the e-dialogue.<sup>2</sup> The navigation required to suffice with four clicks demands prior knowledge of the structure of the site as it is not immediately obvious. The forum as such provides a visible impression of being a very basic Internet forum without any sophistication or design appeal. A benefit however is that the forum is easily manoeuvred even for a novice user. The dialogue is exclusively conducted in written Swedish even if this is not an explicit requirement. A language requirement can nonetheless be seen to be implicitly implied by the fact that no support is provided for users of other languages. For instance, there exists no English version of the e-dialogue nor are there any English instructions and information about the e-dialogue. Users that lack proficiency in Swedish are subsequently not welcomed to participate in the e-dialogue. This is a fact of some importance considering the multinational character of the municipality population.

The number of initiated discussions under the forums designated for discussion about issues concerning different municipal areas varies. The forums of some municipal areas have no initiated discussion at all while others have over a four-year period generated between 5-10 initiated discussions. About half of all discussions have been initiated by forum moderators or by local politicians. The other half of the discussion has been initiated by users but one single user has

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<sup>2</sup> At least not during 2009-2010

initiated most of them. Overall the response can therefore be regarded as limited and the dialogue superficial. The e-dialogue as a whole has received a total of 77 submissions between May 2006 and January 2010. Fifty-nine of these submissions pertain to two of the six municipal areas. Most of the discussion has been short statements of opinions with brief or no follow up into a more evolved discussion. The discussions that has been initiated or drawn interest from the general public have been issue-oriented with direct relevance to the present situation while the politicians appear more interested in discussing political visions and general guidelines for the future development of the municipality. This reflects differences of purpose for the e-dialogue which can serve to explain the limited interest because overall the results of the e-dialogue have been discouraging. It seems clear that neither the general public nor the local politicians have shown any real interest in upholding a democratic dialogue in this form of electronic forum. Dialogue that has been initiated by the different sides has not evolved further and both politicians and users have been left with unanswered questions and comments. This failure shows both the mutual interdependence of the process and how vital it is to quickly reach a critical mass of users. If the general public refrain from entering into the dialogue, the politicians will find it a waste of time and direct their attention elsewhere. The same is true if the public attempt to launch a dialogue with the politicians and the response on the other end is limited. The result is a negative spiral where the general public perceives it as a waste of time and effort to participate in these forums and that will cause the local politicians to feel the same way and rapidly the entire forum is abandoned.

### 1.5. Botkyrka illustrating challenges towards e-democracy

Botkyrka municipality expresses a fear that the relationship and dialogue between elected officials and citizens have slowly eroded over recent decades. This erosion is believed to have been partly caused by a sharp decline in the number of elected officials, which has resulted in fewer everyday contacts between active local politicians and ordinary citizens. In an attempt to counter this development the municipality has been working to raise the general awareness of local politics and strengthen the interaction between citizens and local politicians. This awareness and dialogue is perceived as crucial to secure the vitality of the democratic process.

*Confidence in democracy must be built through a relationship between citizens and elected officials, not only in the election campaign, but continuously. Without a living democratic dialogue in civil society, with active, informed and engaged citizens, representative democracy stagnates. (Authors' translation, Botkyrka municipality, document Dnr KS/2008:392, p. 8)*

The initiative that gained most national recognition for the municipality is its government offices, or one-stop shops. The establishment of these offices started in 1987 and they can best be described as public service units where personnel with general competence provide services in a number of different administrative and authority sectors. One of the purposes of these offices is to offer information about government services and provide assistance on how to contact government agencies. Most of the democratic initiatives and citizen platforms in the municipal repertoire before 2002 took place in a physical environment but since then steps have been taken to create virtual citizen platforms as well. A driving force behind this development was the possibilities provided by the ability of ICT to provide cheap, simple and quick services. Botkyrka believes that the public demand for efficiency and service-providing capability is increasing and that ICT is a cost-efficient way to meet many of these demands. Just as people increasingly handle businesses with the bank virtually, public agencies can also develop new channels for public service. Another reason for the venture into e-democracy is the belief that technology represents the future. Technological advancements have generally marked the path of development and when e-democracy surfaced as a fashionable democratic initiative the municipality wanted to add this platform to the repertoire. As expressed by the municipal board of directors and local civil servants alike there existed a

curiosity within Botkyrka with regards to the possible benefits of the new technology but also a desire to keep its position as a municipality in the forefront of democratic innovations.<sup>3</sup>

## 2. The identified challenges - explaining failures?

We will now discuss the four challenges towards local e-democracy that we have identified in the case study. Even if this section further deepens the analysis of the case study on e-democracy in Botkyrka, some more general implications will also be discussed. The identified challenges are:

- The limits of technology
- The lack of issues
- The lack of real influence
- Weak sense of community

These four factors have been identified through the in-depth bottom-up study but we will here argue that they may have more general implications. The challenges have been identified through the bottom-up study and as such they are closely related to the study format.

### 2.1. The limits of technology

ICT has come to represent modernity and because of this the municipality felt pressured to adjust and develop new service and citizen platforms that would help the municipality better handle current problems and prepare for the demands of the future. In many ways the introduction of the e-dialogue reflected a “field of dreams” mentality: by building the virtual discussion forum, the belief was that the general public would make use of it.

The belief that technology will help to solve democratic shortcomings is neither new nor specific to Botkyrka. Technological advancement has through history caused discussion about the democratic potential of the new technologies. Television was perceived in the 1950s to hold great potential to strengthen and enrich democracy. It was commonly believed that television would help to unite people and serve as a vehicle to educate and inform the citizenry and thereby make them politically more knowledgeable and capable of engaging actively in politics (Johansson, 1997).

In Botkyrka there was a dual problem generated by the limits of technology. First, there was the limited private access to the Internet among immigrants and the hesitation to use public computers for issues more private than checking general information. Second, the language issue also made the digital divide even deeper. Even if there are emerging applications to translate information on the Internet, these were not used.

To keep up a positive approach we will not fall into a negative idea of technological determinism. We hope that new applications and easier access will handle this challenge. But there are challenges to bridge the technological divide of the local participation in e-democratic initiative. Technology provides opportunities for some groups but leaves other behind.

### 2.2. The lack of issues

One of the most basic aspects of democracy is the local inclusion and the idea of local common issues to handle together. . Usually they are based on living in the same community and sharing the public spaces and spheres of the community. However, for e-democracy these have to be re-invented on-line.

Another possible hindering factor to an e-dialogue is the lack of public interest. The forum did not serve any understandable purpose to the public. Asking people to visit an internet forum on the municipal Website and initiate a political discussion puts a lot of responsibility upon the general public. As has been shown by the meagre debate on the forum this is a responsibility that the

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<sup>3</sup> Interviews with the municipal board of directors and the municipal civil servant responsible for the development of local democracy, Ahmad Azizi.

general public so far has been unwilling to take on. This reluctance should not automatically be interpreted as a sign of low political interest among the public. The democratic crisis has in part manifested itself through a declining public interest to engage in traditional forms of party politics. In Botkyrka the marketing of the e-dialogue was limited and few people knew about it. The e-dialogue has no stated purpose other than serving as a forum for discussion about local democracy.

Most people are therefore relatively happy to leave everyday politics to elected politicians and they need to be further motivated in order to make them willing to seek further influence. This is something that Botkyrka's e-dialogue failed to take into account. Therefore, the problem is likely not a shortage of channels into the political process, but rather the shortage of interest to engage actively in politics. In order for the e-dialogue to be successful and attract public interest it must become more appealing.

We will argue that the question of local democratic issues on-line has to develop in close interplay with bottom-up ideas from citizens and top-down from the elected council members and public administration. Thus there has to be a re-configuration of what issues are discussed on-line and how they are presented. E-democracy has to target the basic idea of what issues make people care to reach out for sustaining discussions on-line.

### **2.3. The lack of real influence**

Most e-democratic forums are designed as parallel structures to the "real" formal democratic decision-making structures. Thus there is more or less always an impression of being side-stepped or at least not included for real.

In the information about the e-dialogue it is clearly stated that the forum is only advisory and that the decision-making powers reside in the representative democratic system. The forum is not structured in such a way that visitors are asked to vote on anything; there are only open discussion threads where registered users are free to speak their minds and ask questions of local politicians. There are good reasons for why the representative system should be cautious about handing over political power to Internet forums but the message potential users of the e-dialogue get upon entering the site is that participation will result in questionable political influence. This can be a deciding factor against participation in the e-dialogue for the common citizen — why spend time and energy on discussing local politics when you are not assured some degree of real influence? Opinions and suggestions concerning local politics can be voiced in other ways, for instance through the preferred method of communication for the citizens in Botkyrka, by sending e-mails, letters or making phone calls.

Citizens need to feel that their contributions will matter, otherwise the risk is imminent that the process will appear pointless to them. The same conclusions have been reached in other cases such as the Oxford Internet Institute (Coleman et al., 2005). One of the experiences was from a project in Germany, the German Bundestag's e-democracy project, that was deemed to have failed partly because it was not made clear enough to the participants how the ideas from the online discussions would influence political initiatives. The conclusions drawn were that "users are quite able to differentiate between real and fake calls for participation (Coleman et al., 2005, p. 5).

This is a real challenge to e-democracy in general since it has to have a "real" role. Adding e-democracy to other democratic structures never makes it real. E-democracy has to become a real way of exercising influence.

### **2.4. Weak sense of community**

The fourth and final challenge we identified through this case study is the weak sense of community on-line. This also builds on and combines all the challenges discussed above. When there is a strong sense of community there are also common issues to handle in a democratic way.

Communities where citizens have strong ties of loyalty to each other and local political institutions are more likely to get people to engage in community activities than communities where

such ties are weak or missing. Botkyrka belong to the second category of political communities as the municipality is marked by a weak sense of community identity caused by different forms of internal divisions. One division is caused by the fact that the municipality is structured as six different municipal areas. This division has resulted in citizens having loyalties to their respective municipal area but to a lesser degree to the municipality as a whole. It is also possible to find an ethnic and social division between the different municipal areas. Citizens that have an immigrant background and a low degree of social capital tend to live in the municipal areas that are densely populated suburban landscape characterised by large grey apartment houses while ethnic Swedes with a higher degree of social capital tend to live in the more sparsely populated residential districts.<sup>4</sup> These divisions have undermined the establishment of a shared community identity. In fact, citizens from one municipal area, Tullinge, which is one of the municipal areas dominated by ethnic Swedes, even formed a political party and advocated for separation from the rest of Botkyrka. The Tullinge Party ("Tullingepartiet") was formed one month before the elections of 2006 but still managed to receive a support of 1.77%, giving them one mandate on the municipal council. In the elections of 2010 public support had grown significantly and Tullingepartiet gained 10.515 of the votes in the entire municipality, making them the third largest party with six mandates. This even further illustrates the weak sense of community, which may even undermine e-democracy even more.

The notion of community and civic culture, which are important for democratic institutions to function properly, has been eroded by an excess of liberalism (Barber; 1984; 1997). Citizens are becoming increasingly individualistic and primarily concerned with economic gains causing politics to become more about securing private advantages and less about the pursuit of public interests. Barber therefore argues for the introduction of democratic measures, like neighbourhood assemblies, that will foster the emergence of a "strong democracy." Barber's essential argument is that by allowing and encouraging citizens to adopt a more active role in the governance of their respective communities the notion of community and civic culture will be rekindled, which in turn will lead to a more genuine democracy.

There are potentials to create a sense of community on-line, but they are seldom local. On-line other issues and common values make people form communities. However, formal politics are still based on the notion of territorial belonging. This paradox may have to be solved before we see real on-line communities that make e-democracy work.

### 3. Concluding remarks

The experiences of e-democracy in Botkyrka were discouraging, but even though it opens up for general discussions of challenges towards new technology in democratic settings. There was not a single reason for the failure of the e-dialogue in Botkyrka. The four challenges discussed above are attempts to identify and discuss more general challenges. The challenges identified and discussed above were the limits of technology, the lack of purpose, the lack of influence, and the weak sense of community. In the specific case study we could see how the local actors both policy makers and professionals within the municipal administration were struggling with these challenges, but the opportunities to overcome them are indeed locally embedded.

Based on the outcome of this process one could have argued that it was useless to start the project and invest time and other resources in it. But the municipality showed that they are willing to try a wide variety of new democratic approaches in the hope that some of these measures will yield positive results. Thus we will finally point out some potential opportunities to overcome the identified challenges, which were not part of the field study but emerged from our analytical discussions.

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<sup>4</sup> Grödinge and Tullinge can be classified as sparsely populated residential districts while Alby, Fittja, Hallunda, and Tumba are the more densely populated suburban districts.

### 3.1. Conclusion of challenges and openings for practical responses

The first identified challenge was the limits of technology. Here it appeared in several cases there was a general lack of access to ICT in forms of computers and Internet connections, despite public access in libraries, etc. There were also barriers towards participation in e-democratic dialogues in the design of the forum, e.g. registration. In spite of this it is hard to see technology as a general challenge since it is the very base of "e-". There must be potential to overcome design issues, perhaps by easier technologies like smart phones, etc. There are also schemes promoting ICT access in low-income households in Sweden.

The second identified challenge was the lack of purpose and aims for actually entering the forum. This is probably generated by the top-down approach, where the municipal administration and politicians define what is supposed to be discussed. There are other open forums in social media, for example, approaching local issues. However, such on-line forums are not considered e-democratic even if they promote local democratic discussions. A broader interpretation of e-democratic technological arenas may even further expand the understanding of local democracy and its issues. This points to a general problem of democracy, not just e-democracy: a mismatch of issues on the formal political agenda and the issues valued as important among the general public. There might be opportunities to handle such divides if formal democratic agencies reached out in social media used for (and thereby legitimized by) other general purposes.

The third identified challenge was the lack of influence by the e-dialogue in Botkyrka. The forum aims to open up discussion but does not extend to decision-making arenas and situations. The real influence rely on the representative democracy and administration. Thus formal decisions cannot be delegated to citizens without restructuring more of the fundamental basis of democratic institutional arrangement. However, in the long run that might develop as a consequence of this challenge.

Finally, the fourth identified challenge is a lack of a sense of community in the e-dialogue forum. There were no clear common issues or any expressions of common interest, like "we in Botkyrka" in the e-dialogue, even though the concept of a "Botkyrka spirit" was indeed frequent in policy documents and among the professionals in the municipal administration (Jansson, 2011).

### 3.2. Further implications

We hereby open up for discussion on conceptual challenges towards e-democracy focusing on the mismatch of "old" structures meeting new technologies and the challenges to open up for real restructuring of democracy. To meet the challenges of issues and community other studies may have to open up to other social media in relation to formal e-democratic forum. Another related political scientific challenges is to find ways to integrate e-democracy as e-dialogues into traditional frameworks of participation and inclusion

To overcome the challenges there are demands for re-thinking democracy as well as use of ICT in everyday life and the connections between them. This study can be read as a confirmation of the problems of "just" adding technology to a tottering representative democracy. Here both academics and policy-makers have to look for innovative and creative ways of approaching the decreasing trust in representative democracy and the opportunities given by new media and technologies.

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# Business process outsourcing in public sector

*Increasing citizen participation in e-Government services*

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**Abstract:** Modern disciplines of Business analytics (BA) and Business process outsourcing (BPO) involve defining an organisation's capabilities and requirements in order to understand how it functions to accomplish its purposes. BA and BPO are typically performed to define, validate and improve solutions that are designed to meet an organisation's business needs, goals or objectives. In this paper we focus on BA and BPO procedures and their potential benefits to public sector operations. In particular, we discuss the matters from a citizen participation perspective. To ground the discussion in a practical domain, we selected two concrete key business processes that involve providing G2C services to citizens and exchanging information with other e-Government participants. We present our experience in documenting, analysing and optimising their sub-processes within the organisation. We identify several reasons for the discrepancy between the technological possibilities and their actual practical use. Among several reasons for that we identify the numerous changes in legislation and consequently unconnected heterogeneous data sources that demand a huge amount of effort and adaptation. After analysing benefits obtained from applying the BA and BPO, we discuss some of the important success factors identified within the process and give some directions for further improvements.

**Keywords:** e-Government, citizen participation, housing funding, business analytics, business process outsourcing

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**B**usiness analytics (BA) and Business process outsourcing (BPO) incorporate defining an organisation's capabilities and requirements in order to understand how it functions in order to accomplish its missions and purposes. BA and BPO are involved in most projects where efficiency is to be improved (International Institute of Business Analytics, 2009). The tendency of BA is to improve the value for a customer, sometimes even acting as agents of change, which in turn brings more revenue to an organisation. To follow this mission, analysts typically have to collect, analyse and synthesise huge amount of information from different sources about the key business processes.

In the coming years the public sector is expected to witness a considerable increase in BA and BPO activities (O'Looney, 2003). The public sectors in countries all over the globe have to face issues like budget cuts and spending deficits. A natural answer to optimise performance is to outsource certain tasks to increase efficiency by concentrating on core tasks (Wolf and Krcmar,

2007; Abele, 2007). There have been several more or less successful attempts by numerous public organisations to outsource in the past. In future, this trend is likely to gain momentum, since its major purpose is to cut costs while maintaining or improving the delivery level of services.

Finding the right time to outsource is difficult, since the goals are different for every business. Some businesses have in-house personnel to handle daily activities, but may need outside help to undertake new projects that don't warrant another full-time employee. When the current employees are unable to manage the day-to-day business of a company and build the business satisfactorily, it may be time to consider outsourcing. For example, for the management the right time for outsourcing might be the moment when they realised that they had no time left in the day to pursue the normal activities of a growing company. On the other hand, for small businesses outsourcing might start with a bookkeeper and a virtual assistant, and later on gradually growing the team.

Nowadays, business can outsource almost any task because of so many qualified professionals leaving the corporate world to work as freelancers or contractors. However, just because there is a possibility to outsource a task, it does not mean that one should immediately do it. Before choosing which processes to outsource, one should first determine the real strengths and values of its business. Businesses must first identify their core competencies and capabilities. Outsourcing any aspect of these tasks would be a big mistake because they would cease to offer anything that their own customers couldn't get elsewhere. However, outsourcing support processes like accounting, IT and several others might turn out to be quite beneficial for a particular business.

The types of tasks that are best outsourced typically fall into one of the three general categories: highly skilled expertise, highly repetitive tasks, and tasks that require specialised knowledge. Note that the business processes that include IT fall in the third category. The responsible officers in the public sector need to find some more areas to include into shared services so that a BPO can be employed. It can be observed that a BPO has helped corporate businesses achieve success in the struggle against economic recession; by the same token, it can be applied also to the public sector. However, here the main obstacle might turn out to be the involved bureaucracy.

In this article we focus on the benefits of applying BA and BPO to renovate business processes at the Housing Fund of the Republic of Slovenia, public fund (HFRS). As a part of public sector the HFRS plays a substantial role in the Slovenian e-Government initiative, mostly in the area of providing G2C and G2B services to citizens and business entities and effectively exchanging information with other e-Government participants. We present our experience in documenting, analysing and optimizing two key business processes within the organisation. Among several reasons for non-optimal business process performance we identified the numerous changes in legislations and consequently unconnected heterogeneous data sources that demand huge amount of effort and adaptation. After spotting and analysing pros and cons for the described approach, we discuss the most important lessons learned within the procedure and give some directions for further improvements.

## **1. Understanding business processes**

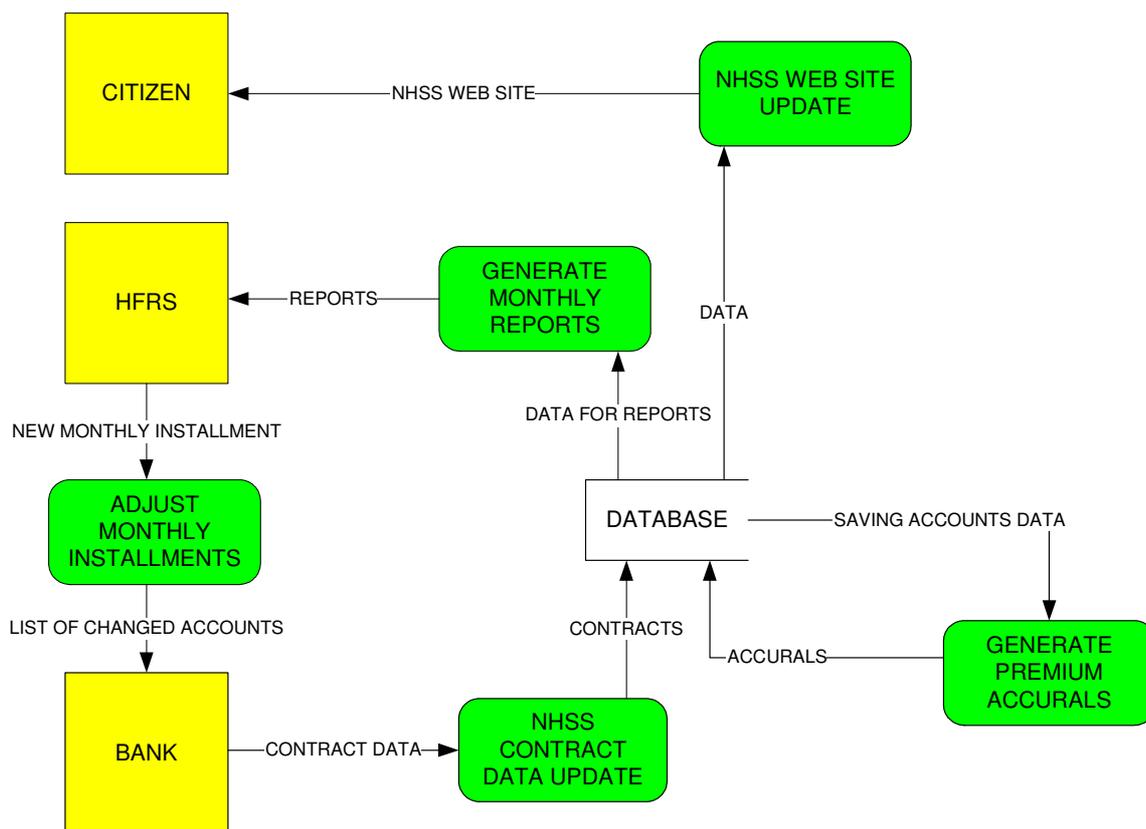
In this section we give an overview of two business processes that are carried at the HFRS. They are used to illustrate the BP and BPO results that are presented in the following two sections (Modeling and optimization and Discussion).

### **1.1. National Housing Saving Schema (NHSS)**

The government implemented the conditions of the NHSS in resolutions passed in 1999 and 2000. The main motivation for NHSS was to promote long-term savings deposits and to increase the quantity of long-term housing loans under favorable terms to citizens. The National Housing

Program enforced in 2000 established the NHSS as a continuing project. Note that several other EU member states, like for example Austria, Germany and Czech Republic, offer similar legislative contexts for savings in housing. Since 1999 the NHSS received a remarkable attention and was very popular among the citizens (Cestnik and Kern, 2007).

At the end of 2010 the total number of savers included in the NHSS exceeded 103,000. The percentage of the savers that broke the contract prematurely is 19%. On the other hand, 70% of the rest of the savers, which is almost 72,000, have already completed their contracts and, consequently, acquired the rights for state premium accruals and the housing loan under favorable terms. The total amount saved within the completed contracts is over €605m. The sum includes €474m of capital payments, €90m of bank interests and revalorisation, and €41 million of state premium accruals. From the polls performed by the HFRS it can be estimated that more than a half of the saved money was actually spent in housing; in contrast, only about 10% of the successful savers actually consumed their right for a NHSS housing loan. The radical decrease of the interest rates for bank loans in the last few years is considered the most influential factor for such a surprisingly low share, as the favorable terms of the NHSS loan lost most of their advantages compared to the general loan terms offered by banks. At present there are still over 11,000 citizens actively saving money in the NHSS; their capital payments amount was over €69m at the end of 2010.



**Figure 1: Data flow diagram showing participants and top-level business processes for the NHSS.**

The NHSS operations are executed by several participants, including the HFRS and selected business banks. The underlying business process is shown in a data flow diagram (Hay, 2002) in Figure 1. There are three different participants involved in the process: (1) the HFRS, (2) business banks and (3) citizens (Cestnik and Kern, 2007). The role of the HFRS is central, since it carries out the process and is responsible for direct communication with the other two participants.

Each participating actor has a different goal. Citizens included in the NHSS want to get a profitable revenue for the saved money and possibly a loan at the end of the saving period. Participating banks include the NHSS in their services portfolio and are trying to increase their market share by acquiring new customers. The HFRS controls the distribution of the public money; in fact, the HFRS validates the compliance to the NHSS criteria for each saving account, for which it requires relevant data from banks. Providing high quality e-services to citizens contributes to the general awareness about NHSS in public.

## 1.2. Housing Subventions (HS)

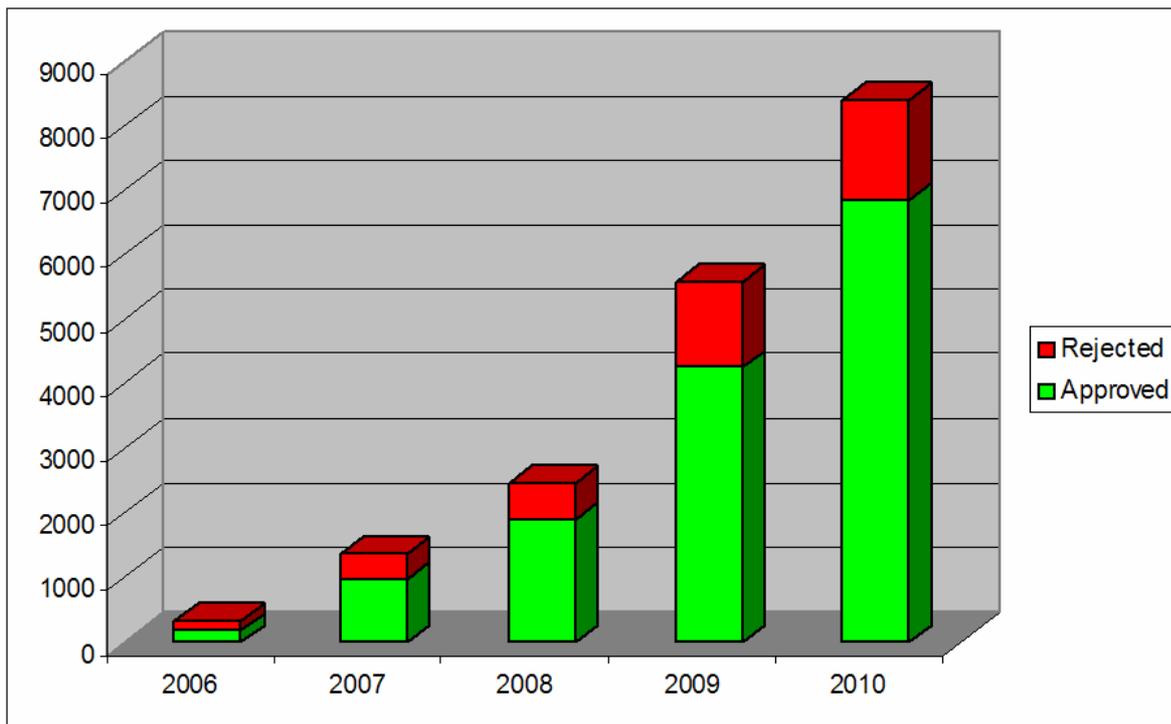
The second business process considered for analysis by BA and BPO is granting housing subventions to young families. According to the housing legislation passed in 2006, the HFRS has announced five consecutive yearly calls for granting subventions to young families (Kern and Cestnik, 2007; 2008). The purpose of the act and the corresponding public calls was to grant yearly subventions to beneficiaries as an incentive mechanism for first-time buying or constructing housing facilities. Slovenian citizens were encouraged to apply to the call. The eligibility of each applicant is determined according to the enforced legislative regulation. In order to obtain the yearly subvention, each applicant had to fulfill three criteria. First, the applicant's family had to have a young family status. Second, the applicant had to hold a contract for buying a housing real estate or a legally binding building permit for the construction of an individual house. And third, the earnings per applicant's family member should not exceed one half of the average salary in the Republic of Slovenia in the year preceding the last.

**Table 1: The earmarked and granted amount for housing subventions in five consecutive years.**

Year	Earmarked amount in €	All applications	Approved applications	Granted amount in €
2006	€ 758.275,00	322	177	€ 107.360,00
2007	€ 2.377.854,00	1.361	988	€ 1.077.638,50
2008	€ 3.653.756,00	2.478	1.908	€ 2.158.896,00
2009	€ 3.367.000,00	5.589	4.263	€ 4.466.736,00
2010	€ 5.215.821,00	9.026	6.821	*€ 7.200.000,00

The earmarked and granted amounts, as well as the number of received and approved applications for housing subventions, are shown in Table 1. In the first three years the earmarked amount was much higher than the granted one. On one hand this indicated that the planning procedure was based on overly optimistic expectations, while on the other hand one might consider also investigating other contributing factors such as, for example, whether the potential beneficiaries had been properly informed about the calls. The situation, however, changed dramatically in 2009 and 2010, when granted amount substantially exceeded the earmarked amount, forcing the HFRS's officers to take actions to obtain more resources from the state budget.

The number of applications to the calls exhibits exponential growth in the first five years (see Figure 2). Note that the share of rejected applications remains at about one fifth each year. Although such growth is not expected to last, it is hard to guess when it will reach the equilibrium point (Kern and Cestnik, 2010).



**Figure 2: The number of applications to the call exhibits exponential growth. Note that the share of rejected applications remains at about one fifth each year.**

Given this situation, we were highly motivated to apply BA and BPO principles to the underlying business process. The main reason lies in the fact that granting housing subventions is considered a high-impact business process by the HFRS. In addition, there are considerable resources used in the process, since six of the permanent employees are constantly involved with the corresponding tasks.

## 2. Modeling and optimization

The quality of services that are carried out by an organisation depends heavily on its ability to understand, model and control its business processes. The HFRS is no exception to this rule. The first step in this direction is to apply BA and BPO principles. Due to the relatively complex nature of its operations, the HFRS's process model is used to generate the so-called big picture. In this way, the process model serves as a knowledge base incorporating a list of the HFRS processes. Besides, such a model facilitates the introduction of various controlling mechanisms, thereby increasing the reliability of the HFRS's operations. Also, the model serves as a basis for risk analysis and management.

At the topmost level, all of the HFRS's processes were simply enumerated and included in a referential list. The level of granulation was such that for each of the HFRS's departments the top level included between 10 and 20 high-impact business processes; each of these top-level processes must clearly deliver value to at least one of its participants. As an illustrative example for this study we selected the process of supporting the NHSS that is depicted and further divided in Figure 1. Typically, each such process includes up to 10 second-level sub-processes. Then, each of these sub-processes is described in more detail using UML diagrams (Booch et al., 1998). Note that, at this level of detail, several important aspects of business processes, like goals, resources, triggers, outputs, etc., are also included in the documentation. To achieve maximum agility in task execution and knowledge preservation, each activity is further described in text form, typically not

exceeding one page. Therefore, the tradeoff between efficiency and complexity of business process models is maintained at sufficient level of detail, keeping all of the descriptions operational and valuable for practical use.

For the purpose of this article we selected two key business processes: National Housing Saving Schema and Housing Subventions. For modeling and optimization we applied BA and BPO principles. The concrete procedure is described in the following paragraphs.

After establishing the NHSS project, the HFRS issued detailed requirements for data exchange with the corresponding banks (Cestnik and Kern, 2007). At first, the amount of data was relatively small and the exchange was technically carried out using physical data storage media. Soon, such exchange was by BA identified as a bottleneck, so the participants began using other proposed media like the Internet for the task. This is the place where business process optimization and reengineering took place. Nowadays, the interoperability level achieved by such exchange using web service technology seems sufficient for the task. However, the HFRS's officers are much inclined to push it further to a higher level.

The HFRS and the banks carry out the majority of interdependent work to support the NHSS business process implementation. After each completed saving year the savers are entitled to receive a state premium accrual if they had paid their installments regularly and according to the established plan. Since the HFRS is responsible for validating savers compliance to the plan, it needs to acquire data about the contracts and paid installments. One of the results of the BA and BPO procedure was the identification of the state premium accrual process as a suitable candidate for outsourcing. Consequently, the measures the proposed business process reengineering were planned and executed.

The HFRS maintains its own database for monitoring savings accounts; besides, the database is accessible through a web application to interested banks and citizens. So, the banks are able to use the HFRS's database for advising citizens and to actively handle possible problems. The HFRS also allowed secure Internet access to this web application to citizens. Here, the citizens can observe the state of their saving account, which gives them additional sense of control over the saving matters. The introduction of the HFRS's G2C service had also another side effect: several banks decided to offer additional B2C service to the same citizens, thereby providing a different view to the savings data on the Internet.

Due to several reasons beyond the HFRS control, the process of granting housing subventions had to be implemented in a very short time and, therefore, effective manner. At the beginning, only the IT support was considered to be appropriate for outsourcing, since the number of applications was relatively small (see Table 1) and the required work for handling the task could be done by the in-house employees. Also, the HFRS instructed the applicants to obtain the legally required documents themselves, since the respective e-Government data sources were not available at that time. In the following years, mostly because of heavier burden of increased number of applications (see Figure 2 - years 2009 and 2010), three additional tasks were identified as potential tasks for outsourcing. Those tasks required specialised knowledge and skills; they were all related to obtaining relevant data from heterogeneous sources. In this manner the HFRS not only managed to improve the quality and reliability of the whole HS service to citizens, but also reduced the complexity of its demands from the applicants.

### 3. Discussion

In this section we present our practical experience with using BA and BPO at the HFRS. In particular, we concentrate on the issues that are important from the business process management perspective.

In the recent years the HFRS has, in accordance with its strategy concerning information technology, initiated a few attempts to model and reengineer its high impact business processes. In spite of the efforts the approaches were typically too straightforward; in fact, formal well-known methodologies using standard notation were not sufficiently employed in those attempts. Such simplified approaches resulted in moderate results. For example, in one of the first attempts the processes were depicted as simple flow charts, resulting in a rather narrow and biased representation. So, several interesting aspects of process modeling were actually omitted. The list of major weaknesses included the following: there were no participants and resources identified for each business process, no goals defined, no outputs enumerated, etc. Besides, processes on a flow chart could be executed only one at a time, which imposes severe limits to the representation of reality. Flow charts also show the sequence of processes or operations as a flow of control rather than the communication between the processes, thereby deliberately disregarding an important aspect of process modeling and management (Khan, 2004).

Information technology has been regularly employed in the field of BA and BPO. It has often been considered as a key enabler for new forms of working and collaborating within an organisation and across organisational borders. However, some of the organisations have used technology primarily for automating existing work rather than using it as a means for reducing the non-value adding processes (Hammer, 1990). In this context, BA and BPO play a substantial role and offer tangible results for the business.

Hammer's argument (1990) was that most of the work does not add any value for customers. This work should be removed from the business, not accelerated through automation. Instead, organisations should reconsider their processes in order to maximise customer value, while minimising the consumption of resources required for delivering their product or service. Hammer and Champy (1993) suggested seven principles of reengineering to reOrganise the work process and consequently achieve important levels of improvement in quality, time management, and cost. Note that the same principle applies also for processes carried out in the public sector. Those principles are the following (Hammer and Champy, 1993):

1. Organise the business around outcomes and not around tasks.
2. Identify all processes and rank them in order of redesign priority.
3. Integrate information processing work into the work that produces the information.
4. Treat geographically dispersed resources as though they were centralised.
5. Link parallel activities in the workflow instead of just integrating their results.
6. Include the decision points in the performed work and include control into the process.
7. Capture information once and at the source.

The same principles are applicable also to BA and BPO. The result of applying BA and BPO to the two HFRS business processes is an increased awareness of the importance of a careful business process management. The whole business process (see, for example, Figure 1) is cautiously divided into sub-processes, where each of the sub-processes is described in detail with several UML diagrams (Booch et al., 1998) and further explained in natural language. Since the most important actions are typically carried through once a month, such a detailed description is a necessary prerequisite for execution with sufficient controlling mechanisms that guarantee acceptably low margin for error. Note that such a division enables easier and more effective outsourcing of selected sub-processes. At the same time, it enables systematic monitoring and control of outsourced processes and results on behalf of the HFRS.

As a result of BA and BPO, the citizens and banks are more tightly involved in the NHSS business process. When the HFRS's management decided to post the NHSS data as a web portal, the majority of citizens positively accepted the new possibility to monitor their saving activity. There were more than 15,000 visits to the web page in the last year. Instead of dealing with problems and having to complain after each saving year, they were offered a possibility to react immediately when they observe an error in installments paid to their saving account. Therefore, the quality of data increased substantially. Also, the banks were offered a possibility to browse through their clients' data as stored in the HFRS's database. The banks' officials responsible for the NHSS project use this facility regularly almost every day. This again resulted in significant improvement of the data quality.

We estimate that by introducing the web application the HFRS was able to avoid over 90% of complaints, thus sparing a lot of unnecessary effort. This qualifies the process from Figure 1 as high-impact process with substantial value added for the customers. Note that each saver can not only monitor the status of her or his monthly payments but can also read some estimates of the total amount saved at the end of the saving period. We believe that by introducing such important pieces of information, which are not required but are extremely handy for the customers, the overall usability of the application increases substantially.

During the short period of granting housing subventions two generations of supporting information systems were used. While the first-generation system supported self-contained database of all applicants, the current second-generation system is characterised by high-performance interfaces to various heterogeneous data sources and by increased scalability and functionality. The motivation for using such high performance system is to overcome the narrow focus of first-generation system by obtaining data from specific sources of information that are available from other e-Government services.

According to the recent comparative study of e-Government field in Europe (Capegemini, 2009), online availability and sophistication of services for citizens and business show steady improvement over the past decade. The actual average for online availability in Europe reached an impressive 71% in 2009, while the sophistication measure, which denotes the degree of interaction between service provider and user, stands at 83%. The EU policy goals for the year 2010 clearly state that there should be no citizen left behind with regard to the inclusion in e-Government procedures. The digital divide gap has been well addressed in the past and can be considered practically closed.

Although the online availability figure for Europe is remarkably high, citizen's participation does not exhibit the same manners; surprisingly, indicators show that it still remains relatively low at 28%. Note that the e-Government usage for enterprises is around 68%. The same study (Capegemini, 2009) states that there is much work to be done to understand and engage citizens, as well as to build their trust and confidence. Following these guidelines, fields like, for example, customer insight, user-centered web design, unified access, data security, theme and life-event orientation, and customer involvement in service design have to be investigated.

A technologically literate citizen is likely to participate in the decision making, whether by voting for a candidate or in a referendum, sending an e-mail to the editor of a local paper, participating in a public opinion poll, or supporting the work of a civil initiative group. In a democratic society, people must be involved in the technological decisions that affect them. Decisions made without public input are often eventually rejected as illegitimate and antidemocratic, which can in turn have negative effect to the acceptance of a technology. Democratic principles are therefore based on citizen participation. People are adversely affected by the decisions about the kinds of technologies that are developed and how they are used. Therefore, citizen input can be influential during the design or research and development phase of technology. The simple act of asking and trying to

answer questions about technology can lead to a better understanding not only of technical, but also of the social, economic, and political aspects of the issues at hand.

## 4. Conclusion

Business analysis (BA) and Business process outsourcing (BPO) are valuable disciplines that were successfully introduced into business operations. They are also applicable to the public sector. In order to run its operations successfully, every organisation must first understand its problem domain and then make sense of its data and processes (Linthicum, 2004). The data, as well as the processes, must be cataloged and modelled using standard techniques and notations. It is important not only to identify each process but also to understand how the logic flows within that process. Various controlling mechanisms that are based on such business model were shown to increase the reliability of operations. Also, the model serves as a backbone for risk analysis and management (Peltier, 2002).

In BA and BPO, as well as in other domains of interest, knowing domain knowledge structure is beneficial for further learning and analysis. Typically, analysts start by browsing a set of documents that describe the target domain. The task is to grasp the relevant concepts that are meaningful for structuring the domain knowledge to obtain an overview. Then, depending on our further interest, they usually dig deeper by thoroughly reading a few selected documents that match certain criteria. So, they obviously only partially specialise their knowledge in the areas that they find interesting. Note that the first step (the overview) is necessary to improve the effectiveness of the second step (the specialisation).

In recent years the HFRS has followed its strategy concerning information technology by attempting to model, analyse and reengineer its high impact business processes. Every business process was carefully examined also from the outsourcing perspective. The resulting process model serves, among other things, as a guideline for directing workflow execution, responsibilities and resources. The first step of BA was to define and understand the processes. Although this step looked fairly simple, it required a substantial amount of skill and effort. One of the most interesting conclusions was that the real difficulty lies not in accepting and implementing new ideas but, strangely enough, in abandoning the old ones.

Since the HFRS is a part of the public sector, it is bound by several restrictions related to hiring new personnel. On the other hand, it is responsible for carrying out several tasks that occasionally exceed the capacity of their permanent employees. This is one reason to consider outsourcing. The second reason lies in the fact that there are sub-processes that require highly skilled expertise and specialised knowledge. By outsourcing such business processes, the HFRS managed to improve the quality and reliability of its services to citizens and reduced complexity of its demands.

For further work we consider several improvements related to the work described in this paper. For example, better tools for process analysis and editing need to be created, more information content needs to be added and systematic tests of how the ideas can be applied in different kinds of situations need to be performed. Various artifacts can be generated from the knowledge base, which can also serve as the source for the generation of process definitions. The business analyst is primarily concerned with defining entities that are related to business processes: business activities, business objects, business documents, business rules and roles. In due time, as the number of entities continues to grow, the business analyst will be able to re-use existing entity definitions. However, we believe that our work so far has demonstrated the basic feasibility and contribution of the approach and its potential for significant further progress. We hope that this research will provide a set of intellectual tools and an extensive database to help people learn about organisations, invent new kinds of organisations, and improve existing processes. Perhaps

most importantly, we hope that this research will help us recognize potential for creating new kinds of processes that are not only more effective but also more fulfilling for the beneficiaries.

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# Engaging Policy Communities Online?

*The Case of Canada's Digital Economy Consultation*

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**Abstract:** *This study assesses the impact of Canada's Digital Economy Consultation on the patterns of participation and deliberation in Canada's communication and technology sectors. This government-initiated, online consultation provides a valuable test case for studying the impacts online engagement in a top-down participatory framework. First, I present the rationale for the "policy community approach" to studying online participation and deliberation. Second, I present the findings pertaining to online participation and deliberation throughout the consultation process. Overall, it was found that institutionalized stakeholders used the online consultation as an opportunity to engage in offline dialogue and networking amongst themselves and policy-makers. On the other hand, unorganized and emerging stakeholders depended more exclusively on the online platform as a site for dialogue and capacity building—experiencing several drawbacks. These divergent patterns of online engagement illustrate how unorganized stakeholders are less likely than their institutionalized counterparts to effectively participate and deliberate throughout the policy process. Thus, the status and position of a stakeholder within a policy community will likely determine if and how the internet is used as a site of engagement throughout the consultation process. Finally, I will argue that engaging unorganized stakeholders exclusively online does not effectively nor equitably extend the policy process to those traditionally excluded.*

**Keywords:** online consultation, policy communities, participation, deliberation, computer-mediated-communication, power-law distribution, homophily

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**S**ites and patterns of political communication and organization continue to adapt with the emergence of new information and communication technologies. As an extension of the early place-based bourgeoisie public sphere first conceptualized by Jürgen Habermas (1989), new online publics are emerging—allowing citizens to ubiquitously communicate and organize around matters of political concern. Yochai Benkler refers to this emerging space as the "networked public sphere", and argues that this new ecology of openness gives citizens greater freedom to communicate their observations and viewpoints to others, representing a new "many-to-many" flow of communication (2006). Within this internet-mediated model of communication, citizens now have the capacity to both create and consume political information. This deviates from the "one-to-many" model of the mass-media mediated public sphere, where information production and distribution was dominated by few voices due to the high cost of entry into television and radio broadcasting networks (Benkler, 2006). However, due to the open, end-to-end design of the

internet itself, citizens today can partake in both the production and consumption of political discourse in the networked public sphere.

With declining citizen participation and eroding trust in public institutions, (Ekos, 2007), the networked public sphere has been conceptualized as a space within which public institutions can rebuild trust and re-engage the Canadian public in the political process. Today, online consultations have become a favored form of participatory engineering among governments, as they can engage citizens otherwise excluded from the policy making process (OECD, 2001), as well as crowd source policy perspectives from a vast number of participants. Public consultation on matters of public policy also enhances the democratic nature and legitimacy of the policy-making process itself. Open consultations can help ensure that matters of public interest, in addition to matters of commercial interests, are examined by policy-making bodies. Further, the publicity of the consultation process can also insulate the policy-making process from the secretive partisan deliberations of the political executive (Barney, 2005). However, whether or not an online consultation can effectively engage a vast policy community in order to make the policy process more participatory and deliberative remains unanswered.

An online consultation—by virtue of its openness—extends access to the policy process to anyone who wishes to participate. However, this “everyone can participate” rhetoric fails to consider the power dynamics that exist within a policy community. While an open consultation may extend participation to the public and increase citizen engagement, this window of opportunity is also captured—and in this case more effectively—by the most influential stakeholders of a policy community. Policy communities themselves are complex in structure, as stakeholders possess varied levels of human and financial resources, communication strategies, institutional structures, and networked ties. In light of these variables, it is important to recognize that how a stakeholder uses the internet to engage in policy making process will vary significantly. Therefore, the popular notion of “e-participation” is undergirded by the false supposition that online participation is a singular and homogenous act of engagement experienced similarly by all stakeholders. In this light, common use of the term glosses over the different ways online participation is understood by various stakeholders in the policy community, both conceptually and in praxis.

Therefore, it is critical that online engagement is examined within the framework of the policy community, as it this approach takes into account the power dynamics that shape online practices and processes. Effectively, this “policy community approach” can illuminate the relationship between the power structures of a policy community and patterns of online engagement throughout the policy process. This paper begins with a conceptual overview of the policy community approach to understanding the processes and impacts of online engagement. Secondly, both participation and deliberation specific findings of the study are reviewed. Finally, a few concluding remarks are given concerning the impact of the online consultation on equity and influence in the broader policy-making process.

## **1. Interpreting Online Engagement: A Policy Community Approach**

A policy community is a set of actors—both public and private—which coalesces around an issue area and share a common interest in shaping its development (Coleman and Skogstad, 1990). A “policy community”, as distinguished from a “policy network”, brings the advantage of drawing attention to stakeholders who are typically excluded from policy networks due to the hierarchical and bureaucratized nature of the policy process (Skogstad, 2008). Because an online consultation arguably allows anyone to participate, a policy community approach provides a valuable conceptual framework within which to understand online engagement within a policy community. This approach is particularly useful for understanding the impact of online engagement on the participation of stakeholders traditionally excluded from decision-making processes.

The relations of power among stakeholders in a policy community can be described as a sliding scale between "insiders", who work closely with government, and "outsiders" who operate on the periphery of the policy process. Paul Pross (1986) describes policy communities as containing two main groups. The first is the "sub-government" that actively participates in the bargaining process. The second is the "attentive public" that is interested in following policy developments, but cannot participate directly in the process in any official capacity. The attentive public generally operates outside of the policy community, without many formal opportunities to shape the decision-making process, whereas the sub-government is more akin to a "club" with varying levels of access and inclusivity, as well as benefits procured by its members (McNutt, 2008). This distinction between the "sub-government" and the "attentive public" illustrates how a policy community is comprised of stakeholders with diverse policy positions, financial and human resources, and strategic connections within the policy community. Resultantly, the communications strategies different stakeholders employ to influence the decisions of decision-making bodies will depend on the goals of the group, the resources at its disposal, and the prevailing conditions mediating each gateway of the process (Pross, 1986). In this case, tensions arise while trying to reconcile the openness of the online consultation on the one hand, and the power structures which shape membership within the policy community on the other. Thus, structural power adds an additional layer of complexity to understandings of how online participation and deliberation may unfold within a tiered policy community.

Despite the traditionally open and consultative nature of the policy process in Canada, scholars have identified an industry-dominated political economy of decision-making in Canada's communication and technology sectors (Moll and Shade, 2008; Barney, 2005; Raboy, 1995). Telecommunication companies in Canada continue to boast bargaining power and clout in policy circles (Raboy, 1995) while actors in the public-interest have become increasingly silenced in decision-making processes (Moll and Shade, 2008). Barney (2005) argues that with the emergence of digital technologies, Canada's policy orientation has become increasingly market-oriented, favoring commercial investments and developments over public programs and outputs. Resultantly, despite the deeply institutionalized tradition of public consultation in Canada's communication and technology sectors, the influence of the public interest community in policy process continues to diminish. However, in light of this trend, there is rising optimism that the internet might empower stakeholders to reassert influence in the process online. However, because online participation and deliberation are mired in the power politics of a policy community, understanding who has the power to influence whom is important when drawing conclusions concerning the impact of online engagement on the policy process.

## 2. Case Study and Methods

This paper focuses on Canada's Digital Economy Consultation. Throughout the process, individual citizens, professional and trade associations, public interest groups, as well as industry consortiums contributed formal position papers and engaged in online dialogue. The online forum was sponsored by Industry Canada, Human Resources and Social Development Canada and Canadian Heritage as an initial step towards the development Canada's Digital Strategy Paper, similar to what was recently developed in the UK with the "Digital Britain" paper. The goal of the online forum was primarily to solicit a broad range of perspectives and suggestions from Canadians for the creation of the strategy. An initial background paper was provided to guide contributions to the consultation, and site remained open for input between the months of June and July in 2010. The interface of the consultation website was organized into two main sections. First, a static submissions area was provided, where stakeholders could upload position papers openly for others in the policy community to view. Secondly, there was a dynamic discussion forum where

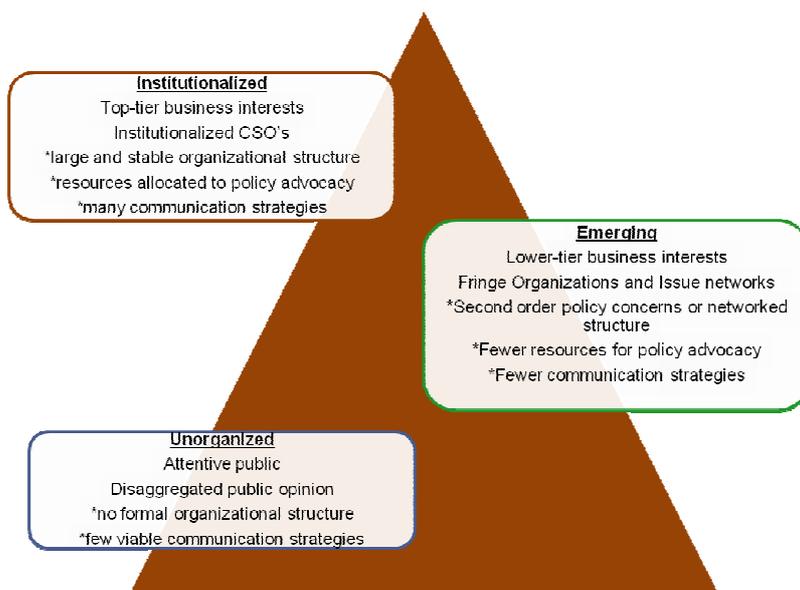
online dialogue took place among interested stakeholders. Within the discussion forum, a voting system was put in place which allowed participants to vote for popular ideas within the forum. This gave top ideas greater prominence and visibility within the forum. Further, in addition to the online portion of the consultation, a host of elite-level roundtables and other public conferences took place around the country. Because the Digital Economy consultation was initiated by the federal government, it presented the opportunity to examine the impact of online participation and deliberation when top-down, government-initiated efforts to engage a policy community are made.

During the study, a set of 21 interviews were conducted in the month of August, 2010 in order to collect anecdotal accounts of participation from stakeholders in the consultation. Stakeholders were selected impartially according to their presence within the online submission area or the discussion forum, and were interviewed according to their availability or willingness to respond. Findings drawn from interview data were used to supplement the content analysis, and to make inferences and draw conclusions from the data collected online. Care was taken to ensure the data collected from interviewees was representative of the full range of stakeholders that partook in the consultation. The distribution of stakeholders selected for interviews was as follows: 6 non-affiliated "citizens", 5 not-for-profit research or advocacy organizations, 4 trade associations, 2 academic institutions, 1 private sector organization, 1 public sector organization, 1 think tank/research network, and 1 library association. Interviews ran roughly between 15 to 45 minutes, dependent upon time and scheduling constraints, as well as the expressive limitations related to professional roles and liabilities. Twenty-one interviews was identified as the threshold, as the marginal value of conducting new interviews after 18 began to diminish steeply. By the twenty-first interview, a saturation point was reached as no new insights were gained at that point. Secondly, to under the nature of online deliberation within the policy community, a content analysis of the online discussion forum was conducted. Because a variety of stakeholders and viewpoints must be present for democratic deliberation in the policy process to occur (OECD, 2001), the content analysis focused primarily on determining the diversity of opinions and policy perspectives present within the online discussions. The methodological emphasis on ideological diversity is an investigative response to recently documented trends of "homophily" within online dialogue and organization (Lawrence, 2010; Hargattai, 2008; Sunstein, 2007). Homophily refers to the tendency of like-minded individuals to engage with one another rather than with those with opposing points of view. In effect, the potential cyber-balkanization of political discourse may pose additional challenges to facilitating online deliberation that can inform public policy in a balanced manner.

In an online forum, a "seed message" refers to the first message in a "thread". Seed messages often set the agenda and tone of a particular thread of conversation. A thread, then, represents a chronological string of messages in response to a given seed message. The content analysis was conducted on each thread of discussion within the online forum as follows. First, the seed message within a thread was assessed for its content and tone as it typically set the overall tone and direction of discussion within a thread. Secondly, the string of messages within a thread was measured for the degree to which they reflected a deliberative ecosystem. If a participant sought to assert affinity for the position expressed within a seed message, or simply contributed information to further support said position, the message was labeled as "homogenous". Alternatively, if a participant challenged the position or framework set by the seed message, or facilitated deliberation within the thread, the message was labeled as "challenge". Preceding the content analysis, the results were totaled and averaged, and the degree of homophily within the online forum was calculated.

### 3. Online Participation—Networking the Networked?

In this section, the characteristics and patterns of participation among members of the policy community is presented as a tiered typology of stakeholder participation (see Figure 1). The typology depicts the range of stakeholders in the consultation, and consists of three layers: institutionalized, emerging, and unorganized stakeholders. Overall, the online consultation provided well-networked, institutionalized stakeholders the opportunity to build capacity by way of offline networking functions. Emerging stakeholders were able to effectively use the online forum as a platform to seek legitimacy and visibility for their policy perspectives within the policy community. For unorganized stakeholders, the online consultation served primarily as a point of entry into the policy community, with few auxiliary advantages.



**Figure 1: Tiered Typology of Stakeholder Participation**

Overall, the relative function of the online platform varied from stakeholder to stakeholder, according to their status, as well as the strength and nature of their ties within the policy community. The online nature of the consultation played a negligible role in encouraging the participation of institutionalized stakeholders when compared to emerging or unorganized stakeholders. This is primarily because institutionalized stakeholders held strong ties among each other (horizontal) and with policymakers (vertical) prior to the consultation. Thus, for institutionalized stakeholders, most networking and capacity-building activities relating to the consultation occurred offline rather than on. Holding strong ties in the policy community and through participation in offline events—such as roundtables and conferences—institutionalized stakeholders were most capable of engaging in networking and capacity building functions over the span of the consultation period. On the other hand, emerging and unorganized stakeholders with moderate, weak or no ties within the policy community relied most heavily upon the online forum as a networking platform. The details of each tier of stakeholder participation are explored in further detail below.

#### 3.1. Institutionalized Stakeholders—Building Capacity

Institutionalized stakeholders possess strong vertical ties vis-à-vis policy-making bodies, as well as strong horizontal ties with other stakeholders in the policy community connected by collective interests or a shared policy vision. By virtue of their “institutionalized status”—and their

considerable bargaining power in the policy community—institutionalized stakeholders are well resourced and participate regularly in federal consultations. These stakeholders share similar organizational structures and cultures, and have internal processes in place for monitoring relevant policy developments. Furthermore, institutionalized stakeholders can afford the professional preparation of briefs and other documentation demanded by the increasingly bureaucratized policy process, as well as the costs of litigation or appearances before regulatory bodies (Pross, 1986). Strong ties to likeminded organizations, government departments and policymakers heighten the ability of institutionalized stakeholders to engage with other members of the policy community offline beyond the confines of the consultations' online forum. Thus, their participation in the consultation was not a function of its online focus per se, but rather an effect of their strategic position within the policy community itself.

Holding strong ties within the policy community, institutionalized stakeholders are typically privy to official information and were informed of the consultation directly by the government, or very soon after its announcement in the spring of 2010. In certain cases, stakeholders were aware that the consultation was up and coming prior to its formal announcement. These circumstances differ considerably when compared to those of unorganized or emerging stakeholders. These groups were not typically privy to sources of first-hand information, and became aware of the consultation in a more indirect manner through professional ties or outlets such as the print media or blogosphere. The active presence and strong ties held by institutionalized stakeholders within the policy community suggests that their participation in the consultation would be expected, regardless if the forum was online or off. This suggests that the online consultation does little to alter the means of participation, but is rather adapted by institutionalized stakeholders to the organizational processes already put in place by their executive. Because time and resources are already earmarked to ensure effective participation and influence within the sphere of policymaking, the consultation provided institutionalized stakeholders value-added offline networking opportunities in the form of conferences or roundtables.

### **3.2. Emerging Stakeholders—Gaining Visibility and Legitimacy**

For emerging stakeholders, the internet reduced barriers to entry and participation in the policy process. These stakeholders are considered to be "emerging" within the policy community partially due to the participatory affordances granted by the online portion of the consultation. Within this tier of stakeholders are two subcategories: fringe organizations and issue networks. Fringe organizations are stakeholders that possess a mandate relevant to the consultation, but might not capture the primary focus of the consultation by way of their activity. Fringe organizations may resemble institutionalized stakeholders in terms of their organizational structure, but differ as they hold policy objectives that are second-order or even unpopular among policymaking bodies at the time. Because the internet reduces the opportunity cost of participating physically, online consultations encourage the participation of fringe organizations. Reducing both logistical and budget constraints, an online consultation becomes accessible to organizations from anywhere in Canada. This expands membership within the policy community, as well as the framework and analytical scope within which public policy is deliberated.

On the other hand, an issue network can be defined as a horizontal collection of loosely bounded individuals affiliated via their advocacy for a collective interest. Members of issue networks are often widely distributed, unlikely to share institutional ties, and are likely dependent on internet as a way to develop ties and form networks. The participation of issue networks in the online consultation was typically characterized by the collaborative drafting, distribution and approval of a position paper via email or listservs. Within an issue network, the development of a position paper typically occurred in a fluid, horizontal manner. This was markedly different from the

heavily-managed, hierarchical participation of institutionalized stakeholders. Support for the policy perspectives held by issue-networks was also found through participation in the online forum. Thus, the open space of the online consultation empowered new stakeholders to enter the policy community without the need to represent a formal institution. Using the internet, like-minded advocates eliminated the need to maintain formal institutional structures, such as headquarters, boards of directors, and were able to bypass the high overhead costs associated with the maintenance of formal organizational structures. By email, like-minded yet far-flung stakeholders with weak-to-moderate ties able to effectively coordinate and present a unified policy position to the federal government. This brought a new form of visibility and legitimacy to the policy positions held by emerging issue networks. Here, the internet marks a progressive and significant shift in political opportunity structure within the policy community. Less-resourced stakeholders no longer need to maintain resource-intensive bricks-and-mortar structures, which traditionally have served as a barrier to entry.

### 3.3. Unorganized Stakeholders—Gaining Entry

Unorganized stakeholders can be defined as individual participants in the consultation that do not possess apparent institutional affiliations or strong ties within the policy community. Resembling Pross's "attentive public", they are active and interested citizens without the resources to effectively participate in or influence the policy process. For unorganized stakeholders, the openness of the online forum provided a new point of entry into the policy community. Here, the online consultation—and specifically the discussion forum—enabled the attentive public to become active in the policy community without the need to hold institutional ties to an interest group or network. Anyone with an internet connection and an opinion was free to openly share their opinions with decision-making bodies. Effectively, this has facilitated the emergence of a new tier of unorganized stakeholders within the policy community itself. In several documented cases, the participation of individuals was facilitated by the communicative and hyperlinked ecosystem of Web 2.0, through the use of Google Alerts or RSS feeds from the blogosphere. The case of unorganized stakeholders demonstrates how open online space can encourage individual citizens to become politically active within the policy process without the prerequisite of associational ties within the policy community. Here, the internet played a crucial role in helping overcome structural barriers to public engagement in the policymaking process, and also allowed a greater diversity of individuals to contribute throughout the process. However, it should be noted "public participation" continues to suffer from an elite-bias, as effective participation was limited to individuals with the required digital literacy and topical knowledge to effectively contribute.

## 4. Online Deliberation—Forming Ideological Eco-chambers

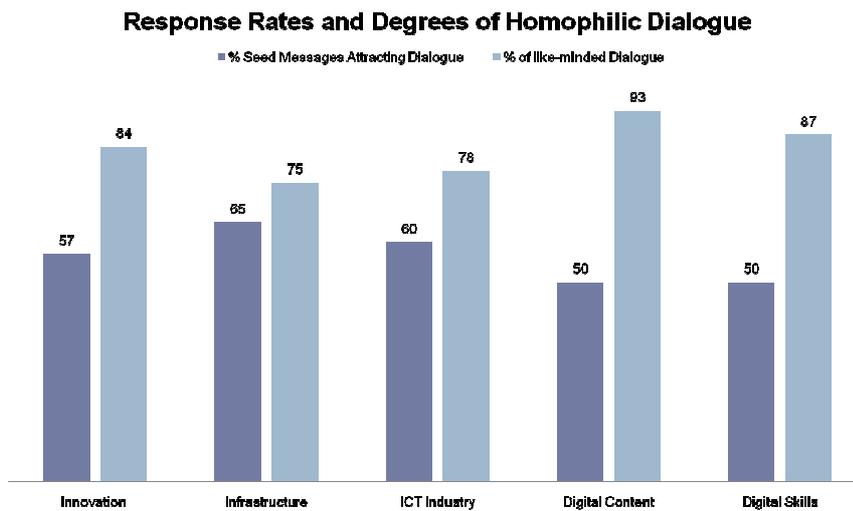
The discussion forum on the consultation website was divided into five focus policy areas, thus distributing deliberative activity among five separate sub-forums. These forums were designed to facilitate discussion on the following five topics: 1) Innovation using Digital Technologies, 2) Digital Infrastructure, 3) Building the ICT Industry, 4) Canada's Digital Content, and 5) Building Digital Skills. The second forum received the greatest number of threads, with a total of 46, while the third received the least amount of user activity, with only 15 threads generated. Between all five forums, a total of 137 threads were generated, with 547 unique messages and 271 active participants. While a grand total of 137 threads were generated within the forum, 58, or 42%, did not develop beyond an initial seed message. This signifies a significant discrepancy in the distribution of user activity among threads. A total of 42% of threads did not generate any discussion at all, while 83% of threads received only four messages. Thus, in roughly half of all cases, no comments on the initial ideas of a participant were given by other participants and in almost 85% of all threads, no

more than five messages were contained within a single thread. In total, only 17% of threads generated more than five messages in response to the seed message.

These figures suggest that the majority of ideas contributed to the forum received incredibly few replies, and those threads that did receive replies were distributed unequally among the five forums. Here, generally low response rates cast doubt upon the potential of deliberative dialogue flourishing online within a top-down participatory framework. Even within the most active thread of the forum, the discussion was 95% homogenous—comprised primarily of like-minded stakeholders supporting a similar policy position. While only a few threads received a significant level of attention from participants, the threads themselves did not facilitate deliberative dialogue, but rather a string of disjointed responses. A highly disproportionate concentration of activity on the forum is further demonstrated by the fact that 23, or 17% of threads, attracted the majority of dialogue. The skewed concentration of user participation can be seen as a result of the architecture of the discussion forum. Users were given the opportunity to vote for their most favored threads, raising the most popular ideas through the ranks and placing them at the top of the forum. Because these popular threads then dominated the top ranks within each of the five forums, they were consequently the first threads new participants would see upon logging in. Meanwhile, less popular ideas were pushed to the lower ranks of the forum, requiring participants to scroll through a long list of threads before they became visible.

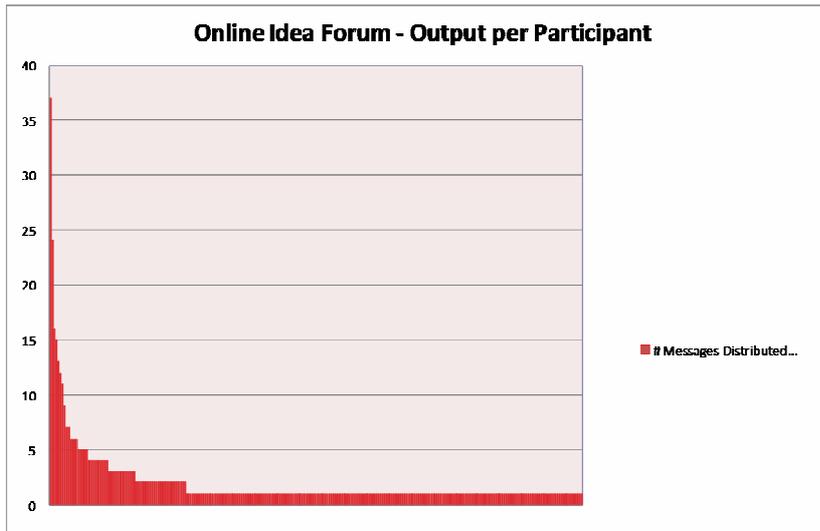
The position of a thread, either at the bottom or the top of the forum, played a significant role in influencing which ones received the most user activity. The hierarchy imposed on ideas and threads through the voting system patterned user participation within the forum according to a power-law distribution. The more votes a particular thread received within the forum, the more users it attracted, and hence, the more messages it received. Here, a reinforcing feedback loop was created. This cycle increased the likelihood that a “popular” thread would continue to receive votes and generate further discussion, reinforcing certain threads as “top ideas”, while others received negligible attention. Furthermore, a relationship existed between the skewed distribution of stakeholder participation within the forum, and the degree to which homophily dominated the little dialogue that did occur within the forum. While only 58% of threads received any dialogue, 83% of the overall dialogue within the forum occurred between like-minded individuals (see Figure 2). Thus, individuals typically sought to express their affinity for ideologies or policy positions expressed in the seed message of a thread. The greatest degree of homophily was found within the third forum on Digital Content, with a strong support for open access to publicly funded data, while the most diverse dialogue occurred within the second forum on Infrastructure, which is not surprising considering the continued debate on Canada’s telecommunication duopoly.

These trends suggest that within the top-down framework of a policy oriented consultation, participants will most likely be attracted to threads which express a policy position they themselves align with. Given the freedom to choose among several topics of debate, participants appear more likely to engage with other like-minded individuals—thus forming online ideological eco-chambers rather than deliberative spaces. This trend can be explained by two prevailing conditions of the consultation process. First, the open and the unmediated nature of the discussion forum allowed individuals to regulate their behavior online. Such self-regulation allowed stakeholders to choose which conversations they would like to join, and those they would rather avoid.



**Figure 2: A high degree of Homophily in Online Dialogue**

In this case, the self-regulated behavior of participants undermined the necessary conditions required for deliberative dialogue. This is especially pertinent considering the fact that opposing stakeholders and decision makers were completely absent from the discussion. Secondly, because the policy process is typically “agenda-driven” one, stakeholders may prefer to take the time spent online building support for their preferences when given the choice. This may be attractive for stakeholders seeking to gain bargaining power in the policy community rather than entering into a lengthy deliberative process with the opposition. While the online forum was incredibly successful in uniting and building capacity among like-minded participants, self-regulation within a dialogical setting fractured, rather than fostered, meaningful deliberation among participants. Finally, it is important to note that 72% of the active participants in the discussion forum contributed only one message to the discussion forum, while only 7% contributed five or more (see Figure 3). This designates the most active 2% of participants responsible for generating 24% of the total user activity within the discussion forum, a trend neatly captured by the steep curve and long tail of the graph in Figure 3. With the online discussion forum unable to attract and retain a wide base of regular participants, discussions took place between a handful of hyper-active participants and a wide baseline of drop-in participants. Without a forum moderator, or efforts to engage users beyond their initial exchanges, the online discussion was short-lived, as the attention of participants proves to be both sparse and fleeting. Furthermore, the likelihood of facilitating democratic deliberation online may be minimal within a top-down framework which structures discussion as a competition of ideas, rather than building consensus among participants.



**Figure 3: Distribution of Messages Contributed per Participant**

## 5. Conclusions

Overall, the online consultation provided an important platform within which the articulation of policy preferences could occur. While the online forum provided a space for a growing policy community, the role the internet in facilitating participation and deliberation throughout the process varied among stakeholders in the policy community. For institutionalized stakeholders, the online component was less about providing new participatory opportunities than building further capacity among other stakeholders in the policy community. Institutionalized stakeholders have been privy to first-hand information and had the opportunity to attend offline roundtables and other conferences and meetings held across the country. Thus, during the consultation process, institutionalized stakeholders were able to strengthen their networks and build new coalitions with other institutionalized stakeholders, as well as government officials.

Here, the online forum functioned as an open and accessible networking platform, giving institutionalized stakeholders access to the other policy position papers submitted to the federal government. However, beyond the submission of a position paper, the online platform did not form an active hub of participation. Instead, the consultation process served primarily as a window of opportunity for industry-specific, offline networking. With the exception of one industry consortium interviewed, deliberation between institutionalized stakeholders did not occur openly within the online forum, but instead took place behind closed doors between tight-knit groups with strong ties, or at least mutual policy concerns. For emerging stakeholders, the online consultation served most importantly as a way to gain increased exposure and legitimacy for their policy concerns, without having the resources and institutional capacity traditionally required to participate in the policy process. Due to the absence of a shared institutional or place-based setting, the online forum served as an important hub for emerging stakeholders to engage other like-minded stakeholders in dialogue. However, as previously discussed, the online forum did not function as a space for generating effective deliberation. More positively, however, the online setting of the consultation allowed emerging stakeholders to collaborate and coordinate their efforts online to gain legitimacy for their policy perspectives.

The online forum proved most valuable for unorganized stakeholders, as it facilitated their entry into the policy community. However, it did not prove effective for unorganized stakeholders in terms of strengthening ties and building capacity within the policy community. While the online forum

allowed individuals to log in and discuss matters of interest, the space did not encourage self-organization or collective action among unorganized participants. Deliberation within the online forum was for the most part absent, as participants typically logged in and out of discussions only to express support for a particular policy perspective. While most of the activity within the online forum was contributed by unorganized stakeholders, over 70% of them contributed only one message to the forum throughout the consultation. With the forum dominated by seven hyper-active participants, it served more as a site for ephemeral and casual discussion than as a site for networking among unorganized actors seeking leverage in the policy community. This suggests that an online forum alone is not effective for sustaining active participation among the attentive public.

More positively, however, is that the online forum provided an important entry point into the policy community for unorganized stakeholders. Thus, the internet played a significant role in extending the boundaries of the policy community beyond the “sub-government” to actively include the attentive public. Furthermore, the increased visibility of emerging stakeholders within the policy community highlights how the internet can reduce barriers to participation within a policy community, begin to level the playing field among stakeholders with varying levels of resources, and instill a sense of legitimacy among emerging actors with public-interest agendas. However, in light of these more positive developments, it is important to emphasize the degree to which participation and deliberation took place exclusively *among* the different tiers of stakeholders within the policy community, as opposed to *between* them. Institutionalized stakeholders used the consultation as an opportunity to strengthen already strong ties among themselves and within the government. Meanwhile, emerging stakeholders were typically only able to gain attention for their ideas among other like-minded participants. Finally, unorganized stakeholders remained an impetuous cacophony of voices either uninterested or unable to leverage bargaining power within the policy community. Because institutionalized stakeholders were able to build and strengthen their networks offline during the consultation period, pre-existing strong ties within the policy community proved to be more of a participatory affordance than the openness of the online consultation itself.

Because the networking processes and dialogue during the consultation process was so fragmented, the online consultation appeared to balkanize dialogue and confine interactive networking activity within the three tiers of stakeholders. This result runs counter to aspirations that the internet could facilitate meaningful deliberation among the policy community as a whole. Furthermore, it remains questionable if the online activity of emerging and unorganized tiers will be accounted for in the policy process. At the end of the day, the voices which are heard and shape policy, and those effectively ignored, is still determined by the non-deliberative, elite-level decision-making processes (Barney, 2005). This case proves that creating online spaces can successfully expand the traditional boundaries of the policy community. However, pre-existing strong ties within the policy community and offline networking patterns continue to provide crucial sources of networking power, and potentially influence, in the policy-making process.

Efforts to engage emerging and unorganized stakeholders in the policy process beyond the limited affordances of the online forum need to be made. Emerging and unorganized stakeholders require the opportunity to give further input in a series of follow-up roundtables. Further, unorganized actors require networking spaces to organize and build community beyond the proven limitations of an online forum. Opportunities for all stakeholders to network amongst themselves and access government representatives and policymakers offline also need to be provided in during the consultation period in conjunction with the online component. Without commitment to providing additional opportunities for offline engagement or capacity-building, the current approach to online participation merely remains a technocratic exercise. Thus, expanding participation solely

to an online platform enables governments to reduce the political and economic costs of the town hall consultation process, rather than does it equitably engage all stakeholders in the process. Given the conditions of the Digital Economy consultation, online modes of participation prove only to remove emerging and unorganized stakeholders further from the core of the policy making process, while giving institutionalized stakeholders more room to shape and influence key public policy decisions.

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## About the Author

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Rebecca Schild holds an Honors BA in International Development Studies from University of Toronto, with a focused interest in both questions of public policy and governance in the area of Internet and Society. Her research interests include policy communities and networked governance in Canada, with an emphasis on citizen engagement and online activism. Rebecca has also interned with the Centre for Internet and Society, Bangalore, working on topics of open access, online privacy, and digital accessibility.



# Collaborative Behaviours in E-participation

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**Abstract:** *E-participation needs technology such as the internet and social media, but there are other factors which need to be considered too. This paper looks at participation, collaboration and cooperation in the open government and e-participation context from a psychological point of view. It provides a brief overview of some online behaviours which are relevant to e-participation and governments, beginning with individuals hyperlinking, to more complex behaviours involving larger groups such as online communities and crowdsourcing. Online participation and collaboration, with all its potential, also has its limitations, not only due to technology, but also individuals' behaviours, their motivations and expectations as well as the social relationships which govern the online environment.*

**Keywords:** Individuals, collaboration, participation, government, e-participation, e-government

**T**he internet has always let many people fulfill their most important social needs such as affiliation, support and affirmation over the internet (Sproull & Faraj 1997). Availability and affordability of the internet have led to personal and social changes and, as more human activities and communication move on to the online environment, personal habits, human culture and governing are changing. The internet has not only profoundly changed the way people communicate and behave, but also their expectations regarding society and politics.

Many institutions are gaining experiences with collaborative and participatory innovations, but the tensions are visible: both citizens and politicians are disappointed by the promises offered by e-participation (Chadwick 2006; Coleman & Blumler 2009). E-participation initiatives and research (e.g. the EU-funded FP6) have until recently mainly focused on the technology and providing information, but successful e-participation will require a better understanding of human behaviour in the online environment, as well as activities such as participation, cooperation and collaboration. The aims of this paper are twofold: to present an overview of those online social and collaborative behaviours relevant to government and e-participation, and to consider some limitations to collaborative behaviours which may be due to, for example, technological determinism and the assumption that technology can change democratic values, information overload and problems which may arise when people work together in the online environment.

## 1. Online Participation and Collaboration

Social relationships have always been an important motive for internet use, to find friendship and romance (Hardie & Buzwell 2006) but also for providing support, information and opportunities for connection, and conferring social and psychological benefits (Biao-Bin et al. 2006). Individuals largely define themselves in terms of the social connections they have or don't have (Barak 2008),

and the internet has expanded people's social connections through a variety of tools and with varying levels of social involvement (Skitka & Sargis 2005). Online participation requires individuals to devote time and effort, which they are willing to do: *"Never have so many communicated so much, on so many screens, through so many channels, absorbing so many hours of irreplaceable human attention about communications"* (Gitlin 2007, p.4).

People engage in collaborative behaviours which influence their workplaces, communities, national democracies, and the global economy at large, and at the same time, have social benefits, such as making governments more transparent and accountable (Coleman & Blumler 2009; Müller 2010; Williamson 2010). Collaboration is based on individuals engaging in loose voluntary associations, sometimes using technologies to achieve shared outcomes. Collaborative behaviours harness human skill, ingenuity and intelligence efficiently and effectively. This openness, peering, sharing and acting globally is increasingly replacing some of the old tenets of business and governments (Tapscott & Williams 2006). Successful online collaboration can be seen in different areas (private, public, and non-profit organizations), take on different forms, and using different online media platforms so as to share content. Examples range from Flickr, Slideshare, Wikipedia, MIT OpenCourseWare<sup>1</sup>, Open Source, Peer-to-Patent<sup>2</sup>, Barak Obama's presidential campaign, protest movements<sup>3</sup> and crowdsourcing activities led by the UK government in 2010 („Programme for Government“, „Your Freedom“, and „Spending Challenge“).

How do people learn how to interact, participate, and collaborate in such online environments? Netiquette guidelines<sup>4</sup> have been around for a long time, guides and information sheets help to understand and use the internet tools<sup>5</sup>, and public platforms and social networks often state their expectations as to how users are to interact<sup>6</sup>. Some scholars (e.g. Jennings & Zeitner 2003) believe that the characteristics of the internet such as anonymity and reduced observable social cues encourage discussions and generate interesting arguments, i.e. they are *"conducive for public deliberation by attenuating the effects of the undesirable social-psychological influences on opinion expression"* (Ho & McLeod 2008, p. 191). Others believe that it is the degree to which participants value the benefits obtained from their group that will also predict the amount of collaborative, cooperative or community building work (Butler et al. 2002), or that it is related to the amount of fun users have (Nov 2007).

The internet provides the infrastructure necessary to support and encourage high levels of altruism such as volunteerism, providing assistance and emotional support (Amichai-Hamburger 2008; Barnes 2008). These behaviours are known as prosocial behaviour (Eisenberg & Miller 1987), and people sometimes behave more kindly to others on the internet, perhaps more so than they would in similar real-life situations (Amichai-Hamburger 2005). Forms of prosocial behaviour that occur online are consensus and collective action (Rheingold 2002), reciprocation (Adamic et al. 2003), contribution of time and effort (Butler et al. 2002).

According to motivation theory, all behaviour is motivated in some way, and people will engage in a particular behaviour in order to achieve a desired end (Atkinson & Birch 1970). Motivations are enduring and pan-situational, may lead to different goals, behaviours, and consequences, and determine how the online resources will be used. Motivations and goals determine how online tools will be used and the behaviours participants choose to engage in. The participants' expectations and motivations brought to the online environments will structure the outcome, enable and

<sup>1</sup> [www.ocw.mit.edu](http://www.ocw.mit.edu)

<sup>2</sup> [www.peertopatent.org](http://www.peertopatent.org)

<sup>3</sup> [www.unibrennt.at](http://www.unibrennt.at); #unibrennt; #Protest #Gaza; <http://twitter.com/ProtestWatch/status/14615246031294464>

<sup>4</sup> <http://tools.ietf.org/html/rfc1855> or <http://www.faqs.org/faqs/usenet/primer/part1/>

<sup>5</sup> <http://www.iriss.ac.uk/publications> or <http://www.wheremostneeded.org/reference-new-web-tools-f.html>

<sup>6</sup> <http://www.facebook.com/#!/principles.php>

constrain their experiences and payoffs. Social networks themselves and the relationships between users may motivate and lead to people connecting and taking collective action (Melucci 1996). It is important to understand the role of motivation as it is one of the factors that may lead to lack of participation and collaboration, but also to disenchantment, a negative attitude to government or those in power, and low levels of use of government sites (Maier & Reimer 2010).

The “*culture of generosity is the backbone of the internet*” (Tapscott & Williams 2006, p. 206), but it is clear that relationships and contributions should not always be seen simply as due to altruism and prosocial behaviour. Hars and Ou (2001) suggest that although altruism is a behaviour found in the online environment, altruistic motivation alone cannot always explain why people will engage in prosocial behaviour or participate in online groups: in the Open Source environment, contributors view their participation as an investment from which they expect future returns. “Wikinomics”, a term coined by Tapscott and Williams (2006) is an idea based on Wikipedia and is an economic model based on peer-production, where people participate, contribute and collaborate in the online environment without receiving direct payment but indirect rewards such as gaining status and the subjective value of information. Benefits that result from being involved can be personal visibility and in external promotion. The online participatory culture where people will work for free is extremely important in social and economic terms (Punie et al. 2009; Haythornthwaite & Kendall 2010; Ciciora 2010). Socially, the internet provides a platform for just about anyone to contribute, and everyone benefits by having many different angles on a news event or topic; economically, the ease of publishing web pages challenges traditional media and business (Haythornthwaite & Kendall 2010) but also had benefits such as speeding up processes, as can be seen with the Peer-to-Patent application in the US.

### 1.1. Hyperlinking

There are a number of different ways to collaborate online, from small individual acts such as posting a hyperlink to participation in online communities. Hyperlinking, which historically began as a citation mechanism, is now part of a huge network, an industry, which affects the size and shape of the public sphere by facilitating the wide sharing of information (Halavais 2008). They express social relationships in the public space for others to see (Adamic 2008), and have shifted the dynamics of human conversation (Hespos 2008), guiding users (Hargittai 2008) and their attention, and by letting others know what matters to them and what they believe may matter to others (Weinberger 2008).

As part of everyday life, hyperlinks are “*created and situated in a political-social context*” (Turow & Tsui 2008, p.21) and Castells (1996), who argues that networks are the organising principle of modern society, suggests that hyperlinks are “*becoming the currency and connective tissue of the networked society*” (in Turow & Tsui 2008, p. 48). Hyperlinks can be useful for providing trust and providing support (evidence), transparency, credibility (Tsui 2008), and they may facilitate political accountability. Schudson (1998, 2000) uses the concept of hyperlinks to build a new model of citizenship: the ideal informed citizen who carefully studies political issues and candidate platforms before casting a vote. This ideal makes most citizens look ill-informed and ineffective, and ignores the fact that citizenship has expanded and is increasingly complex (Coleman & Blumler 2009). Whilst there are benefits to the informed citizen, Schudson also states that it is neither realistic nor necessary; rather he suggests a modified model, the ‘monitorial citizen’, i.e. citizens who are informed and alert enough to identify danger to their personal good and to the public good. Not all citizens can or need to be effective monitors, but hyperlinks and social networks (e.g. Facebook and Twitter) can help spread information more quickly, and help monitorial citizens spot the danger before it is too late.

## 1.2. Communities

People have a need for inclusion and the company of others, and communities provide the opportunity for feeling included and being with like-minded people (Schutz 1966). Definitions of community are often based on current interpersonal communication theories on trust, politeness and cooperation as the central features of communication competences. Putnam (2000) and Schuler (2009) for example, see the community as supportive social ties, based on civility and creating trust; communities represent networks of civic engagement, foster reciprocity and encourage social trust. Adams (2001), on the other hand, believes that intimacy and close social ties as desirable qualities for a community are neither necessary nor sufficient conditions, and suggests that a community is also defined by who is not included.

Granovetter (1973) suggests that communities rely on 'weak ties' i.e. interpersonal connections that are not particularly intense, close or emotional, yet have an indispensable function of holding together groups of people who may not have that much in common and may not share the same view of the world. Without weak ties, internally homogeneous groups of people would be completely isolated from others outside their groups and social interaction would only occur between like-minded people. Weak ties reduce social fragmentation and expose people to cross-cutting views, allow information to diffuse more widely and ideas to be exchanged between different groups of people.

'Online community' is a term is used for many kinds of social interaction, but in broad terms, an online community describes any collection of people who communicate online, and may share goals, activities, governance, cooperation, and pleasure. Due to a number of reasons, such a reduced civic engagement, the increasing urban sprawl, and extensive entertainment available on TV and online (Prior 2008), people feel detached from their geographic communities, and thus seek inclusion, attachment, community in the online environment (Putnam 2000). Online communities are increasingly seen as important for solving individuals' (Preece 2000) or social problems (Dourish 2001).

## 1.3. Crowds

The debate about whether online communities are 'real' communities has centered on whether these initiatives can support social relationships and lead to commitment to community goals and values. Some scholars (e.g., Haythornthwaite, 2009) see online communities as suitable environments for collaboration, knowledge co-construction, and communities of practice. But Haythornthwaite also urges to consider and differentiate between crowds and communities as two ends of a spectrum. Whilst crowdsourcing is about harnessing the knowledge and talents of many (relatively) anonymous individuals through online systems, communities form and define knowledge through the continued efforts of known participants.

Each community has different patterns of contribution, participation, aggregation and evaluation in their organizational structures. Haythornthwaite describes this form of organisation, participation and collaboration as "heavyweight", emphasising the commitment an individual has to the collective enterprise, which may include learning about the topic, equipment, methods, and norms of production around this domain of knowledge.

Crowdsourcing projects on the otherhand are described as "lightweight", as such forums exist to draw in contributions, responses and comments, with a limit to the types of input and the visibility of individual contributors and contributions. Crowdsourcing contributions range from isolated, minimal, discrete, objective and often anonymous contributions (e.g., the NASA ClickWorkers<sup>7</sup>) to

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<sup>7</sup> [www.clickworkers.arc.nasa.gov](http://www.clickworkers.arc.nasa.gov) (the original site)

efforts that are more personal and encourage social presence such as tagging others' content, commenting, providing data and corrections. Individuals need to adhere to site norms and practices, but they do not have to engage directly with each other.

There is a tendency to believe that valuable knowledge is held by an expert, or that one person will be able to take the good decision. Experts' opinions are believed to be better, yet "*under the right circumstances, groups are remarkably intelligent, and are often smarter than the smartest people in them*" (Surowiecki 2004, p. xiii). Society relies on individuals having access to new information and ideas for innovation. The internet can help bring together people's creativity and thus encourage innovation. Society and government thus need the so-called 'wisdom of the crowds' (Surowiecki 2004), although it is unlikely that the crowd fully understands how their actions lead to a certain output nor are they necessarily aware of how their action contributes, they "*create, perpetuate, and/or modify structures that direct the attention of others*" (Webster 2008, p.28).

Crowdsourcing is collective intelligence, and although it requires encouraging self-interested, distrustful people to work together, even in situations where narrow self-interest would dictate that no-one should take part, different groups can take good decisions and solve problems. Crowdsourcing works well when people cooperate, and requires rules to maintain order and coherence and members must interact and learn from each other.

## 2. Collaborative Behaviours and Government

Participation and collaboration can improve public sector governance, enrich democracy and, at a more local level, can help empower citizens improve their communities (Tapscott et al. 2007). Collaboration can help modernise government service delivery and interaction with citizens – but its potential for public sector innovation has barely been tapped. Governments need to restructure their interactions with citizens, organise, coordinate and control complex policy domains as well as provide platforms for encouraging communication with and between citizens, institutions and business.

In Open Government concepts, public value no longer needs to be provided by government alone, but can be provided by any combination of public agencies, the private sector, community groups or citizens. The biggest current challenge for many governments is twofold: a lack of money to deliver services and the need to establish a framework where the government itself defines the roles of these new institutions of governance which then effectively use the society's innovative capacity. The traditional organisational structure of public administration is that of a hierarchical, closed entity. This closed, hierarchal government is increasingly becoming untenable, but public administration has not yet found its new role in this virtualized environment. As mentioned in the previous section, there are examples of peer production in public administration, either triggered by the administrations themselves or as bottom-up approaches, but the informal, non-hierarchical nature of mass collaboration, facilitated by electronic communication technology is not yet fully endorsed by public administrations. Citizens, with the free collaborative tools at hand, thus engage themselves and create the services they miss from the public administration.

Any collaboration model requires a certain degree of transparency. Participation can be seen as a traditional form of participating in a joint activity to find common solutions for problems and challenges that are affecting a number of people or the society as a whole. The Austrian standards for public participation ("*Standards der Öffentlichkeitsbeteiligung*", 2008) can provide the necessary help to solve such problems. On the one hand, new media enables administrations to use new instruments of mass collaboration to find solutions to pending problems. On the other hand, high numbers of participants involved in collaborative work does not necessarily mean high quality results. According to Pisano and Verganti (2008) different models of collaboration depend on the

governance structures (flat vs. hierarchical) and forms of participation (closed vs. open) to support innovation. The advantage of open forms of collaboration is that new ideas are brought up by the community which are well beyond the traditional way of organisational thinking. Innovation malls and innovation communities are two types of open innovation collaboration models (Pisano & Verganti 2008) which can either be flat or more governed, and used in administrative and for policy making processes.

According to Fountain (2001), good networks lead to social capital. Social capital can be seen as *“the contribution of ongoing productive relationships to institutionalise effectiveness, measured by economic performance and innovation in policy making”* (Fountain 2001, p. 73). This recognises the importance of relationships for sharing knowledge, experiences and resources in new ways. Networks and collaborative environments need to have ties to agencies, supply chains, sources of knowledge and platforms which help citizens and agencies work together to achieve mutual productive gains. The expertise necessary can be provided by governmental and external experts. By including the public in the administrative processes or policy cycle, the administration or the government can take efficient decisions by using the external knowledge and innovation capacity. Governments can use collaborative behaviours and tools to support productive relationships with citizens. Using external sources increases innovation (Chesbrough & Garman 2009) and weak links (Granovetter (1973), see below) can offer sources and possibilities not found within the organisation. Collaborative behaviours encourage transparency and foster participation but also mean adopting changing values of governance. Collaboration can help legitimate and improve decision-makers' actions.

Müller (2010) suggests that digital technologies make collaboration in and with government simpler. Citizens and the user-generated content they produce have an impact on both political and production processes, and lead to new organisational forms and ways of thinking. Governments thus need to develop new strategies which include transparency and many-to-many communication. Openness will improve government and public administrations' efficacy, capacity and legitimacy. In order to achieve this, it is necessary to consider the policy cycle (initiation, formulation, implementation, evaluation), collaborative tools to be used at different stages of the cycle, and how to manage the relationship between governments, public administrations, citizens and communities. Some tools are already being used, but not yet to the extent for them to have an impact on macro-economic indicators.

### **3. Limits and Tensions**

#### **3.1. The Limits of Online Collaborative Behaviours**

The internet is a social environment, and for many, it is a normal way of life (Joinson et al. 2007). Collaborative initiatives, such as the Open Source initiative show that collaboration and peering is successful when the object of production is information or culture, tasks can be chunked into bite-sized pieces, and the costs of integrating those pieces is low (Tapscott et al. 2007) .

Van der Laar (2010) lists a number of opportunities and risks associated with using technology for participation and collaboration. They provide opportunities for citizens to be active: participate in networks and be involved in dialogues. For governments, participation and collaboration offers the opportunity to gain access to new ideas and expertise as well as a profounder and deeper understanding of citizens. But there are risks too, such as the digital divide due to the reliance on the internet, an overload of initiatives and other opportunities, low levels of commitment and low levels of interest.

The internet allows for a large number of political initiatives, political networks and political activities to be possible, but it is important to remember that the internet cannot change democratic

values. Keen's (2007) criticism is even harsher: the real consequences of openness, participation and collaboration are less culture, less reliable news, a chaos of useless information, obfuscation of truth and manipulated public opinion. He fears that the internet and activities such as crowdsourcing lead to a degeneration of democracy, where democracy is ruled by mob and rumour, and the topics are no longer politics, economics and foreign affairs, but amateurs discussing their own favourite topics.

The Momentum Report (Charalabidis et al. 2009) and work by Andersen et al. (2007) clearly show that e-participation and e-democracy are about the users, communication, interaction and the tools they choose to adopt, use and implement, often in new ways, yet the technological assumption still dominates (Punie et al. 2009). Whilst the technology used can be designed, online collaboration requires leadership, cooperation with citizens, acting either as individuals or community members to plan and guide policies that provide the framework for social growth, behaviour and expectations (Preece 2000).

### **3.2. The Unavoidable Tension between the Individual and the Social: Factors Impacting Human Behaviour**

Adams (2001) believes that there is an unavoidable tension between the individual and the social: *"it is in our nature to be social, yet our individuality often is at odds with our desire to be part of a group"* (p. 37). Reciprocity in online peer-to-peer contexts is not as prevalent as expected (Adar & Huberman 2000), and both the bystander effect and the diffusion of responsibility occur in the online environment (Yechiam & Barron 2003). In a wide range of settings, people contribute less than the optimal amount of public goods and consume more than their fair share of common resources (Ledyard 1995). According to Nielsen (2006, 2009), user participation follows a "90-9-1 rule", where 90% of users are lurkers (i.e., read or observe, but don't contribute), 9% of users contribute from time to time, and 1% of users participate a lot and account for most contributions, often replying just minutes after a post has been made. Regardless of the changes social media and networks have brought, and the well-known notion that the internet is about communication rather than content, the user is often seen as an information gatherer rather than a social being (Wallace 1999). This means that certain characteristics of human behaviour are sometimes forgotten or ignored, which can lead to a number of problems when institutions decide to involve citizens.

Hyperlinks determine how user attention is allocated to content on the web thus playing a central role in how attention is allocated to material online, in what content becomes popular and what information is seen (Hargittai 2008). Search engines also determine what society will share as important and who gets to be heard Google is built on the assumption that *"hyperlinks somehow transmit power or credibility"* (Hindman 2008). Using search machines such as Google is not a democratic activity as the current norms of searching (based on popularity) are not an appropriate model for civil society (Finkelstein 2008).

Participation and deliberation in online groups may have a number of effects such as opinion sway, majority and minority group effects. Powerful social and psychological forces work against the notion of the 'weak ties' – people prefer advice from like-minded people, do not like disagreement, try to avoid the discomfort of unpleasant experiences, and adjust their own attitudes to avoid cognitive dissonance (Sunstein 2006). Whilst Huckfeldt et al. (2004) believe that citizens often have weak ties and develop more balanced, ambivalent political opinions, others fear that encounters with other opinions are becoming rare – media exposure is becoming increasingly selective, i.e. choice is reducing the diversity of political exposure, (Mutz & Martin 2001). Low levels of participation may be also due to information overload, that is, being unable to deal with large amounts of data. Perceiving others and one's relation to them requires cognitive processing

capacities – and people only have finite resources for processing. Too much information and social information has measurable impacts on both individual behaviour and social cohesion, leading to social arrangements where the value of attention is accentuated and given a price sticker, and human caring and attentiveness are rationed (Davenport & Beck 2002; Rafaeli et al. 2005).

#### 4. Conclusion

The new technology tools are changing the relationship between citizens and governments by making it easier for them to collaborate, coordinate, and for citizens to participate and give voice to their concerns. Technology can also help governments be more open, transparent and foster the relationship between administrations and citizens as well as increase trust between the stakeholders. For open government and e-participation to be successful, to harness innovation and the power and creativity of citizens will require an understanding both of public administrations' new aims and roles.

Technology is able to support online prosocial behaviour, participation, contribution and collaboration in a number of situations which have impact on other individuals, political, societal and economic contexts. Such contexts rely on individuals who are affected both by the possibilities and limitations of technology, but also who pay more or less attention to the social relations and group norms, have different motivations (which are not always altruistic), expectations, beliefs and will act accordingly. Considering the human factors play an important role in determining the success of e-participation and government initiatives, i.e. whether citizens will participate and collaborate.

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# Political lurkers?

*Young people in Austria and their political life worlds online*

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**Abstract:** *This article examines the shifts of communication and political engagement of young people in the social web, focusing especially on the characteristics of political action and the expression of identity online. Drawing on different theoretical concepts about identity formation, social networks, political engagement and new social movements this article identifies the potential of the social web for political engagement of young people in Austria. The results are based on the JIKS study, a survey about Internet competence of young people in Austria, and the case study of the Austrian student movement unbrennt, that was presented by traditional mass media as a new form and quality of protest with a crucial role of the social web. This article argues that the political spaces young people find online do not necessarily lead to social change but can be considered as preconditions for active political engagement and interaction between civil society and institutionalised politics.*

**Keywords:** participation, social movements, social web, young people, Austria.

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**P**olitical engagement by using the social web is usually associated with an active group of young people who tweet, comment, blog, start *Facebook* groups or are actively involved in political communication or the organisation of protest. In early Internet studies many authors claimed that the web could provide space for alternative political viewpoints, discussion, participation and deliberation (A. Toffler & H. Toffler 1995; Negroponete 1995; Rheingold 1993). Whilst early Internet research has had excessively high expectations of youth using the Internet for politics, recent studies show a more nuanced picture of political communication and digital media and include different ways of political engagement that can also — not only — be communicated through digital media. Life style politics (Dahlgren 2009), subactivism (Bakardjieva 2009), mundane citizenship (Bakardjieva 2011), the networked self (Papacharissi 2011) or slacktivism (Morozov 2009a, 2009b) are some of the concepts that describe political engagement between the private and the institutionalised political sphere, some of them strongly criticising the quality of young people's engagement online.

In this paper we discuss these concepts in relationship to the Austrian context to identify political spaces that young people use to engage in politics related to their life worlds online. In other words, if the web is predominantly used for entertainment where do young people find spaces to express their political identity online? And what is the significance of so called "lurkers", "slactivists" or "sofa activists"? Different forms of political engagement are identified with reference to the JIKS

study (Parycek et al. 2010), a survey about Internet competence of young people in Austria, and the Austrian student movement *unibrennt*, that was presented by traditional mass media as a new form and quality of protest (Herwig et al 2010) using the social web. The aim of the paper is to identify the characteristics of young people's political engagement in Austria with reference to online communication, in particular the role of the social web. It concludes with an evaluation of the findings and recommendations for political engagement of young people.

## 1. Identity and political engagement online

Whereas the collective as an element of mass society and mass mobilisation is frequently discussed in movement studies and politics, personal identity and self-representation are rather discussed as elements of digital social networks, private life and youth culture. Turkle (1995) argues that computers in general and the Internet in particular redefine the identity of human beings since people are able to explore their identity, develop multiple selves and form new relationships online. By redefining the self, the web can redefine the way people present themselves in groups, networks or communities. Young people can identify the potential and limits of different media for specific purposes from a practical but also social perspective (Stald 2008, p.154). The virtual creates spaces for identity construction and self-representation as well as for political activism or participation. Reconsidering self-representation and identity in relationship to the social web includes the reconsideration of private and public, personal and collective identity on a more general level. The social web within this context is identified by user-generated content, digital social networks, representation of identity, communities, networking and social interaction.

The use of the social web is part of the expression of identity and lifestyle, particularly for young people, who use online social media as an infrastructure for identity formation (e.g. Schachtner 2008, p.40). Educational research considers the significance of the web in young people's social life for identity construction, political education and participation (Schachtner 2008b). Hartung and Schorb (2007) identify four dimensions describing the relationship between young people and digital media: media as everyday ritual, as life model and experimental ground, as a social connector and as requisites of self-expression. The maintenance of personal relationships by using the social web is related to the opportunities for identity experiments (Turkle 1995). The social relationships with peers, family and school which are important forums for adolescents' identity explorations are nowadays additionally maintained, renegotiated and made public by using the social web. Young people encounter opportunities for self-discovery and self-validation online (Huffaker & Calvert 2005). This negotiation of the self and identity using the social web raises questions about the formation of collective identity public discourse in politics (Downey & Fenton 2003, p.193) but is at the same time closely related to life style, personal relationships, commerce and culture.

Individuals thus make sense of their world by resistances, preferences and demand, and also "their relationships to information and communication technologies and mediated content; the emergent and contested meanings that flowed eternally through their social and symbolic spaces" (Silverstone 2006, p.231). Identity processes include political and cultural values, and politics become an instrument for achieving concrete goals, and also an activity of expression of performance within the development of the self (Dahlgren 2004, p.xii). These individual preferences do not erase the necessity of collective identity. From a radical theory of democracy, perspective collective identities and the creation of "us" and "them" are necessary antagonisms in a democracy and the identification of individuals with a collective as a friend or enemy is a political outcome of an individual action. From this perspective, collective identification with democratic objectives, passion and pluralism are important parts of the political (Mouffe 2005).

Youth construct their selves through the identification of the self and others in a culture that is dominated by commerce and consumption (Deutsch & Theodorou 2009). This process can be understood as a dual exercise of the self in relationship to social groups of gender, race, and class. The predominance of commercial players in media production was highlighted by the idea of “sale of audiences to the system” (Smythe 1994, p.285) in favour of media companies. Although the “networks of mass self-communication” (Castells 2009, p.414) can challenge the predominance of mainstream media, technologies are not free but influenced by governments, corporations or interest groups. To avoid a production of dispersed and fragmented limited alternative projects on a small scale in the form of “psychological self-help initiatives” (Fuchs 2010, p.189), critical political perspectives have to overcome economic constraints but also step out of private, fragmented and dispersed discussions and enter public discussion to influence political institutions and decision makers, and eventually lead to social change. Shirky (2010) refers to this concept by the idea of cognitive surplus, arguing that there are architectures of participation that encourage sharing and generosity.

Identity, private spaces and personal relationships are important for mobilising people and development of a collective identity but do not necessarily lead to social or political change. Mozorow (2009b, 2009a) describes the scenario of joining a campaign online as something that is meaningful, i.e. as an experience of doing something politically relevant for the individual but not necessarily for a collective. Nevertheless, joining a group or signing a petition online to support a political cause can result in a huge turnout of numbers, what is important for showing sympathy with a political cause or conflict. The quantity achieved can thus help activists but result in a “SmartMob” (Rheingold 2002) rather than a sustainable social movement emerging. The adherents of “slacktivism” usually point to a “well-known narrative to justify what they are doing: while it's true that the dramatic fall in transaction costs of organising activist campaigns has simply opened up the field to many more participants and issues, there has been no drop in the actual *quality and effectiveness* of these campaigns” (Mozorow 2009b). The term slacktivism has been used to describe a typical, young form of activism for the new generation. It is connected to a good feeling deriving from having done something good for society without actively engaging in politics, protest and civil disobedience, or spending and raising money.

Digital activism campaigns alone usually do not influence social change but they are an essential part of contemporary political campaigns and activism. Engagement from the home in front of a computer screen can re-engage young people who are not interested in institutionalised politics. The rather negative term “clicktivism” describes activism within the logic of consumerism judged by the amount of hits and clicks rather than real political discourse. This form of participation protects individuals from taking a strong political position by hiding behind masses of clicks and thus is not expected to foster social revolution (White 2010). On the other hand, many campaigns managed to convert online clicktivism into huge amounts of donations, offline action or public discourse. One example is the unbrennt movement discussed in this paper.

Research on digital activism pointed out that most people do not actively participate, but observe what is going on and remain silent. However, the so-called lurkers (Nonnecke & Preece 2000) are not non-users (Ridings et al. 2006). Since the beginning of online communities, it is just a small core of participants who generate most of the content (Preece 2000). Lurkers are those participants that do not actively and visibly contribute but represent more than 90% of Internet users. Although lurkers do not take an active role as content producers they contribute by using their social ties to distribute information, sign a petition or engage in other semi-active roles. Consequently, this group is important for mobilising people for a political cause online, although they do not actively engage into political action themselves.

As Papacharissi (2010) argues, on and offline worlds are interdependent, and public engagement is carried out within the private sphere. The “networked self” is actively using this network to engage publicly from the private sphere. Mundane activities and the personal network young people are embedded in everyday life with the political. Barkardjieva develops these ideas further by identifying a relationship between mundane activities in everyday life and the political enabled by technology. The concept of “subactivism” (Bakardjieva 2009) describes the negotiation of self and identity happening in a multitude of states between public and private by talk and interaction in an interrelationship between everyday life and politics. Subactivism is a third layer to Beck’s “subpolitical” which is concerned with the self, the individual, private level of politics, in comparison to the layer of collective, institutional political players. There is no guarantee that these private, individual actions turn into political actions but they are a precondition for this process. The concept of “mundane citizenship” is “firmly rooted in private experiences, needs and concerns, but it overgrows this shell through collective identification and movement from private, interpersonal, group to public discourse” (Bakardjieva 2011). This process is, according to Bakardjieva, enabled by information and communication technologies. The important question is how people can employ these technologies to step out of the private political space and lead to political and social change.

## **2. Young people and politics online in the Austrian context**

The results of a study on Internet competence of 14-year olds, and the student movement *unibrennt* discuss political engagement of young people by using social media in the Austrian context. Austria is a country with high Internet penetration and 73% of households were equipped with Internet access in 2010. According to the results of the EU-kids online study, a survey on a representative sample of 9 to 16 year old Austrians, 98% use the Internet at home, 48% can do that in their own bedrooms. Compared to other countries Internet usage on the mobile phone is high: 53% use the Internet via their mobile phones. 51% use the Internet daily (Paus-Hasebrink & Dürager 2011).

A significant change regarding young people and their political engagement in institutionalised politics is that the voting age was lowered to 16 in 2008. As a result of 16 year olds being allowed to vote, political education was introduced with mandatory attendance for students in 8<sup>th</sup> grade. According to the International Civic and Citizen Education study (Schulz et al. 2010), based upon data collected among 14-year-old students among 38 countries in 2008, interest for political issues in Austria is declining, but still high in comparison to other countries. However, civic knowledge is average from an international and comparatively low from a European perspective. Although the study shows a significant difference between male and female students regarding the awareness for gender equality, Austria is among the countries with the biggest difference between male and female students, i.e. more than one standard deviation, supporting the perception of Austria still being a patriarchally organised country.

### **2.1. Political literacy online: a study on Internet competence**

The data for the JIKS study on Internet competence by Parycek et al. (2010) of Austrian students in 8<sup>th</sup> grade (14 years old) was collected in 2009 by an assisted online survey. The representative sample consists of 8<sup>th</sup> graders, n=379, of schools in urban and rural areas of the federal states Lower Austria, Vienna, and Salzburg. The aim of the study is to evaluate Internet competences of young people in dealing with political information and to identify usage patterns and user types. The questionnaire focused on Internet and media usage, political interest, and safer Internet. Additionally, the study included a computer-based test series on information search. The assisted online survey and the test elements were conducted in the computer labs of the schools. In this

paper we highlight results that show how young people engage in politics as a part of their online identities related to their behaviour as “lurkers”, their development of identity online and political engagement, also on the level of subactivism (Bakardjieva 2009) as identified above.

Based on a set of questions (after Haas et al. 2007) that identify certain user types most of the respondents (30,9%) belong to the group of communicators and networkers, 28,0% are entertainment seeking, and only 13,2% active content producers and self-promoters (Parycek et al. 2010, p.66). The networking type is dominant throughout all societal groups. This produces the idea of young people developing their identities online by maintaining their personal relationships in digital social networks. The high number of communicators and networkers compared to active content producers underlines the dominant role of lurkers in the social web. The important role of the Internet in the respondents' everyday life is expressed by the results of this study: 64% of the 14 year olds are online every day and more than half of the respondents say that they could not imagine a life without the Internet (completely true for 31.9%, rather true for 22.2%). These results show that the Internet plays an extremely important role in young people's everyday life worlds. However, most of them do not necessarily engage in discussion or produce content actively. The concept of the “produser” (Bruns 2008) describes the blurring boundaries between the role of the consumer and the producer.

In general, the respondents do not consider themselves as being politically interested. Only 25% say that they are interested in politics and only 3.7% are very interested (Parycek et al. 2010, p.110). The decline in Austrian youths' political interest and participation is frequently discussed in academia and media. Contemporary value studies in Austria confirm a constant decline of political interest of young people since the last 30 years: In 1980 59% were strongly or at least rather little interested in politics; in 1992 only 52%, in 2000 47%, and the number dropped down to 40% in 2007 (GfK Austria 2007).

A well-known explanation for the general decline in political participation is Putnam's hypothesis regarding the relation between civic and political engagement (Putnam 2000). According to Putnam civic engagement is an important precursor for political action by building social capital, which facilitates cooperation and interpersonal trust. The decline in civic involvement during the past half century and the decreasing social capital can result in an important source of political disengagement. At the same time there is potential for political engagement of young people (Friesl et al. 2009) or as Della Porta and Tarrow (2005) argue this apolitical lifestyle could also be seen a rich source for movement mobilisation and for the development of “counterpublic” (Negt & Kluge 1972). This potential for solidarity and communication is not considered in institutionalised politics. Austrian projects that engage young people into political decision-making processes and thus, exceed symbolic engagement, are rare. Providing these opportunities would be important, given that political disinterest strongly depends on the feeling of exerting little or no influence over political decisions (Williamson 2010).

When the respondents are asked to rank political topics according to their interests the rights of young people were ranked in the first place followed by media and health. Infrastructure, civil engagement and political events in Austria were ranked as the least interesting topics (Parycek et al. 2010, p.111). Topics that are close to young people's everyday life worlds are more important than more abstract political themes. This contributes to the potential of new forms of participation in politics close to young people's life worlds. The study confirms existing research in Europe that suggests a “ladder of online opportunities” through which young people's online use develops, taking more interactive forms of communication into account (Livingstone & Helsper 2007).

The most frequent answers about what the respondents actively do online are posting a comment on the Internet, discussing in an online forum, joining an online voting, joining a group in a digital social network or writing in a blog. Joining a demonstration (23%) or voting for student

representatives (31,1%) are amongst the most popular offline forms of political action. Other offline forms of showing identification with a political cause are extremely unpopular. Most of the respondents cannot imagine wearing buttons, supporting an information stand or handing-out flyers (Parycek et al. 2010, pp.122f). By comparison, the numbers are high for readiness to engage online. Only 52% of the 14 year olds in Austria do not actively participate in blogs, wikis or forums and can thus not be labeled as “creators” in this field. Almost two thirds of the respondents can imagine creating and maintaining a blog or have already done so (60%, 36% have already done). These results suggest that young users can be mobilised by non-traditional, electronic forms of activities. Almost 100% of the respondents are using the Internet and social networks as part of their everyday activity, and it is remarkable that the majority is ready for more active participation, e.g. in blogs, wikis or forums.

This shows a high potential for electronically supported future political engagement and suggests that young people are, in accordance with the general culture of distrust in political parties in Austria, moving away from institutionalised party politics. They are, rather, attracted by unconventional engagement focusing on a clear issue. Young people prefer networking structures without hierarchy, self-determined and spontaneously developed engagement with low binding character — criteria that also occurred in the *unibrennt* movement which strongly reinforce the idea of a bottom-up decision making culture (Maier & Arnim-Ellissen 2010) and that do not reflect the usually top-down organisation of institutionalised politics in Austria. This corresponds with the disengagement and lack of knowledge about official organisations and party politics reflected in the study results. To the open-ended question of which websites within the field of politics, state and public authorities the respondents are aware, the most frequent answers were *ORF*, i.e. the public broadcasting company; and *Kronen Zeitung*, the newspaper with the highest circulation in Austria (Parycek et al. 2010, p.83). The gap between political institutions and the life worlds of young people online is also reflected in the way they try to find political information. An integrated test element (n=176) that tracked the students while looking for specific political information online shows that they usually use keywords for their query that lead them to social networking sites or youth websites rather than official websites of political authorities (even if these are actually designed for informing young people) (Parycek et al. 2010, p.226). If they reached official websites, the majority of pupils could not track the relevant information. The websites of institutions and authorities thus do not seem to integrate priorities or language of young people in their design.

One of the major results of the study was the existing digital divide reflected in usage patterns and capabilities. The “double digital divide” expressed by Bonfadelli (2002) suggests that there is not only a gap between those who do and do not have access to online infrastructures, but also between more or less educated people. The JIKS study confirms that better educated pupils use the Internet in a more information-oriented fashion. Less educated young people are more interested in entertainment when they use the Internet. Additionally, political engagement amongst youth is still “male”. 35.5% of the boys and only 14.5% of the girls said that they are interested in politics. Although the gender gap in political interest has decreased during the last decade (Friesl et al. 1999, p.67), politics in Austria is still dominated by male protagonists. The results of the study indicate that political and educational initiatives towards gender equality need to be taken, e.g. with political role models for girls.

## 2.2. Protest in the social web: the student movement *unibrennt*

One example of the social web being an enabler of political protest in Austria is the student movement *unibrennt*. The grassroots movement started as a collaborative action of civil outrage reacting to bad study conditions at Austrian universities. 400 students of the *Academy of Arts* in Vienna organized a demonstration that ended in the occupation of the *Audimax*, the biggest lecture

hall in Vienna. The information out of the *Audimax* was spread via digital social networks, especially *Twitter* and *Facebook*, and soon students of other faculties joined the protest events. The main lecture halls in several Austrian and, later, German universities were occupied and collaborative communication practices by digital media helped to organise, coordinate and spread information about the events in the lecture halls and protest in the streets. To put this into perspective, one has to be aware that the understanding of political (protest) action in Austria is generally very low: the majority can only imagine participating in petitions; 79% could not imagine occupying a building in 2008 (Friesl et al. 2009, p.211).

In the student protests social relationships online played a crucial role in the spread of information about the events. However, the student protests do not show an equal distribution of active participation within these networks. For example, bloggers, students and journalists are among the most frequent microbloggers in the student protests. Although *Twitter* users are a minority in Austria, *Twitter* messages still represent an important sum of public information. 95743 Tweets with “#unibrennt” and “#unsereuni” were posted between 23 October and 31 December 2009 from 9000 accounts. 84.7% of these accounts tweeted less than 10 times within this period of time, 1.4% tweeted more than 100 times (Herwig et al. 2010). These numbers can be explained by the concept of clicktivism, i.e. people feel that they are members of a movement by joining a group or contributing a tweet but it is a core of people that participates most.

However, their impact might go beyond the clicktivism argument. One of the basic success factors of unibrennt can be summarized under “de-lurking”, with lurkers becoming active in the framework of the protest movement. Within unibrennt, both a radically transparent flow of information and low entry barriers for new members, enabling a transformation of roles, can be observed. New members of the collective first participated passively, but they gradually became more active as they became familiar with the norms of the group, that openly passed on information publicly in the community, on the website and in wikis. Other technical tools like live-streams and online demonstration promoted reciprocal exchange and created bonds with those who could not participate on site. Direct feedback could be given via other channels and feedback systems like *Twitter* walls. The participants engaged into public debate by asking or responding to questions or comments via digital social networks. These communication opportunities added to a high commitment of the participants in the protest.

The tweets with #unibrennt and #unsereuni, *Facebook* updates and groups, helped to spread information, but also to make students aware of the events and to mobilize them. The most frequently appearing words were “occupied” (orig. besetzt), “today” (orig. heute), “live”, “uni” or “plenum”. Retweets multiply the effect of information distribution by repeating the same information on a different *Twitter* account (Herwig et al. 2010). *Twitter* was basically used to spread information and to mobilise students to take part in protest-related events.. In combination with *Facebook*-updates personal networks were used to spread information, create solidarity among the students, identify with and actively engage in protest. The *Facebook* group audimax reached a considerable number of members, 33000 with a total number of 48000 interactions such as wall posts up to December 13 2009. The peak of interactions was on day eight of the protest and then gradually decreased again (Banfield-Mumb 2010).

An interesting factor of the student protests was that the institutionalised mass media only reported about the event after it reached a huge popularity within the social web and could not be ignored anymore (Banfield-Mumb 2010). The news media refer to the student protest with “student protests 2.0” (APA/nachrichten.at 2009), “the revolution is Twittered” (APA/stol.it 2009) and similar slogans. One aim of activists is to seek attention by the news media (Lester & Hutchins 2009) to gain publicity for their cause and influence policy makers. They “have a variety of strategies at hand” (Rucht 2004, p.33) to gain media coverage and mobilize a large number of people. One of

the peaks in *Twitter* use within the student protests with #unibrennt or #unsereuni was reached during the broadcast of a documentary on the student protests on the Austrian TV-channel ATV out of the occupied lecture hall *Audimax* (Herwig et al. 2010), i.e. when the discourse about the protest was covered within the public mass media discourse. The news media also criticised the movement with terms such as “flashmob party” and “voodoo-ideology” (Fleischhacker 2009) highlighting lack of program, which was a frequent point of critique towards the student protests.

The critical success factors of the movement can be summarized as follows: The socio-political background of the protest movement is a significant mixture of low political interest, the questioning of democracy as a value and criticism of the political system (Friesl et al. 2009). In particular, the latter provided a fertile ground for the overall criticism of the university’s system we find within the student protests. The usage of web 2.0 tools and online deliberation tools was crucial in the protest. As Papacharissi (2010) suggests all civic actions in contemporary democracies emanate from the locus of a private sphere. She refers to private activities with a public scope like online news-reading, lurking in political conversations or following opinion-leaders’ blogs or tweets. The publicly-oriented activities of the unibrennt movement were also enabled within the locus of a digitally equipped private sphere. The following five aspects contributed to successful mobilisation in the Austrian student protest with the help of web 2.0 tools: low obligation of a voluntary issue-community; the immediate option of connection and disconnection; transparency of internal and external communication; perfect match of the label unibrennt and the logics of social media combined with appropriation of communication channels anchored in everyday life of university students (Maireder & Schwarzenegger 2010). The anti-hierarchical organization structure of the movement in general also supported mobilisation in the social web.

Although the role of the social web in the unibrennt movement was significant in communicating a cause rapidly throughout the whole German speaking university landscape, it can rather be considered as a “SmartMob” (Rheingold 2002) than a sustainable social movement that lead to social change. The important role the social web played especially for information, coordination, mobilisation and communication is not in doubt but as Banfield-Mumb (2010) concludes in his empirical analysis of the student protests, it is hard to see any positive influence on the education system in general. Additionally, decisions were made on-site, in the occupied *Audimax* lecture hall, which limited the role of online participants in commenting and showing solidarity. To sum up, the movement failed in communicating the results of working groups and the protest in general to decision-makers and in influencing a change in the university structure. Nevertheless, unibrennt managed to provoke an extensive media echo and to establish a brand and organisational infrastructure that has not been observed to this extent before. The proof that young people could put a topic on the political agenda for a long time has shaped the notion of politics significantly for many people.

### 3. Conclusion

Both, the student protest and the JIKS study show that the spaces to express political identities in digital personal networks, to exchange information and to enhance (counter-)discourse exist. In the following we summarise the findings of this paper related to the concepts discussed and try to give recommendations for political engagement of young people:

*Young slactivists and clicktivists:* Young people create their identities online and the political is part of their symbolic life worlds they use to form their identity within their personal networks. The dominance of commercial players on the web and thus in young people’s life worlds makes it difficult for critical perspectives to be articulated. So called lurkers, slactivists (Mozorov 2009), clicktivists (White 2010), or sofa activists may not engage into civil disobedience to achieve their goals, they do increase the quantity of people who support a political cause. In particular, the

unibrennt action shows that young people engage in single-issue oriented campaigns. This engagement can support alternative political perspectives in entering the public discourse and show solidarity with a cause or conflict.

*Networks, identity and political engagement:* Despite the frustration of young people with institutionalised politics, they engage in politics within their life worlds, i.e. by writing in blogs, joining groups or posting comments. Mobilisation for a political cause and political engagement in general includes forms of political participation and collaboration online. Although many euphoric expectations on the political influence of the Internet have not been met, interaction and participation are essential forms of communicating online, also in political issues. However, governments and political parties do not yet adjust to these developments, often trying to tightly control political communication. To engage in discussion with young people in their online worlds, politicians moreover need to take into account the language of young people, their needs and their life worlds — not only in online networks but in general.

*Lurking politics:* Young people's activities and life worlds online as a form of expression of political identity can be a precondition for political engagement. The question that remains is how this potential can be transferred into the political arena and how young people can use this potential for influencing social change and, more generally, for bottom-up civic engagement. This means increased grassroots action by young people on the one side and engagement of institutionalised politics on the other side. Although the cases presented display a significant amount of self-centricity (i.e. improving student conditions or discussing rights for young people as identity politics), bottom-up initiatives and grassroots movement are a precondition for democratic actions. As the JKS study and the unibrennt-action show, the preconditions for employing these technologies for political engagement are there. However, they are still only seen in the context of entertainment and commerce by political institutions.

*From subactivism to political engagement:* The question is not only how to develop strategies to make digital activism work, but also how to build a bridge between the "subactivism"-level (as described by Bakardjieva 2009) and the institutional layer. Institutionalised politics do not take the huge quantity of clicks, tweets, group-members and in the case of the student protests, people protesting in the streets, seriously. These activities can be seen as traces of political opinion that can only have an impact if they are taken seriously by politicians and other political institutions and organisations. Despite mobilisation of a huge number of university students in Austria and Germany, the unibrennt action resulted in mere noise and did not lead to any significant changes. Thus, the "subactivism"-level has to be taken seriously by decision-makers to transform this noise into indicators of what young people expect from their representatives.

*Educated engagement:* One of the biggest challenges of political education is to make use of existing discussions in order to enhance critical reflection in large-scale online activities. Initiative on the institutional and political side to use new technologies to facilitate civic engagement of young people is missing. Social media and collaborative tools are gradually integrated in educational frameworks and school curricula, but media education is not part of the national curricula at the moment. The suggestions of the Future Learning Initiative of 2008 (BMUKK 2008) about integration of digital media into teaching are a first step into the right direction but nationwide and official implementation is needed.

*Civic equity online:* Social media can increase civic activity online and politics need to take these new political life worlds seriously since media use is mostly associated with greater involvement in civic activities and higher levels of political awareness (Pasek et al. 2006). Examining an alternative conceptualisation of media literacy is important for the educational system and political players to adjust to changes of expression of political identity of young people in contemporary politics. The successful employment of the social web within the student protests is also related to

the high social and cultural capital of their participants. The results of the JIKS study show that differences in both, political engagement but also digital-media-use prevail along the dominant criteria of socio-demographic differences such as gender and educational level. Additionally, the domination by male participants and lack of female role models in politics is still problematic. Both, on an educational and political level these problems have to be taken seriously to ensure political engagement throughout different groups of young people.

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# Discussion of eParticipation topics in Greek political blogs

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**Abstract:** Blogs are an effective way to participate in politics and have the potential to support eParticipation. Political discourse is formed through hypertext links, blogrolls, posts and opinionated commentary, calls to political action, and requests for feedback. The paper applies a methodology to locate focal conversational points within the blogosphere. These take shape as central clusters of blogs having many incoming links. Next, the paper investigates the communication patterns among these focal points and associates the findings to the content of blogs participating in these focal points. Through statistical analysis and content analysis it is shown that linkage patterns among focal point blogs are reproduced to content similarities.

**Keywords:** Political blogs, eParticipation, focal conversation points, cluster analysis, content analysis, hyperlinks

**eParticipation describes** efforts to broaden and deepen political participation by enabling citizens to connect with one another and with their elected representatives and governments using Information and Communication Technologies (Tambouris, 2007). eParticipation involves from simple information provision to mediation and from consultation and campaigning to voting. Tambouris et al. (2007) defined five levels of e-participation as: eInform, eConsult, eInvolve, eCollaborate and eEmpower. A number of software applications, products, tools and components can be regarded as eParticipation tools. These are: eParticipation Chat Rooms, eParticipation Discussion forum/board, Decision-making Games, Virtual Communities, ePanels, ePetitioning, eDeliberative Polling, eConsultation, eVoting, Suggestion Tools for (formal) Planning Procedures, Webcast, Podcasts, RSS feeds, Wikis, Blogs, Quick polls, Surveys, GIS-tools, Search Engines, Alert services, Online, newsletters, FAQ, Web Portals and LIST SERVS (Tambouris, 2007).

Blogs are becoming one of the most popular media of communication and interaction nowadays (Aragwal & Liu, 2008) increasing people' participation and enhancing discussion on political matters in the public sphere. Drezner & Farrell (2004, p. 5) defined blogs as:

*"A web page with minimal to no external editing, providing on-line commentary, periodically updated and presented in reverse chronological order, with hyperlinks to other online sources".*

Blogs and generally ICTs change the way people engage in politics (Vatrapu et al., 2008) create, structure and influence political discourse (Lawrence & Dion, 2010) and impact the media and public agenda (Drezner & Farrell, 2004). By definition, blogs link to other sources of information (Zafiroopoulos & Vrana, 2009). They offer links usually to other blogs, to mass media accounts of daily political events, a comment forum associated with each post for visitors to contribute their own commentary and debate with other visitors or the post's author (Lawrence & Dion, 2010). The enhanced features for between-blog interactivity foster dialogue between bloggers promote the creation of social networks among them and fit particularly well to political commentary (Du & Wagner, 2006; Lawrence & Dion, 2010).

*eParticipation is a means to empower the political, socio-technological, and cultural capabilities of individuals giving the possibility that individuals can involve themselves and organize themselves in the information society (Fuchs et al., 2006, p. 36).*

Taking into consideration: the growing popularity of blogs, the fact that blogs can be connected in virtual communities anywhere anytime (Agarwal et al., 2008), expose readers to new sources of information, add new voices to the political debate, increase political activism (McKenna & Pole, 2004), encourage discussion and dialogue that might not otherwise occur and engage citizens in dialogue with other citizens, blogs are a potential pathway to eParticipation.

## 1. Importance of Political Blogs

The number of people engaging in explicitly political blogging has increased in recent years following the overall explosion of blogging activity (Wallsten, 2008). Politically oriented blogs emerged after the events of September 11, 2001. People used blogs in order to express their political awareness and their feelings about the terrorist attacks and also to locate information not available in the mainstream media (McKenna & Pole, 2004; Wallsten, 2005).

*"The interest within the political sphere on bloggers is that they are a potential alternative to the traditional media as gatekeepers of information and news" (Pedley, 2005, p.295).*

Johnson and Kaye (2004) claimed that blogs are viewed, by web users, as a credible source which provided depth and thoughtful analysis, for the reason that blogs are independent from corporate-controlled media (Andrews, 2003; Singer, 2006). There are many situations in which blogs have exercised an important influence over how politics is practiced and policy is developed and supplanted, surpassed and scooped mainstream media (Jackson 2005; Lankshear & Knobel 2003; Scott, 2005; Sroca, 2006).

The ease of using and creating blogs has spawned an explosion of grassroots, bottom-up participation (Gil de Zúñig et al., 2010). Blogs serve as tools for political change and possess a "social-transformative, democratizing potential" (Herring et al., 2004).

*"blog communities present avenues for individuals to be part of traditional political participation activities while also providing new online opportunities for the exchange of political perspectives and mobilization into action" (Gil de Zúñig et al., 2010, p.37)*

As political blogs offer an easy source of information about political events and opportunities for political action, they act as mobilizers of low costs political participation for the blog's readers. Bloggers can mobilize political action by simply posting information from other sources without any comments or they can argue about particular causes and then suggest their readers to take political action (Wallsten, 2008).

Political parties also use blogs as mobilizers for participation. They diffuse information to internal audiences, build up a volunteer base, mobilize support from their constituency, shape their political

agenda and generate resources (Bloom & Kerbel, 2005 ; Trammell et al. 2006). Blogs have been used as a campaigning instrument in: the 2004 presidential election (Adamic & Glance, 2005; Bloom & Kerbel, 2005), the 2005 U.K. general election (Coleman & Ward, 2005 ; Jackson, 2006), the 2005 Danish parliamentary election (Klastrup & Pedersen, 2007), the 2005 New Zealand general election (Hopkins & Matheson, 2005), the 2005 German Bundestag election ( Albrecht et al., 2007), the 2007 French election (Arnold, 2007), the 2007 Australian Federal Election (Macnamara, 2008), the 2008 presidential elections in the USA (Edelman, 2009).

Blogs have also raised money for candidates in elections: Howard Dean's blog mobilized supporters and funding (Kerbel & Bloom, 2005). In Ohio Paul Hackett lost in elections to the Republican Jean Schmidt, his contests had been far more competitive than expected (Glover, 2006). In South Dakota politics, Thune's campaign was paid by bloggers (Glover, 2006). In the 2008 presidential elections in the USA, MyBO Web site and blog were used as a hub for raising the money (Edelman, 2009).

## 2. Features enhancing eParticipation

Internet's level of interactivity along with the proliferation of alternative channels may exemplify the new forms of political participation (Gennaro and Dutton, 2006). Political blogs form political discourse and participation through hypertext links, blogrolls, posts and opinionated commentary, calls to political action, and requests for feedback (McKenna & Pole, 2004; Wallsten, 2008).

A "blogroll" is a list of blogs that many bloggers maintain for regular navigation and frequent visits to linked blogs. Blogrolls evolved early in the development of blogs and help to find other blogs with similar interests (Marlow, 2004). In this vein, the blogroll can be regarded as indicative of the communication networks of the blogger (Park and Jankofski, 2008). The blogroll occupies a permanent position on the blog's home page and is the list of blogs that the blogger frequently reads or especially admires and thus offers links to these blogs (Marlow, 2004).

Political discourse and information exchange in the blogosphere can also be achieved by posts commenting on posts (Drezner & Farrell, 2004; Mishne & Glance, 2006). Comments are reader-contributed replies to a specific post within the blog (Marlow, 2004). In that way bloggers can connect their own ideas with those of others (Brady, 2005). According to Wallsten (2008) political bloggers spend most of their time responding to the arguments made by other political bloggers and link primarily to bloggers who share their ideological predispositions (Adamic & Glance, 2005).

Interactivity between blogs can be also achieved by trackbacks and pingbacks. Trackback is a citation notification system (Brady, 2005). Trackbacks enables bloggers to determine when other bloggers have written another entry of their own that references their original post.

*"If both weblogs are enabled with trackback functionality, a reference from a post on weblog A to another post on weblog B will update the post on B to contain a back-reference to the post on A" (Marlow, 2004).*

A pingback is an automated trackback. Pingbacks support auto-discovery where the software automatically finds out the links in a post, and automatically tries to pingback those URLs, while trackbacks must be done manually by entering the trackback URL that the trackback should be sent to ([http://codex.wordpress.org/Introduction\\_to\\_Blogging#Pingbacks](http://codex.wordpress.org/Introduction_to_Blogging#Pingbacks)).

There are millions of individual blogs, but only a few blogs attract a large readership (Wagner & Bolloju, 2005) and the most discussions of the blogosphere focus on this elite minority of blogs (Herring et al., 2004). These blogs are the most known and regularly linked by others. Their authors manage to create a persona, making themselves a celebrity among the community of bloggers (Trammell & Keshelashvili, 2005). These blogs are referred as "A-list." blogs, are

predominantly filter-type blogs, often with a political focus (Herring et al., 2005). In a given a political situation, with a look at the top blogs a “summary statistic” about the distribution of opinions can be obtained (Drezner & Farrell, 2004).

The median blogger has almost no political influence as measured by traffic or hyperlinks. In order to influence the news, political and policy agenda, bloggers need to attract an “A” list audience to their blogs (Jackson, 2006). The most reliable way for a blogger to gain traffic to his/her blog is through a link on another focal point blog (Blood, 2002; Drezner & Farrell, 2004).

This paper investigates the formation of “A- list” political blogs in Greece. After locating such blogs, the paper studies the content of these blogs regarding eParticipation topics.

### 3. Methodology

The paper applies a methodology for locating central blog groups which might serve as “focal points” of conversation. It uses Technorati.com to record Greek political blogs and with tags to the five Greek parliamentary parties. The five parliamentary Greek parties are: Pan-Hellenic Socialist Movement (PASOK), which was the government party at the time that this paper was written, New Democracy (ND) - the Christian Democratic party, the Communist Party of Greece (KKE), Coalition of the Left and Progress (SYRIZA) and People’s and the Orthodox’s Rally (LAOS) a right wing party which is mainly characterized by nationalist and populist rhetoric.

Through the search, 101 blogs with «some authority» were found. According to Technorati.com, authority is the number of blogs linking to a website in the last six months. The higher the number, the more Technorati Authority the blog has. In the authors view, this consideration grants greater validity concerning blogs selection because the analysis takes into consideration only the blogs which are present and active for a while and probably are considered reliable.

Next, the paper studies incoming links between blogs through their blogrolls. The blogs and their connections are associated with a directed graph. The directed graph, which presents the social network of blogs, is associated with its adjacency matrix. An adjacency matrix is a square non-symmetric binary data matrix where unity is placed in cell  $ij$  if blog  $i$  links to blog  $j$  through the blogroll, or else a zero is placed in the cell. The study uses a method for locating central blog groups in political blogging (Zafiroopoulos & Vrana 2009, 2010). The original idea is that political blogs are organized around central focal point blogs, where most of the informative conversation is taking place (Drezner & Farrell, 2004). Zafiroopoulos & Vrana (2009, 2010) introduced a combination of social networking theory, Multidimensional Scaling and Cluster Analysis to locate such groups by studying incoming links through blogrolls. By finding such groups, one can explore how bloggers are organized.

Multidimensional Scaling (MDS) is used as a data reduction technique on the one hand and to quantify the original binary data on the other. The method reproduces the original data and maps them on fewer dimensions of space (namely two in this analysis) while the effort is to keep intact the distances among the original data on the new reproduced data. “Stress” is a measure of goodness of fit between distances of original data and distances of the reproduced data. Better fit is assumed when stress is close to zero.

Hierarchical Cluster Analysis (HCA) uses the quantified data from MDS to produce clusters of blogs, which have similar properties. Blogs in the same cluster are linked nearly simultaneously by some of the 101 blogs. So in this way the blogs in a formed cluster are regarded to have common characteristics or be of the same family, by blogs who link them. Some of the clusters that are produced by HCA, gather the largest number of incoming links. If this happens then they may serve as conversational focal points.

Next, the paper studies the affiliation and linkage properties of these central clusters while through a content analysis it represents how these central blogs, organized in clusters, discuss certain eParticipation areas and topics. Findings are expected to demonstrate possible associations among eParticipation topics content with inter-cluster interconnection properties.

## 4. Findings

Multidimensional Scaling presents very good fit with Stress equal to 0.07. Hierarchical Cluster Analysis (HCA) produces five clusters regarding the incoming links. To decide the optimal number of clusters a scree-plot of number clusters versus Wilk's Lambdas is used.

Table 1 presents the five clusters. Cluster 1 contains more than 60% of the blogs. Although it is the most populous cluster, it presents the lowest rate of incoming links. Thus, the cluster contains the least active blogs regarding networking. Regarding the other clusters, there is a strong negative correlation between cluster size and percentage of incoming links. The more we move towards clusters 5, the more the average incoming link rate is and the lower the size of the cluster becomes. Leaving out cluster 1, we could limit our analysis to and comment on the rest of the four clusters, those that have many incoming links and yet, are still small size at the same time. In particular clusters 3, 4, and 5 on average, receive more than 9 incoming links. Because the recorded blogs are 101 this number can be directly interpreted as being a percentage of nearly 9%. Further, the most linked cluster consists of just four blogs and has an average of 10.7 of all incoming links.

Regarding the tags of the blogs within each cluster, cluster 2 presents a high rate of tagging to the Communist Party of Greece (KKE) and SYRIZA, since 72.2% of the blogs within the clusters have tags to KKE while 50% of the blogs tag to SYRIZA. It is a group of blogs maintained mainly by leftists with references to KKE and SYRIZA. Cluster 3 tags mainly PASOK and it keeps tagging to the other parties very low. Blogs in this cluster are maintained by members and friends of PASOK. Clusters 4 and 5 have high rates of tags to PASOK, ND and SYRIZA, while 50% of blogs in cluster 5 tag to KKE. These clusters are formed of blogs, which provide information argumentation, and speculation about society, and digital liberties (Table 2). It is very interesting to note that the frequency of blogs with a Right wing affiliation is almost nil (Table 2).

**Table 1. Clusters' properties.**

Clusters	1	2	3	4	5
Frequency	62	18	8	9	4
Percentage	61.4%	17.8%	7.9%	8.9%	4.0%
Incoming links (average)	2.8	6.2	9.3	9.5	10.7
Tags to PASOK	56.5%	44.4%	75.0%	66.7%	75.0%
Tags to ND	58.1%	44.4%	37.5%	77.8%	75.0%
Tags to SYRIZA	35.5%	50.0%	12.5%	77.8%	75.0%
Tags to KKE	32.3%	72.2%	25.0%	33.3%	50.0%
Tags to LAOS	24.2%	22.2%	12.5%	33.3%	25.0%

**Table 2. Clusters' profiles and affiliation.**

Cluster 2	Mainly Left, KKE and SYRIZA
Cluster 3	PASOK
Cluster 4	Left with broader speculation about society and democracy
Cluster 5	Left, digital liberties, information provision, discussion and argumentation

## 5. Linkage properties among central blog groups

This section examines inter-linked properties of the four most central clusters of blogs. Studying incoming links among central blog clusters provides a means of understanding whether there is a flow of information among them. On the other hand it could reveal how isolated they are. The actual number of links between clusters  $i$  and  $j$  is calculated and recorded in a matrix. Cell  $i,j$  of this matrix contains the number of incoming links from cluster  $i$  to cluster  $j$ . These numbers are divided by the maximum number of links between the specific clusters. This maximum number equals  $n \cdot m$  where  $n$  stands for the number of blogs for the one cluster and  $m$  the number of blogs clusters of the other. The outcomes are presented as percentages. These are indexes of interconnection degree between clusters of blogs. The diagonal elements of this final product matrix are not of the essence at this point. Table 3 contains the outcomes of these calculations. The number in any cell  $i,j$  denotes the percentage of incoming links to cluster  $j$  from cluster  $i$ .

Cluster 3 has high links percentages to and from clusters 4 and 5. Cluster 2 links percentages to clusters 4 and 5 both equal 11% and incoming links percentage from cluster 4 to cluster 2 equals 12%. It is a more isolated cluster of blogs. This cluster which contains blogs affiliated mostly to KKE and SYRIZA, has few ties to other clusters. Cluster 4 presents good ties (links percentages) to clusters 2, 3, and 5. Its links percentages to and from cluster 5 are very high, 25% and 22% respectively. Clusters 4 and 5 are really well connected. This property might be associated with the fact that they share common believes and ideas. Cluster 5 looks very similar to cluster 4, regarding percentages of incoming links. However, it differs from cluster 4 in the sense that while cluster 2 links fairly well to cluster 5, cluster 5 does not link to cluster 2 (1%). Blogs in cluster 2 might regard blogs of cluster 5 as interesting or being politically close to them, but the opposite does not seem to hold.

In conclusion, clusters 4 and 5 present the highest degrees of interconnections or ties. They both are fairly well connected to cluster 3, but compared to it they have half of its internal coherence. Clusters 3, 4 and 5 form a larger extended cluster of smaller connected clusters. Cluster 2 has some sparse connections to clusters 3, 4, and 5 and seems to be isolated from the other clusters.

**Table 3. Percentages of incoming links with respect to the maximum number of incoming links between clusters.**

Clusters	2	3	4	5
2		4%	11%	11%
3	2%		18%	16%
4	12%	13%		25%
5	1%	13%	22%	

## 6. Investigating common properties of central blogs

Content analysis is used for the investigation of the eParticipation topics discussed in the central clusters' blogs using the NVIVO 8 Content Analysis software tool. The data content is chosen to be the written content included in the 39 blogs in the central cluster. For each blog, the following features were recorded in the content body:

The main title of the blog along with a summarized description. This description is usually given underneath the title, from the Blog logo or it can be copied from the Blog script (it is usually a description that appears as a title on the upper part of the browser window when visiting a page).

The "about" part of each blog (when applicable) is where the scope of the blog is given, the motivation of the blogger to create it etc. Usually there is also information concerning the blogger, such as his/her interests, her/his aims, her/his academic background and her/his political beliefs.

The main part of this analysis, the posts of the political blogs, including the title of each post, its main body followed by its' comments. Obviously this content can be huge. Additionally, it is dynamic due to the nature of a blog itself. For this reason the analysis has unavoidably involved sampling, in order to form the final content body from the corpus. In order to remove much of the subjectivity of the analysis, the sample size was decided according to the following sampling plan: all posts from a certain period of time were collected where this time window was dynamically specified in a way that includes:

a) content that qualitatively includes most of the posts that deal with the scope that a certain blog serves (the posted topics were found mostly to recur after a certain period of time and usually no new topics are discovered in a political blog after a while).

b) approximately the same data amount in terms of media content units from all blogs.

In frequently updated blogs this period of time can be a month whereas in less frequently updated blogs we may have to examine posts from 6 months or more. It all has to do with the rate the blogger updates his/her content as well as his/her will to alter the topics that he/she deals with.

Following the above described procedure, a representation of each blog source material was formed, and a set of all these content bodies was used in NVIVO. Statistically speaking, it is probable that during the sample process some content of a blog was left out of the sample (e.g. a post in the past whose topic was unique and a reference to this topic has been never posted again). But in this investigation, this probability is kept low, mainly because in a political blog, usually the blogger has a clearly defined purpose which is seldom altered as time passes by.

For this study, the units of the media content were decided to be words or phrases. Synonyms or small phrases were grouped together for the purpose of this investigation. This analysis looked for specific areas of interest over which discussions are occurring among the several blogs through their posts/comments in all 39 blogs of the 4 identified clusters.

The analysis identified 12 main areas of interest relevant to "politics" that source material of a political blog may belong to. These areas of interest (named topics from now on) are given in the Table 4.

**Table 4. eParticipation topics in focal conversational points.**

		Average percentages of blog relevance to the specific topic, within clusters			
		2	3	4	5
	Topic, description				
1	Campaigning Protest, lobbying, petitioning and other forms of collective action (except of election campaigns, see electioneering as topic)	27	34.3	27.4	18.1
2	Community building / Collaborative Environments To promote individuals come together to form communities, to progress shared agendas and to shape and empower such communities.	34.1	33.2	10.9	4
3	Consultation Official initiatives by public or private agencies to allow stakeholders to contribute their opinion, either privately or publicly, on specific issues.	0	31.2	30.7	40.9
4	Deliberation To support virtual, small and large-group discussions, to express thoughts or ideas, to comment on or criticize, allowing reflection and consideration of issues.	35.9	16.5	38.6	17.3
5	Discourse To support analysis and representation of discourse.	23.2	11.3	18.4	7
6	Electioneering To support politicians, political parties and lobbyists in the context of election campaigns.	9.4	7.1	8.1	12.1
7	Information Provision To structure, represent and manage information in participation contexts.	34.6	39.7	40.2	41.9
8	Mediation To resolve disputes or conflicts in an online context.	23.7	0	25.2	25.2
9	Polling To measure public opinion and sentiment.	3	0	2.1	12.8
10	Concern creation To make an impression about a fact/set of ideas and cause further uncertainty or suspicion	37.1	16.3	8.8	42
11	Media and book reference References to web sites, magazines, newspapers etc as well as books	25.1	19.6	27.4	24.5
12	Environmental issues References to environmental topics	5.6	1	3.4	1.5

The average number of topics covered per cluster is: cluster2 56%, cluster3 58.3%, cluster4 57.4%, cluster5 62.5%. Information provision characterises 37 blogs of the 4 clusters making it the most popular topic, followed by Campaigning, Electioneering and Concern Creation. Table 4 presents the average percentages of relevance to the 12 topics within each one of the four

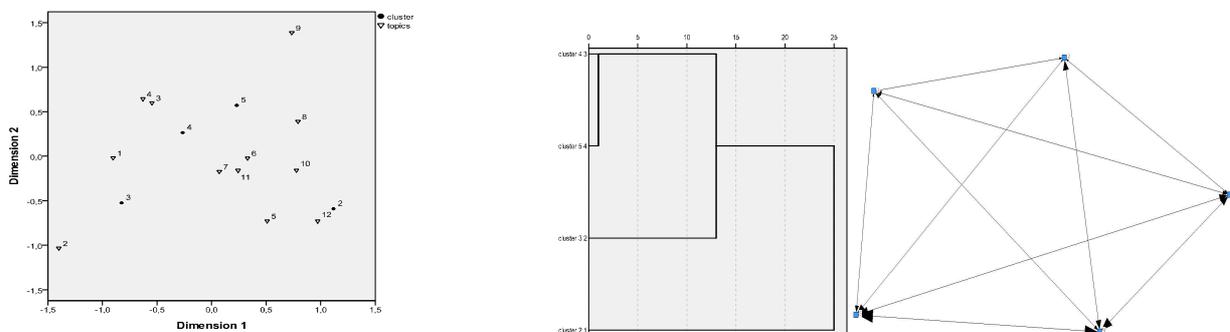
clusters. For each blog the analysis finds the percentage of occurrence of each topic throughout all the announcements of the blog. Next, the average percentage for each cluster is calculated.

From Table 4 it can be seen that relative to the rest of the clusters, cluster 2 presents high percentages in Community building, Deliberation, Discourse, Concern creation, and it presents no activity regarding Consultation. Cluster 3 presents high percentages, relative to the rest of the clusters, in Campaigning, in Community Building, and no activity in Mediation. Cluster4, relative to the rest of the clusters, presents high percentages in Deliberation, and in Discourse. Finally, Cluster 5 relative to the rest of the clusters presents high percentages in Polling, and in Concern creation, while it presents small percentages in Campaigning, Community Building, and Discourse. Overall, topics that have high relevance percentages are Information Provision, and to a small percentage Media and book issues. On the other hand, Electioneering, Polling, and Environmental issues are placed at the last seats of the topics list.

## 7. Associations between clusters' inter-linkage and content

Correspondence Analysis is a technique that allows for a holistic representation of the data of Table 4. The four clusters of interest are presented as four points in a common space along with the twelve topics, which are also presented as points. In the case that, two points, one representing a cluster and the other representing a topic, are in a similar vicinity this means that the specific topic is discussed to a high degree (percentage) in that specific cluster, according to Table 4. Thus, it becomes easy to follow which topics are discussed by which clusters. Consequently clusters which are close together present similar percentages for some topics, those close to the clusters. So nearby clusters discuss specific topics to nearly the same degree.

The four clusters are presented in a two dimensional common space, having two coordinates each. In this vein performing a new cluster analysis can provide a picture of the four original clusters. Clusters which are close together may form new wider clusters, Figure 1a, 1b. It becomes obvious that clusters 4 and 5 are grouped together to form a new cluster, while cluster 3 enters at the next step. Thus, considering the discussion topics, clusters 4 and 5 are quite similar and this similarity may next be expanded to cluster 3. This finding is of the essence because it can be associated with the findings of Table 3, which presents the interconnections properties of the four central clusters. As shown in Table 3 clusters 4 and 5 are indeed highly inter-linked according to incoming links and cluster 3 follows. Figure 1c presents the social network of the five original clusters according to the percentages of connection given in Table 3, big arrow heads represent high percentages. It becomes rather straightforward then to argue that hyperlinks interconnectedness is associated with topics discussion. This means that connected clusters also present thematic similarities, or alternatively inter-linkage is reproduced for similar topics among the four clusters. There is an association between clusters' inter-linkage and clusters' content.



**Figure 1.** From left to right: a) correspondence analysis common space of clusters and topics, b) clusters dendrogram, c) clusters of blogs network according to incoming links.

## 8. Conclusions

The paper proposed a twofold methodology, first to locate central focal point blogs, and second to explore the association of these central focal points hyperlinks interconnections with their content similarity. Greek political blogs are organized around central blog groups. Furthermore there is strong evidence that these groups present similarities in terms of their linkage and at the same time they present similarities regarding eParticipation topics and areas of discussion. This paper adds to the understanding of political blogs communication patterns and the connection of them to eParticipation discussion areas.

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# Assisted Access Points to Services (and Internet)

*Breaking down digital divide to promote e-democracy, e-participation and digital citizenship*

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**Abstract:** *The paper attempts to describe experiences in Tuscany concerning e-democracy and e-participation issues. In particular, after a brief analysis of the regional normative and institutional context in this topic, the paper illustrates goals and socio-technical features of the Assisted Access Point to Services (and Internet) Network - PAAS Network. The paper illustrates goals, socio-technical features and the evolution of the PAAS Network, which was born to break down every sort of digital divide (i.e. location, social and cultural provisions, age, origin) and it is open to everyone. The PAAS Network aims to guarantee access to information, in accordance with the objectives of regional laws and also to promote social inclusion and involvement of disadvantaged people, digital citizenship and participation in the regional system.*

**Keywords:** e-democracy, e-participation, digital citizenship, e-services

**Acknowledgement:** The principal actors of the project are: the Tuscan Region, promoter and prime driver of the Network, Municipalities and other local governments, representatives of local organizations, Volunteer associations, who are all involved in the project as facilitators of digital inclusion.

## 1. Aim of the paper

**The paper describes** the experience of the Tuscan Region in the development of the PAAS Network in order to share it with other EU countries. In this paper we do not only aim to highlight the positive work of these five years, but we also aim to encourage the exchange of best practices with other similar networks (already active or in planning).

The empowerment of these kinds of services and the consolidation of our commitment in the fight against digital divide calls for stronger cooperation between the European public administration, therefore we look forward to getting in contact with other public administrations.

## 2. Territorial context and eGovernment policies

Tuscany is a Region of central Italy, and its territory is geographically varied; it has mountains, cities, rural areas, coast lines, and islands. The surface of the territory is 22,997 km<sup>2</sup>, where 25.1% of it is mountainous, 65.5% is hilly and 8,4% is a plain area.

Tuscany has 3,730,130 inhabitants and 287 municipalities. 138 of these Municipalities have less than 5,000 inhabitants and they are often located in rural mountain areas.

In this geographical context, we can easily recognize the geographical issues that often affect people living in small villages, because in these areas the service supply – and not just in terms of technology – is weaker than in large cities.

Returning to the subject of our paper, the PAAS Network was born in Tuscany in 2005, as a regional initiative to guarantee access to information, e-services and the participation of everyone. The Network was specifically designed to meet the needs of the territory. Furthermore, these needs were also identified in a statistical survey conducted in 2003 by the Tuscan Region.

The survey revealed that 45% of Tuscan families owned at least one PC, but only 36,6% of them had Internet connection.

This statistics survey was an opportunity to better understand how to implement the national guidelines for the development of the Information and Knowledge Society, issued by the national government in 2002.

The Tuscan Region created three action lines for the promotion of e-government and e-services: one for the Public Administration, one for Businesses and one for Citizens: the last one aimed to increase access to services.

In particular, the Tuscan Region in 2004 approved the Regional Law 1/2004 for the promotion of electronic administration and of the information and knowledge society throughout the regional system. The law is an implementation of the Regional e-Government Programme “e-Toscana” and constitutes the first essential step on the realization of the Network.

### 3. Legal and institutional framework of e-democracy in Tuscany

The Tuscan public system has been dealing with the management of processes arising from the information society since 1997, when about 400 public authorities, lead by the Tuscan Region, created the Telematic Network of the Tuscan Region (RTRT)<sup>1</sup>, which became, at the same time, the apparatus for institutional co-operation for the information society in the regional public system and a public-private infrastructure connecting the whole region and offering public bodies advanced e-services and assistance for improving processes and services.

In 2004 the RTRT system has been the subject of a regional law about the promotion of the electronic administration and of the information and knowledge society throughout the regional system (regional law n. 1/2004). It was the first law concerning the information society in Italy and it established the principles and guidelines criteria for the management and programming interventions of public authorities in a regional context.

Since then, the Tuscan public system has been officially responsible for citizens' involvement in the information society. The article 1 of the law quotes “the Region promotes the development of the information and knowledge society in the regional area in order to foster social development and quality of life improvement, personal and professional fulfilment as well as active citizenship”.

From the perspective of e-democracy, the law n. 1/2004 integrates its principles and goals with other two laws, regional law n. 40/2009 (Law about simplification in Public Administration) and regional law n. 54/2009 (Law about coordination of infrastructures and services to develop an information and knowledge society).

These laws aim to promote the economic and social development of Tuscany, by promoting information, a knowledge society, digital administration and citizenship.

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<sup>1</sup> See <http://www.rtrt.it> - the official website of RTRT that includes all documents and information about activities and events concerning the governance and coordination of the regional system.

The laws also aim to simplify relationships between citizens, business, and public administration and promote the use of digital services. In order to do this, The Tuscan Region provides infrastructure, knowledge and interoperability systems and supports information circulation to local administrations.

Another important law promoting digital citizenship is the regional law n. 69/2007, approved in 2007, for the promotion of participation in regional and local policy-making.

The law does not prescribe the use of specific e-participation tools, in order to guarantee full autonomy to local participation dynamics, but it stimulates institutions and citizens to practice participation throughout ICT applications and innovative methods.

In order to effect the principles contained in the mentioned laws, the Tuscan Region promoted the Regional Programme for the development of electronic administration and information & knowledge society for the period 2007-2010.

The Programme contains interventions in favour of digital citizenship and aims to support the management and development of the technological infrastructure in Tuscany.

The specific actions oriented to e-democracy are included in the Programme's main goal "e-community". Through this goal, the regional system attempts to guarantee digital citizens' rights and support to the creation of new forms of citizen participation, particularly by spreading out the Assisted Access Points (PAAS) project. This project allows customers to use e-government services and to participate in decision-making processes, with the perspective of promoting social inclusion, and to fight against the digital divide.

#### 4. The PAAS Network: against the digital divide, for digital citizenship

A concrete application of Regional Law for the promotion of an electronic administration and the information society throughout the regional system is the PAAS Network<sup>2</sup> (in Italian "Rete dei PAAS"), a network of over 270 Assisted Access Points to Services (and Internet) spread out all over Tuscany, in main cities, in medium and small municipalities and in rural villages as well. An Assisted Access Point (PAAS) is a place where groups made up of volunteers guarantee to citizens free assistance in accessing the on-line services of local governments; it is a place equipped with tools, as well as technological and electronic resources where everyone is able to access on-line services and have assistance in internet browsing free of charge.

The PAAS Network, promoted by RTRT, is funded by the Tuscan Region, that supports the general organisation and provides the technological infrastructure, and by Municipalities that are in charge of the local organisation over PAAS in their territory. Municipalities entrust the management to volunteer associations, which deal with the organisation and realisation of animating the activities and providing basic training. Volunteers assist and help citizens in acquiring knowledge and developing and improving users' autonomous access of the internet and also using informatics tools. Volunteer associations have a fundamental role in this project: they are the cultural mediators between governments and citizens. The project aims at involving digital divide affected citizens, for which approaching new technologies is difficult (even impossible) if started independently.

Regarding this aspect, PAAS really differs from Internet Points in identity, functions and in its goals. Their position (they are often located in mountain and rural landscapes), their place (in which generally other activities of the volunteer associations managing PAAS are developed too), the involvement of volunteers (who assist users and promote e-services and other activities), give

<sup>2</sup> See <http://www.e.toscana.it/paas>

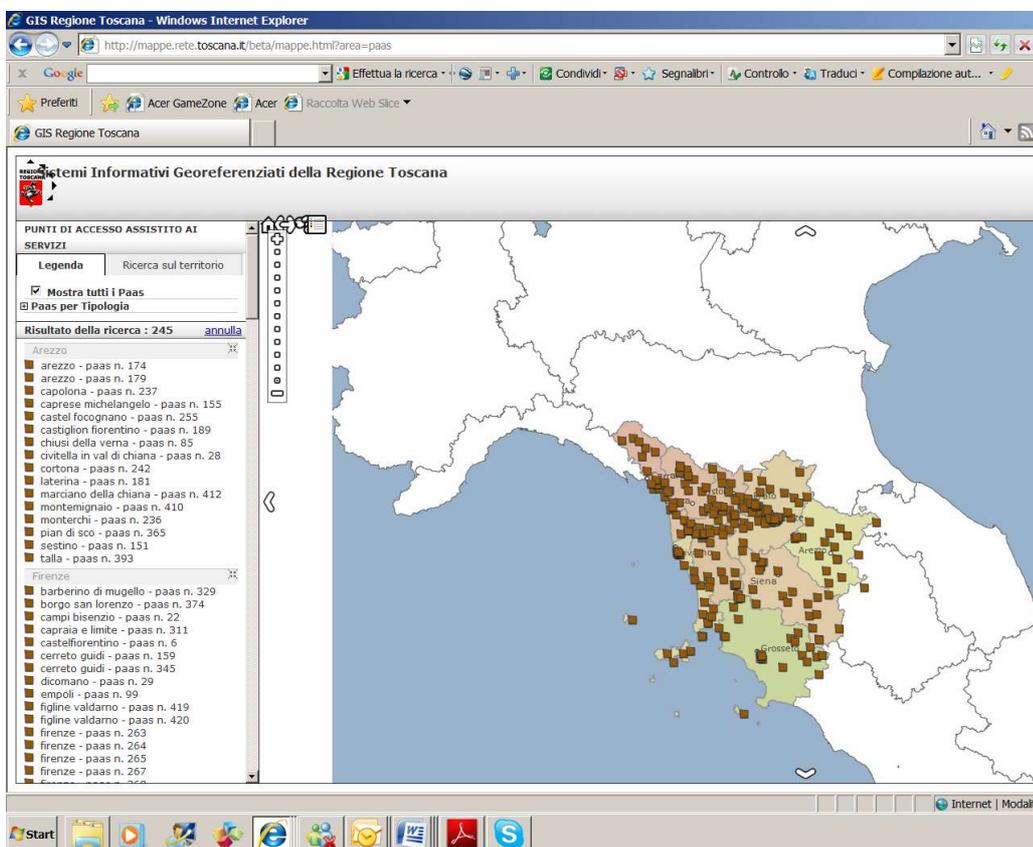
a relevant social value to PAAS, getting people in contact with local government electronically and improving participation and social integration in the local information society.

#### 4.1. Some numbers of the network

The PAAS Network was born on 2005, and many citizens have been involved since its first months of activity.

At the moment the regional project can boast:

- 159 involved Municipalities against 287 municipalities in Tuscany
- 274 active PAAS
- Over 260 Volunteer groups
- Over 1.300 Volunteers
- Over 50.000 citizens registered
- Over 500.000 accesses registered by regional monitoring system



**Figure 1: Distribution of Assisted Access Points in Tuscany (downloaded from project portal)**

The Tuscan Region has created a portal for The PAAS Network, where everyone can find general information about the project. The portal also publishes a reserved access section (directly managed by Tuscan Region) for volunteer operators, where they can find specific information and documents.

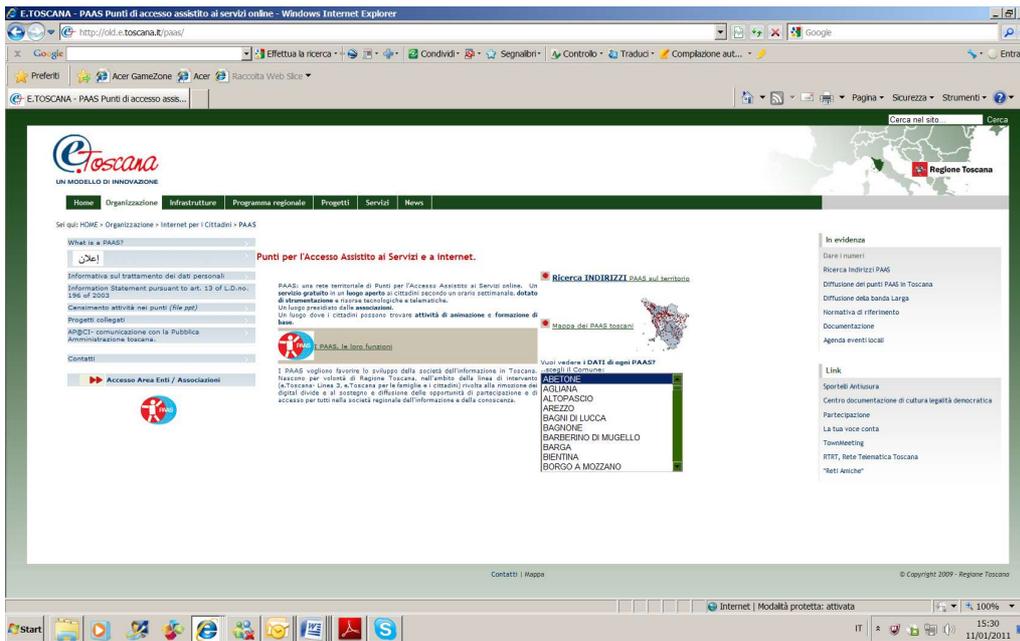


Figure 2: Home page of the web site of the project

Every PAAS publishes a webpage of their own accessible on the Internet which can be personalised by volunteer operators with photos, news, activities and other information concerning the single Assisted Access Point.

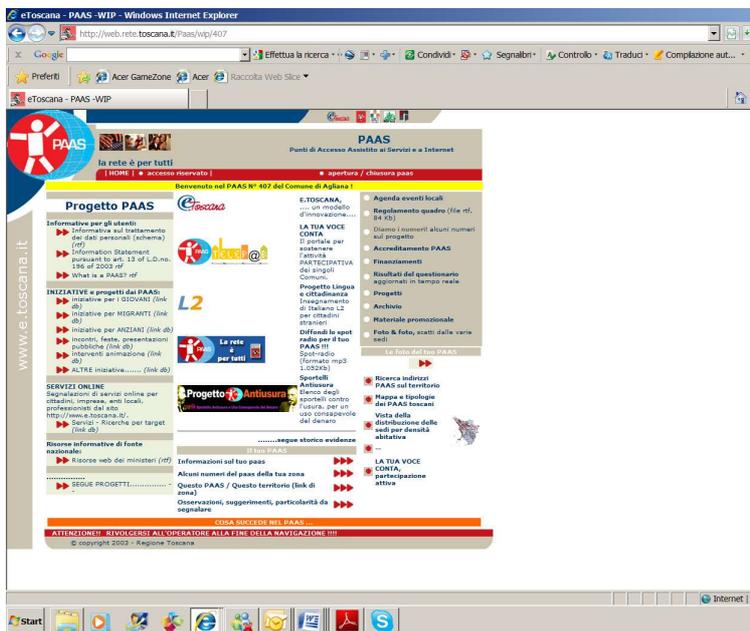


Figure 3: Example of personalized web page

## 4.2. The role of the Network in the regional system

Functions and activities developed by PAAS can be divided into two classes:

- general functions comprising the common identity of the PAAS Network;

- Individual functions and activities. This is due to many factors, such as localization, centers in which the single Point is located, local needs, attitude and specificity of the associations attending the Point.

Concerning general functions, the PAAS Network was born to break down every sort of digital divide (i.e. location, social and cultural provisions, age, origin) and it is open to everyone. The project aims to guarantee access to information, in accordance with the objectives of regional laws and also to promote social inclusion and involvement of disadvantaged people and digital citizenship and participation in the regional system.

#### 4.3. The key actors involved in the PAAS network

The PAAS Network has many actors, at regional and local levels:

- A regional “steering committee” for political decisions: it involves members of the Tuscan Region, the Association of Municipalities in Tuscany (Anci Toscana), the Association of Mountain Communities in Tuscany (Uncem Toscana), the Association of Provincial Administration in Tuscany (UPI Toscana), and of the Associations for social advancement (Arci and Enaip)
- A regional “operative staff” for technical management: this also involves members of Tuscan Region, Anci Toscana (representing also Uncem Toscana and UPI Toscana), Arci and Enaip
- Ten local promoters: they know all the PAAS and volunteer operators, and promote regional strategies and policies to make the network stronger
- Municipalities: they have local organisation and competence over PAAS in their territory and they choose the volunteer associations to cooperate and manage the project. Municipalities also have the responsibility of the project to regional Administration
- Volunteer Associations: they are a natural aggregation of places for citizens and they promote services
- Volunteer Operators: they assist users and also develop many activities to promote services, such as educational, animation, mediation and counselling services.

#### 4.4. Digital divide and its peculiarities

With regards to peculiar functions, PAAS have many locations and many kind of users: Points are located in Association's offices, in libraries, in senior citizens or young people centers, in “Red Cross” points, in tourist information centers or in governments offices. In relation to the different locations, users are distinguished by target (senior citizens, migrant people, consumers, young people, tourists, students, women, citizens) and age.

Target users and specific functions characterise the identity of each PAAS. In order to realise these peculiar functions and services, the Tuscan Region wants to strengthen several thematic networks inside the Network in order to characterise the PAAS by theme or target and so the Tuscan Region made a notification of financial support for the development of projects. The projects promote the exchange of best practices and experiences and also to promote the diffusion of existing e-services and the creation of new ones.

These thematic networks are related to specific targets (senior citizens, migrant people, consumers, young people, etc.) and their services for end users particularly support disadvantaged people.

For instance, the elderly need basic computer support, because often they have no knowledge at all and they need help on how to use the keyboard and mouse.

On the other hand, migrants can often use informatics tools very well, but they have speaking and understanding difficulties, especially with bureaucratic language.

Young people can easily access the Internet, but they may have difficulties with consulting institutional web sites for job search purposes.

Consumers would like to better know their rights and where to address their complaints and legal claims.

In small villages, Assisted Access Points help people to socialize and create communities, becoming in this way places that promote social integration and participation. Access Points are often located in public libraries or in public offices because hosting them in other places is difficult. While, in large cities Access Points are located in association centers, where volunteer associations manage their own activities as well.

In small villages, Points often make up for infrastructure deficiencies of the territory and address all citizens and tourists as well. While in big cities Points concentrate and organize their activities based on specific target groups (defined by age, gender, nationality and so on). The “specialization” of Points is mainly related to the association’s management of the Point. It also depends on the level of cooperation between the Municipality, Public Offices and Associations.

## **5. From digital divide to e-participation and digital citizenship**

### **5.1. The evolution of the PAAS Network**

The PAAS Network was born to break down every sort of digital divide (which can depend on many conditions, as location, social and cultural provisions, age, origin, etc.) and it is open to every kind of citizen.

PAAS are characterised by the social contexts in which they exist. Senior citizens, young people, migrants, tourists, citizens, each with their different needs, can all find in local PAAS to help them identify the suitable solutions they need.

At first, the PAAS Network aimed to guarantee access to information to the greatest number of people, in accordance with the objectives of regional laws and in particular of regional law n. 1/2004, and also aim to promote social inclusion and involvement of disadvantaged people.

The promotion of access to information and social inclusion has led to a greater awareness of citizens’ rights therefore the PAAS Network has spontaneously followed the evolution of citizens’ needs and every PAAS has been “specialized” for specific targets (senior citizens, migrant people, consumers, young people, tourists, students, women, citizens) and consequently in particular activities related to each target.

In order to support these activities, the Tuscan Region issued a notification of financial support in 2007 for active PAAS, who had to present small projects concerning the promotion of electronic administration, as well as information and knowledge societies. Projects could deal with many specific themes, such as the creation of new web services or the promotion of existing ones, activities against digital divide (in general or for a specific target of people), dissemination of open source technologies, etc.

These projects provided input to the Tuscan Region for the development of thematic networks because the PAAS network is close to citizens and can gather information about social needs.

Since these small projects have been realized by PAAS, in 2009 the Tuscan Region issued another notification of financial support promoting the development of thematic networks for active PAAS, who benefitted from it by joining forces and building partnerships for the creation of wider projects and on line services based in specific themes or targets.

This financial support allowed the creation of 16 thematic networks concerning e-participation and social inclusion, digital citizenship and digital rights, consumers' rights, migrants' rights, diffusion of open source technologies. Every project was aimed at the promotion of the use of new technologies in its specific sector and of the information access simplification.

Every project could promote and disseminate existing on line services or create, promote and diffuse new on line services.

Projects had to be developed by at least 8 PAAS from at least 2 different Municipalities and possibly different provinces and also volunteer associations had to be involved in the implementation of the projects.

## **5.2. The PAAS Network as a Living Lab to promote participation and a digital citizenship**

Besides supporting projects created by PAAS, the Tuscan Region can use the PAAS Network as a Living Lab to test and disseminate new technologies and platforms.

For instance, on may 2008 the Tuscan Region selected 20 PAAS all over the region (2 PAAS from each province) and involved them on a project funded by the European Community called Tell Me. Recruited PAAS discussed the knowledge and approval levels concerning the participation in the Tuscan regional law, testing an experimental platform (with a discussion forum), which was simultaneously used by other Living Labs all over Europe in discussing other issues of local interest.

Another interesting activity that involves several PAAS is the Electronic Town Meeting, a participation experience that the Tuscan Region organizes every year. The Tuscan Region includes some PAAS to discuss selected issues (participation into the regional law, health public spending, climate change, urban security, territory and landscape architecture). The experience has been possible thanks to the infrastructure of the Tuscan Region, which allowed the connection between PAAS and headquarters by videoconference and the actual participation by tele-voting.

The Tuscan Region is distributing to every citizen the "electronic health card", a smart card containing general and health information (patient summary data, prescriptions, pathologies, etc.) of the smart card holder: the PAAS Network is going to be used as an instrument to inform citizens, to promote the use of the smart card, to test that it is working correctly and also citizens' acceptance of it.

The smart card can also be used by citizens to access the regional portal, a portal in which citizens can pay their regional and local taxes, can see the deadlines for payments of taxes or other obligations, can find information about their wage slips (if the enterprise uses this service) and can send certified (registered) emails to the public administration.

## **5.3. PAAS-Telep@b project: citizens participate to municipal budget plan**

In 2009, the Tuscan Region funded the opening of 36 new PAAS in many mountain municipalities. These PAAS have had to conduct most of the activities of other PAAS, but they also have had to develop participation projects. In particular, PAAS participating to the PAAS-Telep@b project (Telep@b stands for electronic technologies for public budget plan participation) have to involve citizens in participation experiences, using a portal that can be personalized by every municipality. The Town Council can allocate an amount of a budget plan that can be left up to the citizens' decision, or can decide to ask citizens for an opinion about topics regarding the population.

For instance, in a little municipality near Siena, the council asked for the citizens' contribution in order to decide how to spend a small amount of municipal budget plan. The participation process

was pretty complex and involved mostly young people whom for the first time had the opportunity to be confronted with their local council. The process was conducted with meetings, discussions and on line forums and finished with a tele-vote: citizens chose to spend the amount on a "Cartoon Village Project", an expo with laboratories and screenings of cartoons and comics.

In another little municipality (near Lucca) the council asked the citizens' opinion about a mineral spring in the landscape: citizens and the local council had to decide how to use and improve it.

Other participation projects have concerned urban redevelopment, such as restyling squares, neighbourhoods and public areas.

With the PAAS-Telep@b project many people living in rural and mountain villages had and will have for the first time the opportunity to participate in public decision making. This way, local councils have the opportunity to test citizens' approval and to be in better contact with the members of their community.

The support of Associations and Volunteer Groups can facilitate the communication between local councilmen and citizens and can bring down the barriers between community and administration.

## **6. Digital citizenship local needs: the local functions of PAAS**

Supporting the use of new technologies in order to maximize the efficiency of public services is one of the most important distinctive activities of PAAS Network.

Volunteer associations play a vital role in the Project, because they are promoters of cultural mediation activities among governments (that use a special and uneasy language, often difficult to be understood by disadvantaged citizens) and single citizens, can align themselves with volunteer associations in order to give feedback about their needs, not only technological and informatic, but even their social needs as well.

PAAS have been placed in headquarters where volunteer associations were active in their specific issues even before the opening of PAAS. These places were already aggregation points for peculiar targets: the insertion of PAAS facilitated the PAAS network dissemination and made citizens more aware of the third millennium's need to approach new technologies and to use increasing popular on line services.

Besides disseminating on-line government services and their use, associations that manage PAAS also develop paths of socialisation and social inclusion: it is enough to think, for example, about the conduct of language courses for foreign nationals, involving people from all over the world and therefore obtaining cultural exchanges, or the elderly (they can learn to use the network's services and be self-sufficient in many daily activities that every citizen is called to handle, such as home-banking, paying bills via credit card, consulting the pension situation, etc.).

Besides the digital divide related to socially or culturally weak groups, the project aims to break down the "geographical divide": the Tuscan territory is characterised by large rural and mountainous areas where the supply of services (not just technology) is weaker than in centers with a large population.

In Tuscany there are small villages where some services (such as post offices) can't ensure daily opening: more than elsewhere, in such places "alternative" services are required in order to meet these shortcomings.

For this reason, PAAS located in rural and mountain villages specialised themselves by offering information services parallel to those offered by public administration.

A concrete example of activities conducted by a rural PAAS in supporting citizenship is represented by "Monticchiello PAAS". This is a PAAS placed in a small village inhabited mainly by

elderly people who have neither an internet connection at home or a credit card of their own. Volunteers get a prepaid credit card and they use it to pay the bills of citizens, who give them the amount by cash.

In this village, there is no pharmacy and the family doctor is present once a week: after a visit from the doctor, people go to the Assisted Access Point and give to the operator their prescription. The operator scans the prescription and sends it by e-mail to the pharmacist, who puts together all the drugs and gives them to the PAAS operator.

The presence of PAAS in rural and mountain areas is not only felt by local citizens, but also by tourists (Italian and foreigners) as a sign of openness and acceptance: in some cases the same hoteliers send their customers to PAAS in order to qualify for the free Internet service, to see the opening hours of museums and exhibitions, to see the schedules of public transport, to book their trips and so on.

Compared with rural and mountainous areas, where PAAS often makes up for the deficiencies in the infrastructure of the territory, in bigger centers PAAS concentrate their activities by directing them towards specific population groups (defined by age, gender, nationality, etc.).

The "specialisation" of a PAAS in relation to a particular target often results in close collaboration between the local government and the associations.

For example, some PAAS work almost exclusively with immigrants, and co-operate with the Police for the formal control of all the documents required for issuing residency permits. Before visiting the Police office, migrants bring their information and forms to PAAS, ask for support to fill in the forms and present it to the Police, with greater benefit for all parties involved: migrants can benefit from the trained operator's help and a more familiar environment; the group, using the "spreading out" between users, broadens its scope; the police receives complete documentation (except in exceptional circumstances) and reduces waiting times.

Similar cases of collaboration are developed among the PAAS in elderly centers and Health rooms, for example for the reservation of medical specialists.

Other cases, collaboration between PAAS and institutions in order to promote activities developed by the Public Administration are Italian language classes for immigrants promoted by the Region, the Provinces and the Ministry.

These classes are organised in part by lessons held in the classroom and partly by e-learning: PAAS will be the promoters in the territory of these classes and will ensure learners can use the e-learning platform and its structures (and to benefit from their specific skills).

## 7. Conclusion

The PAAS Network is the natural evolution of the regional policy concerning the promotion of the information and knowledge society and it is also an efficient answer to the principles derived from the Tuscan legal framework, by ensuring widespread citizen satisfaction of concrete needs concerning the use of services and opportunities offered by Public Authorities through Internet.

Considering the strategic significance and central position of the project in the regional e-government context for supporting digital citizenship, in as many extents are possible, not only in Tuscany.

Each PAAS can be:

- a place to reduce the digital and social divide
- a place to promote social integration of migrants, by implementing informative tools and user-friendly applications already developed by Public Authorities

- a place to allow citizens participation in the decision-making process of Local Authorities, by discussing local public budgets, using specific software
- a place to test and disseminate new technologies, involving elderly or disabled people
- a place to disseminate on-line government services
- a place to promote the information and knowledge society
- a place to promote full digital citizenship
- a place to disseminate digital citizens' rights

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# Toward a Sustainable E-Participation Model in Sub Saharan Africa

*The Planned Behavioral Perspective.*

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**Abstract:** *Prior IS research has provided valuable insight on technology adoption and use which is critical in deriving the benefits of information technology. These studies have utilized theories such as Technology Acceptance Model, Theory of Reason Action, and Technological determinism model to investigate technology adoption. This paper continues in this line of research by evaluating the perspectives of investigating the concept of e-participation within the framework of the Planned Behavioral Theory an extension to the Theory of Reason Action. The article seeks to explain internet and mobile enhanced citizen's participation in democracy (e-participation) base on their inherent (attitude) and environmental (subjective norms and perceived behavioral control) enablers and barriers to participate in e-democracy, and how the internet and wireless technologies can help to address democratic issues in resource poor settings such as the Sub Saharan Africa. We therefore investigate this phenomenon by providing a theoretical grounded model that explains e-participation adapted from the theory of Planned Behavior (TPB).*

**Keywords:** E- democracy, E-participation, Democracy, Information and Communication Technology (ICT), Sub Saharan Africa (SSA)

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**K**ubatana is an organization aimed to strengthen citizen participation through information provision. Kubatana manages Kubatana.net, a website portal that provides Zimbabwean civil society organizations with an online presence and a platform to voice their concerns and opinions about political issues and human rights abuses (Vosloo, 2003). It strengthens the use of mobile phones, email and internet strategies to enhance citizens participation in democracy. Kubatana has profoundly encouraged many Zimbabweans to use the information and communication technologies (ICTs) to advocate, mobilize lobby and monitor elections. A significant factor distinguishing Zimbabwe's 2008 elections from previous ones was how the citizenry were able to use mobile phone technology to monitor the election process (Moyo, 2010).

The Kubatana case above illustrates the impact of information technology (IT), specifically the Internet and mobile phones in promoting the much needed citizen participation in terms of basic freedoms of speech in the Sub-Saharan Africa region. SSA has been confronted for a long time with a political instability born from the political stakes related to the democratic insufficiency. They have struggled against rigged elections and authoritarian rule since the return to multi-party democracy (Moyo, 2010). The recurring problems in most countries have been massive electoral fraud, violence, political repression, human rights abuses on opposition leaders and their protagonist, intimidations and threats both physical and morals and the violations of the rights of press and information and above all constitutional amendments which represent a flagrant disregard for democratic rights standards and processes. All these have greatly impeded citizen's participation in democracy within the SSA region evident in low voter turnout during elections (Dugger, 2008). SSA countries current democratic institutions stem from an era in which transportation and communication was difficult and time consuming especially in the rural areas (Nzepu, 2007). Because of this communication impediment, politicians and other elected government officials developed a culture in which except at political campaigns, there was little or no feedback from citizens. It is important to note that most citizens in the world not only wish to be informed about major issues but also wish to articulate their own opinions in a way that may also affect decision making process.

However, political scientists and information and communication scholars have advocated for the use of simple communication technologies like cell phones and the internet in assisting many developing countries to progress towards open and fair elections especially in countries where the traditional media (radio and television) is still under control by the government and citizens are intimidated and threaten over their fundamental right of expression (Nachali-Kambikambi, 2008; Albrecht, 2006). This mobile and internet enabled citizens participation has gradually been moving from the realms of hypothetical hopes and fears to the realms of practical experience. This is heightened by the exponential growth of Internet penetration in Sub-Saharan within the last decade as seen can be seen in the selected countries' statistics below.

**Table 1. Internet Usage in Selected Sub-Saharan Africa Countries. (Internet World Stats, June 2010)**

Country	Population Est (2010)	Internet Users	Users Growth 2000-2010
Uganda	33,398,682	3,200,000	7,900.0 %
Cameroon	19,294,149	750,000	3,650.0 %
Nigeria	152,217,341	43,982,200	21,891.1 %
Kenya	40,046,566	3,995,500	1,897.8 %
Liberia	3,685,076	20,000	3,900.0 %

The use of ICTs to expand citizens participation (e-participation) has greatly been expanding in the Sub Saharan African countries who though were late starters in adopting modern ICT in democracy are currently making strides as illustrated in the case above (Mbarika et al, 2002).

In this article we examine the adoption of information and communication technologies most specifically the internet and mobile phones within the context of citizen's participation in democracy with a focus on SSA. As ICT initiatives started to gain attention among IS researchers and political scientists, several attempts to build theoretical frameworks for investigating the process of ICT adoption for development have been made (Medaglia, 2007). Current research on IT adoption has focused largely on the importance and adoption of ICT in business (Rahul, 2006; Hashim, 2007;

Tan & Macaulay, 2007) education (Mbarika, 2003; Lau & Sim, 2008) Health care (Kifle et al, 2006; Wainwright & Waring, 2007) and has utilized theories such as Technology Acceptance Model, Theory of Reason Action (TRA) and Technological Determinism model. However there is little theoretical grounded research that approaches technology adoption in relation to citizen's participation in democracy. To move in this direction this paper argues for employing the planned behavioral perspective and believes that it could offer some deeper insights to explain the role and implications of technology in citizen's participation. We therefore provide a theoretical grounded model explaining e-participation using the theory of planned behavior. According to Vannoy & Palvia (2010), Technology adoption incorporates two essential elements, the embracement of the technology by individuals and its embedment in society. Technology embracement in SSA helps in evaluating the value of the technology to the individuals who view it as an empowerment in overcoming democratic disenfranchisement.

The article therefore proceeds as follows; we begin by defining the concepts of e-democracy and e-participation, followed by examining the theory of Planned Behavior (TPB) and the rationale for selecting the said theory. We then proceed to propose a theoretical model for explaining the concepts of e-participation and eventually e-democracy, while concluding with implications for future research and practice.

## **1. Definition of Concepts**

### **1.1. E-Democracy**

E-Democracy is the use of cyberspace and mobile technologies to enhance effective governance (Hye, Jong & Hae, 2008). Shirazi (2009) highlights the potential of e-democracy to create a new space for engagement, deliberation and collaboration in the political process that can make democratic processes more inclusive and transparent. The use of the Internet and mobile SMS transforms existing patterns of political participation, political mobilization and collective actions. E-Democracy is not, however, only about technological improvements and direct democratic technologies such as e-voting, e-registering, and on-line governmental forums, it also refers to as long-term transformations of politics (Anttiroiko, 2000). E-Democracy which provides an uncensored use of the Internet and cell phone services can therefore serve as a democratic mediator and as a distributor of information by creating new channels of communication and new avenues for citizens to voice their opinions. These channels might include: e-campaign, e-voting systems, e-voter registration systems, public information terminals, electronic town meetings and results reporting.

### **1.2. E-Participation**

Participation is the most fundamental principle of democracy (Brown, 2004). E-participation as a sub set of e-democracy is defined as the use of modern ICT supported platform to facilitate the participation in democracy and governance (Islam, 2008). This spread of ICT is seen as a convenient opportunity for governments to solve the recurring problems of government citizen relationship (Medaglia, 2007). This new style of citizen's participation is envisaged to transform traditional bureaucratic systems to participatory, autocratic to democratic and exclusive to inclusive (Islam, 2008).

## 2. Theoretical Rational

The Theory of Plan Behavior (TPB) is one of the well-established social psychology theories employed to explain many human behavior related phenomenon. TPB is an extension of Theory of Reason Action (TRA) (Fishbein and Ajzen, 1975) which hypothesizes that behavior is influenced by an individual's intention to perform the behavior. TPB postulates that, the psychological process to put up a behavior is stimulated by intention which is also influenced by some underlying beliefs (Ajzen, 1985; 1988; 1991).

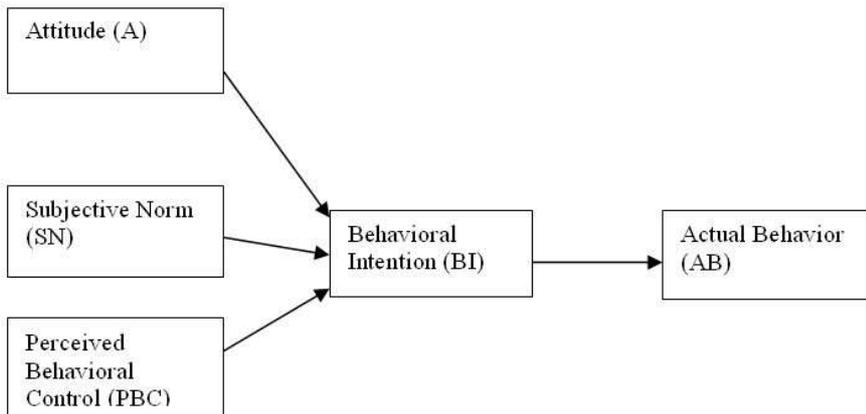
Thus, intention tends to be the central pivot around which behavior revolves – meaning that people's action is backed by their intention. Intention captures the motivational factors that influence the behavior (Ajzen, 1991: 181). The extent to which an individual persists in an adopted behavior depends heavily on the existence of the motivational factors, which are means of further instilling and imbedding behavioral practices. By being able to identify and understand these motivational factors we come a step closer to understanding why an individual performs a behavior and, further, define measures to instill and imbed the behavioral practices in society.

### 2.1. Theory of Planned Behavior.

This study which focused on the adoption of the broad concept of e-democracy has singled out the tenet of citizen's participation amongst other democratic tenets to explain the specific behaviors of citizens toward the adoption of e-participation. According to Caldwell (2005), a successful democracy is constituted by an engaged and informed citizenry. Citizen participation is seen as a catalyst to democracy by widening participation, stimulating democratic responsiveness, and increasing transparency in democratic processes in resource-poor regions, such as Sub-Saharan Africa (SSA). As such, TPB lends itself to the application of this paper because it not only addresses why individuals engage in e-democracy but examines the impact of institutions on the decision to participate in democratic processes using the Internet and wireless technologies.

### 2.2. Theory of Planned Behavior and E-Participation

The starting point in investigating citizen participation in e-democracy is to seek to understand the factors which influence a citizen's intention to perform this behavior. TPB is well-established and proven in both social science and information technology literature to explain and predict user behavioral intentions (Mykytyn and Harrison, 1993). As earlier noted, the theory postulates that, the psychological process to put up a behavior is stimulated by intention which is also influenced by some underlying beliefs (Ajzen, 1985; 1988; 1991). The factors that determine intention are the individual's attitude toward the behavior (A), the subjective norm (SN) and perceived behavior control (PBC). The outlay is as follows:



**Figure 1: Theory of Planned Behavior (Ajzen, 1985).**

- Attitude towards a behavior refers to the degree to which a person has favorable or unfavorable evaluation of the behavior of the question. Attitude relates to the individual's perceptions of the behavior – the value of participating in democratic process and perception of the value of the Internet and wireless technologies in reducing the efforts to participate in the democratic process. Previous studies in studying behavior in the use of technology emphasize that this motivational factor, is dependent on the individual's level of knowledge on the behavior and of the application of a technology to perform or mediate that behavior (Cloete et al., 2002).
- Subjective norm refers to the perceived social pressure to perform or not to perform the behavior. It refers to one's perception about other people's force of influence (social pressure of some sort) to perform or not to perform the behavior (Fishbein and Ajzen, 1975). In e-democracy one may consider this as pressure from among journalists to use blogs and other social media (directly or indirectly) to communicate information promoting democracy. Pressure may also stem from social referents like peers within the sector, or government and e-democracy rhetoric and debates from academics, practitioners and the media.
- PBC refers to the individual's perceptions about the fact that there exist personal and situational impediments to the performance of the behavior. These impediments include self-efficacy and controllability. Whereas self-efficacy is seen as the feeling of oneself being capable of performing the behavior (Bandura, 1986), controllability refers to the external factors related to resources and technology which facilitate or inhibit the behavior of interest. Concerning e-democracy an individual's self evaluation of the ability to use internet and wireless technologies can influence his/her intention to use these technologies. In addition, a journalist for an online news website may be likely to use the Internet as a medium for promoting democratic activities eg. Electronic forums.

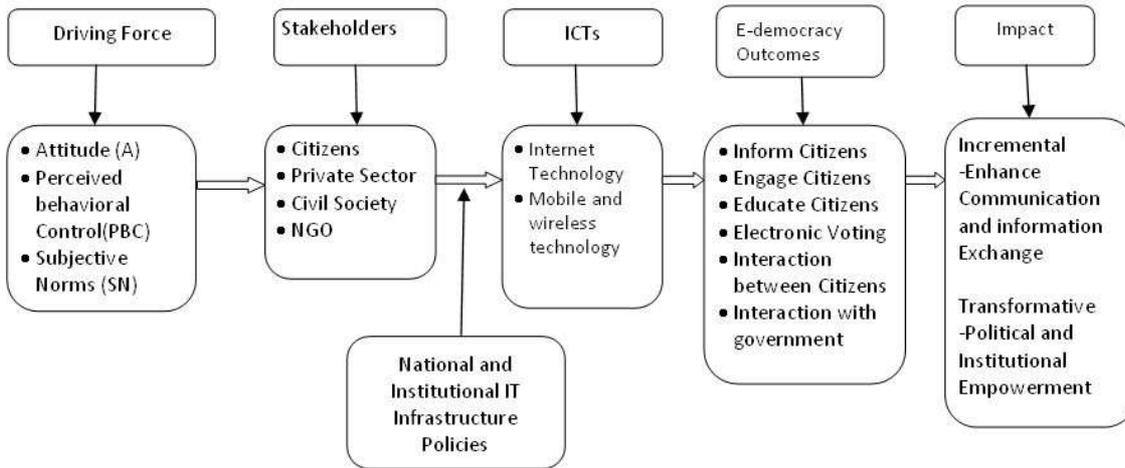


Figure 2. Theoretical Model

Table 2: Summary of Constructs and their Corresponding Citations

Constructs	Citations
<b>Driving Force</b> Attitude (A), Perceived Behavioral Control (PBC), and Subjective Norms (SN).	Ajzen, (1985; 1988; 1991), Fishbein and Ajzen, (1975)
<b>Stakeholders</b> Citizens, Private Sector, Civil Society, NGOs, Political Parties.	Thomas et al. (2010); Funilkul and Chutimaskul (2009)
<b>ICTs</b> Internet Technology, Mobile and wireless Technology.	Mbarika and Byed (2009); Kaba et al. (2009);
<b>E-democracy Outcomes</b> Inform Citizens, Engaged Citizens, Educate Citizens, Electronic Voting, and Interaction between citizens.	Meso et al. (2009); Nchise et al. (Forthcoming); Caldow (2005); Awan (2005); Kohno et al. (2004)
<b>Impact</b> Incremental and Transformative Changes	West (2004); Perkins et al. (2007).

### 3. Model Explanation.

The application of TPB offers a theoretical base for the consideration of behavioral attributes in technology adoption. Relating these three variables to e-democracy, a citizen’s behavioral intention is argued to be stimulated by his attitude, subjective norm and perceived behavioral control to getting information, giving information and ultimately using the information in a manner which enhances democratic processes in a country. The democratic outcomes tend to be incremental (at the individual level) and transformative (at the institutional level). By incremental we refer to changes in citizen’s actual behaviors toward the use of Internet and mobile phone in democratic practices but leaving the underlying structures or institutions intact, whereas transformative change implies a paradigm shift or a democratic evolution in a given community or institution. According to Perkins et al. (2007) incremental changes lead to stable transformative organizational and community development. Therefore this research paper devote assiduity on internet and mobile

phone to enhance citizen's participation which has been hypothesized to bring about incremental change as a path to a transformative democratic change in SSA (West, 2004).

#### 4. Implication for Research and Practice

Haven identified the contributions made by TPB in developing current thinking on e-participation; a broader perspective is still lacking; one that would align theory more closely to empirical reality. It is argued that such research perspective needs to pay more attention to the interplay of technology, human agent and social processes (Parvez, 2003). This research takes the perspective of critical realism, and thus provides the foundation for the application of this research paradigm in an empirical research study which will sit on the confluence of social science, information technology, and democracy. Critical realist research states that the perceptions of reality tend to be value laden and change continually, but "the underlying structures and mechanisms are 'relatively enduring'" (Dobson, 2002: 7). With the objective of developing a better understanding of these relatively enduring structures and mechanisms of social reality, critical realism seeks not to predict but to explain social phenomena (Elster, 1998). In relation to this research, it can therefore be used to investigate how and why relatively obscure social processes, like behavioral change can occur through the mediation of the internet and mobile phones. In future research, appropriate variables can be developed to operationalize the three constructs of TPB (Attitude, Subjective norms, and perceived behavioral control). Once the constructs are defined and measured, then the entire model can be verified and appropriate changes effected.

From a practical point of view, knowing which constructs are important for adoption and which for usage can enable IT professionals to employ more targeted implementation efforts especially in the SSA region which can serve as the long awaited solution to their democratic malaise.

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# **Open Government & Open Data**

(peer-reviewed)





# Open Government Data<sup>1</sup>

*Free accessible data of the public sector*

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**Abstract:** *This article explores the opening and the free usage of stored public sector data, supplied by state. In the age of Open Government and Open Data it's not enough to just put data online. It should, rather, be weighed up whether, how and which supplied public sector data can be published. Open Data are defined as stored data which could be made accessible in the public interest without any restrictions for usage and distribution. These Open Data can possibly be statistics, geo data, maps, plans, environmental data and weather data in addition to materials of the parliaments, ministries and authorities. The preparation and the free access to existing data permit varied approaches to the reuse of data, discussed in the article. In addition, impulses can be given for Open Government – the opening of state and administration, to more transparency, participation and collaboration as well as to innovation and business development. The Open Data movement tries to get to the bottom of current publication processes in the public sector which could be made even more friendly to citizens and enterprises.*

**Keywords:** Open Data, Open Government Data, Linked Data, Linked Open Government Data, Open Government, Transparency, Participation, Collaboration, Cooperation

**T**ransparency, participation and collaboration are the main issues of the integration of citizens in the paradigm of Open Government. One key part of realising these central points is the free access to certain data. Because the administration has large amounts of data which could be made accessible for the purpose of the Open Data movement, the discussion about the opening process, data protection considerations and secret reservations of data is fundamental. This article analyses the potential of freely accessible public sector data, which can become important in the political considerations of open government. To explore the opening and free usage of stored public sector data supplied by the state, first of all, a discussion about the common understanding of Open Data, Linked Open Data, Open Government Data and Linked Open Government Data is held. In the second chapter, the added value of freely accessible public sector data is outlined and critically argued. In the third chapter, possible problems and general challenges of Open Government Data for public administrations at the different administration levels are discussed. The analysis in the fourth chapter concludes the areas of application, benefits, strengths, weaknesses, opportunities and threats, exemplified in the former text. The article ends with a conclusion in the fifth chapter.

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<sup>1</sup> Article is based upon the 'Open Government Data' survey of the TICC (von Lucke/Geiger, 2010).

## 1. From Open Government to Open Government Data

### 1.1. Open Data

Organisations increase transparency when they expect valuable external influences and are interested in a more intensive interlinking with their surroundings, without the risk of being damaged. This assumes readiness for an opening process which considers influences, discourses and exchanges as constructive and welcome. One approach is the free and open access to data, information, knowledge and sources (von Lucke/Geiger, 2010). Thus, the first understanding of openness is the proceeding of the Open Knowledge Foundation (OKF, 2006). Works are open if they are available to everybody for less than their reproduction costs, if it is permitted to re-use them, create modifications and derivatives, open file formats are used, nobody is discriminated against during usage and no restrictions exist for alternative uses (OKF, 2006). This approach can be transferred to data, information and knowledge. Knowledge can be realised as the result of the interlinking of information in society, in organisations and in the heads of individuals. Information becomes practicable knowledge if it is contextualised enough to enable this. Each point of information contains a certain meaning. In this context, information is understood as machine readable data combined in a special syntax. Continuous functions are used for the presentation of analogous data, signs for digital data (North, 1998; Hansen & Neumann, 2009). Due to these considerations and characteristics the following working definition of 'Open Data' can be deduced (Open Data - OD):

*Open Data are all stored data which could be made accessible in the public interest without any restrictions on usage and distribution.*

Content of Open Data could be education material, geo data, statistics, traffic data, scientific publications, medical studies or radio and television programs. Open Data combines not only stored data of the public sector, but also includes data from businesses, universities, broadcasting stations or non-profit-organizations (von Lucke, 2011).

### 1.2. Linked Open Data

The cross-linking of Open Data via the Internet and the World Wide Web as 'Linked Open Data' (LOD) offers the possibility of using data across domains or organizational borders for statistics, analysis, maps and publications. By linking these data, interrelations and correlations can be quickly understood. Added value is created when stored data — unconnected before — is combined and new conclusions can be achieved. The low-threshold addressability of stored data in the Internet helps especially to reduce existing barriers. With the aid of 'Uniform Resource Identifier' (URI) and 'Resource Description Framework' (RDF), parts of data, information and knowledge can be prepared, shared, exported and connected. Due to this consideration, the following working definition of 'Linked Open Data' (LOD) can be deduced:

*Linked Open Data are all stored data connected by the World Wide Web which could be made accessible in the public interest without any restrictions for usage and distribution.*

This approach enforces the cross-linking of free stored data of different sources, without any restrictions on combination and usage. Because of Linked Open Data and open interfaces (APIs), applications (apps) and instruments (tools) can be created which support fully automated researches, surveys, monitoring and reporting. The concept of Linked Open Data rests with Tim Berners-Lee (2006). New knowledge can be created and visualized by an interlinking within a linked open data cloud. A popular illustration of this data cloud was designed in October 2007 and

refurbished several times<sup>2</sup>. The cloud includes numerous stored data of private and public stock of the semantic web. For example, DBpedia, GeoNames, EuroStat, Open Street Map and Linked GeoData are embedded.

### 1.3. Open Government Data

Regarding the public sector, the characteristics of drafted thoughts about Open Data and Linked Open Data must be further considered. For sharpening the definition, a common understanding of 'Open Government Data' (OGD) must be found. A fundamental stimulus is provided by the ten principles for open government information of the Sunlight Foundation (Sunlight Foundation, 2010). The combination is the result of a revision of the 'Sebastopol-list' (Open Data Working Group, 2007). The Sebastopol-list has been made by 30 US-American Open-Government-supporters, the lead token by Carl Malamud and Tim O'Reilly. Each of the ten principles describes a certain form of openness for the public sector.

The following set concludes the essential thoughts (Sunlight Foundation)<sup>3</sup>:

1. Completeness
2. Primacy
3. Timeliness
4. Ease of Physical and Electronic Access
5. Machine readability
6. Non-discrimination
7. Use of Commonly Owned Standards
8. Licensing
9. Permanence
10. Usage Costs

For labelling freely accessible stored data of the public sector, the term 'Open Government Data' (OGD) seems better:

*Open Government Data are all stored data of the public sector which could be made accessible by government in the public interest without any restrictions on usage and distribution.*

This definition refers explicitly to the public sector. At the same time it excludes the publication of all stored data of the public sector which must remain confidential, are private or contain industrial secrets and should not, therefore, be published. If the stored data were procured by responsible administrations, they could be screened, searched through, filtered, formatted, monitored and edited. Those data could be statistics, geo data, maps, plans, environmental data, governmental information, accounting data, laws and directives, and other publications. Some exemplary realisations as apps, mash-ups and services based on open government data can be found in the web-based portal 'data.gov'<sup>4</sup> of the US-American federal government, 'data.gov.uk'<sup>5</sup> of the British

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2 [http://en.wikipedia.org/wiki/File:Lod-datasets\\_2010-09-22\\_colored.png](http://en.wikipedia.org/wiki/File:Lod-datasets_2010-09-22_colored.png)

3 <http://sunlightfoundation.com/policy/documents/ten-open-data-principles/>

4 <http://www.data.gov/pastfeatureddatasets>

5 <http://data.gov.uk/apps>

Government and the 'DataSF App Showcase'<sup>6</sup> of the City of San Francisco. For a common background, the government should open not only raw data, but also information and publications based on this data. The usage of this data, information and publications would be desirable for the reuse of public sector information in general, especially referring to the EU Directive 2003/98/EG (von Lucke, 2011).

#### 1.4. Linked Open Government Data

Regarding the thoughts about Linked Open Data, the concept must be devolved to the stored open data of the public sector. The working definition for Linked Open Government Data (LOGD) is:

*Linked Open Government Data are all stored data of the public sector connected by the World Wide Web which could be made accessible in the public interest without any restrictions on usage and distribution.*

The connection of these stored data by World Wide Web allows the utilisation of these data behind domains and organisational borders. In the current version of the linked open data cloud<sup>7</sup> already included Open Government Data is represented by a turquoise colour. This contains, for example, selected stored data of EuroStat<sup>8</sup>, NASA<sup>9</sup> and large parts of British Government public sector information. While he was working for the British Government, Tim Berners-Lee emphasised that the public data should be interlinked by the World Wide Web<sup>10</sup>.

#### 1.5. Freely accessible Government Data

A successful implementation of freely accessible government data in European countries could not be achieved by simply copying foreign concepts of modernisation for state and administration, because administration is engraved by perceptions, traditions and cultures in the public access and transparency debate. So, each administration should produce its own ideas, filling-out the concept of freely accessible government data. The presented working definitions referring to Open Data, Linked Open Data, Open Government Data and Linked Open Government Data could be the basis of this discussion process.

Politics and administration need such an opinion-forming process because a pragmatic handling of existing stored data is demanded. State and administration exist in a paradigm change in the era of Open Government. Freely accessible data can be used as tools for opening and influencing contents, structures, organizational chains and decision-making processes. For a successful solution of these problems, a three-way paradigm shift in politics and administration towards a public, new, political and administrative openness is expected (IG Collaboratory, 2010):

- The first paradigm affects the concept of publicity and secrecy of data: Old paradigm: Everything is secret, if is not explicitly marked as public. New paradigm: Everything is public, if it's not explicitly marked as secret.
- The second paradigm affects range, type and point in time of the publication of data: Old paradigm: range and time of publication are determined by public authority. Often, inspection of files is on application, based on the Freedom of Information Act. New paradigm: All data not determined by qualified data privacy protection or data security are fully published, proactive and contemporary.

6 <http://datasf.org/showcase>

7 [http://en.wikipedia.org/wiki/File:Lod-datasets\\_2010-09-22\\_colored.png](http://en.wikipedia.org/wiki/File:Lod-datasets_2010-09-22_colored.png)

8 [http://epp.eurostat.ec.europa.eu/portal/page/portal/statistics/search\\_database](http://epp.eurostat.ec.europa.eu/portal/page/portal/statistics/search_database)

9 <http://nasa.dataincubator.org>

10 <http://data.gov.uk/linked-data>

- The third paradigm affects the rights of use of the published data: Old paradigm: published data are permitted to be inspected for private use. Further usage is reserved and can be allowed on demand. New paradigm: published data are useable by everybody for everything including commercial usage without any restrictions exempt from charges. This contains the possibility of editing and distributing of the public data.

Such a paradigm change initiated by the open data initiative implicates an essential cultural shift for politics and administration. Instead of practicing the current principles of secrecy, openness and transparency the democratic rights of control of the citizens would be strengthened. If data, information and knowledge were to be made available to everybody, the social transfer to a knowledge society will be enforced. The provision of freely accessible data in a 'Allmende' (common data cloud) (Reinermann 1986, p. 9) and the possibility of using and editing the data can speed up the innovation process significantly; a software developer can create bespoke services, interfaces and applications based on these data. Regarding these changes, the public administration has to consider which definition of free accessible government data should be used. One possibility could be that their own ideas concerning completeness, primacy, timeliness, ease of physical and electronic access, machine readability, non-discrimination, use of commonly owned standards, licensing, permanence and usage costs differ from those just outlined. A classification of the existing data in politics and administration could include worthwhile impulses in the decision-making process. Currently, open and proprietary data formats are used, but not all data formats are published for the public and not every interested party can influence those specifications. All over the world, different license schemes exist, using access rates, modification and distribution of data as a business model. Access to stored data can be granted without charges or other barriers. But there also can be business models using memberships, transaction fees, commission fees and data volume fees. If there are stored data, collected by public order, but not declared as public domain, they are often owned by the nation, the states or the local authorities. Alternatively, a company or an association could get the permission to refine the stored data and sell them for money. Service providers can adopt activities by collection, grouping, preparation, finishing and improvement of data. Data can be used for public and private intention. Depending on the scope of application, data are contextualized to geography, law, ecology, economy, administration, sociology or society. They can be used to generate facts and information. Data can be provided by interfaces, as raw data and independent services (Schieferdecker, 2010 & Davies, 2010).

In view of the used data formats and the standardization processes in the public sector, formats and processing must be reflected. The first table shows possible guidelines for public sector data formats, because they are machine readable, reproducible and open.

**Table 1: Different types of formats (Gray, 2010, p.10; supplemented and adopted by von Lucke/Geiger 2010, p.9)**

<b>Text, Spreadsheet and Images Formats</b>	<b>1 2 3</b>	<b>Geo Data Formats</b>	<b>1 2 3</b>
Text (.txt)	√ √ √	Geography Markup Language (.gml)	√ √ √
Comma Separated Value (.csv)	√ √ √	GPS Exchange Format (.gpx)	√ √ √
Hypertext Markup Language (.html)	√ √ √	Keyhole Markup Language (.kml)	√ √ √
Extensible Markup Language (.xml)	√ √ √	Drawing Interchange File Format (.dxf)	√ √ X
Resource Description Framework (.rdf)	√ √ √	Autodesk Drawing Format (.dwg)	√ X X
Open Document Formats (.odt, .ods,)	√ √ √	ESRI Shapefile Format (.shp, .shx, .dbf)	√ √ X
Newsfeed/Webfeed Syndication (.rss)	√ √ √	Enhanced Compression Wavel. (.ecw)	√ X X
Portable Document Format(.pdf)	X √ √	MrSID Format (.sid)	√ X X
Microsoft Word (.doc/.docx)	X √ X	Normbas. Austauschschnittst. (NAS)	√ √ X
Microsoft Excel (.xls/.xlsx)	√ √ X	Einheitl. Datenbankschnittst. (EDBS)	√ √ X
Microsoft Rich Text Format (.rtf)	√ √ X	BGRUND (BW)	√ √ X
Graphics Interchange Format (.gif)	X √ X	WLDGE - Format (.wld)	√ √ X
JPEG - format (.jpg, .jpeg)	X √ √		
Portable Network Graphics (.png)	X √ √		
Tagged Image File format (.tiff, .tif)	X √ X		
GEO - TIFF - Format (.geotiff, .tiff, .tif)	X √ X		
1 Machine Readable Format   2 Specifications Available   3 Open Formats			

## 2. Added value of free accessible public sector data

Based on these drafted thoughts of a careful opening of government and administration, one should ask which advantages and added value are included in free access to stored public sector data for citizens, the economy, administration and society: Why do you need that? Why do you want to know this? Who interprets these data seriously? What do you want to use them for? In the debate towards the opening of government and administration and the potential for re-use, transparency, participation, collaboration and innovation, one can find the answers.

- Opening of government and administration: The concepts of freely accessible data are an essential component of open government. The opening of multiple raw data is demanded for creating more transparency, citizen orientation, wider open administration and positive press work. A well informed publicity and the associated openness is strengthening the citizenship overall (von Lucke/Geiger, 2010).
- Re-use and recovery: Unmodified data can be re-used in a second context, recovered data, based on existing data sets can be modified and visualised. The form of re-use or recovery of data can be described in guidelines of the public sector.
- Transparency: Transparency is one of the three goals of open government in addition to participation and collaboration. Hence, the potentials and opportunities of additional transparency in government and administration are outstandingly relevant. Through a data-based transparency, decisions, actions and their consequences are visible and comprehensible. The trust in state and participation can be increased. (IG Collaboratory, 2010).

- Participation and collaboration: Freely accessible stored data enables potential for political and social collaboration. Each provision of public data increases participation (Klessmann, 2010), dialogues can be conducted more intensive in a personal way (IG Collaboratory, 2010). This includes participation as well as collaboration in terms of the strong involvement of citizens. At the same time, citizens producing and consuming public goods are 'prosumers'. Citizens can appear as well informed participants, using low-threshold information for high-quality discussions (Lundy, 2010).
- Better governance: Citizenship and the public can be informed on time and with more detail about the work of politicians and administrations. Results can be discussed, and problems can be solved by using collective intelligence.
- Open innovation: There is a great potential for social innovations and economic development in (re-)using and distributing freely accessible data. Citizens and developers are no longer reliant on politics or administration; they could implement ideas by themselves. Idle data can be scanned, visualized, analysed and refined, processes and services can be re-engineered. (IG Collaboratory, 2010).
- Economic development: By interpreting the data, new applications, products and services, business models and process chains can be developed and new jobs provided. At the same time, the quality of life for citizens and the quality of locations for companies can be increased. (IG Collaboratory, 2010 & Klessmann, 2010).

### 3. General challenges of Open Government Data

For a successful implementation, the essential knowledge of the potentials and important data is falling far short. A set of challenges must be managed, too: the legally allowed framework must be defined. The protection of data privacy must be ensured. Information must be prepared and necessary precaution against wrong conclusions must be made. This can be assured by change management, considering the structure and culture of the administration and removing possible strategy deficits.

- Legal framework: There are different national and international laws about open data and transparency, controlling information and publishing requirements. European directives must be transformed into national law. For the people and the press, not all requests concerning the usage of open data are decided in a positive way. Especially, if security concerns and confidential restrictions exist (Gierow, 2010).
- Data concerning protection of public interest, governmental decision-making processes, personal data, intellectual property and industrial secrets must remain unpublished. Publications, not restricted by any protection requirements or freed by the concerned person are uncomplicated. Sometimes, a fair balance of the interests of the general public and the individual must be discussed. The originally designated purpose should be traced. The open data approach can intensify efforts for transparent instruments used for legal execution. The risk of being in the pillory can reduce breaches of law by deterrence. Because of data protection, the extraction of details from anonymised data of persons, groups or companies must be impossible.
- Flood of information and preparation of information: Agencies and regional authorities not yet dealing with freely accessible data, have a big challenge with their existing stored data. It must be defined when and which data can be published in machine readable formats and how to deal with approved publishing formats. Furthermore, the access to lapsed or historical data must be checked and the quality of data must adhere to the anticipated high quality level of public authorities. Access can be widened to information services, information platforms, portals, interfaces, tools, mash-ups or mobile apps.

- Fear of misinterpretation and misreading: Third parties can take data, edit and publish them referring to the original sources. If a small error has crept in, it is acceptable, but if the author is distorting the data in order to gain advantage or to damage someone's reputation or to defame certain groups, conclusions must be reached. But how to deal with wrong interpretations, irresponsibly published mistakes, the gutter press and explosive data content? A fair handling of information by all users must be sought.
- Process re-engineering, personal capacities and financing: Closely connected to the demonstrated questions regarding content, there are also possible different organisational challenges, especially in instruction and financing. Resources could be assured before and during the project for the ongoing support and updates. Refunding can take place through additional revenues and savings. It is important that employees are informed of the change process with sufficient notice. The pros and cons of the open government data approach must be discussed before introduction of the project. (Torkington, 2010 & Deloitte Research, 2010).
- Structure and culture of the public sector: For structure and culture, the shift to open government data is combined with transculturation. Knowledge comprises power. When introducing open government data, the administration passes a part of its power back to the society. This could become a power issue (IG Collaboratory, 2010). Thus, the resulting advantages of openness and transparency have to convince. The result of repressed information can be a publication of documents at whistleblower-platforms like wikileaks or openleaks. If data are freely accessible, some shrinking former business models of the public sector can create resistance (MICUS, 2003).
- Strategic framework for overcoming existing strategy deficits: In spite of the Granada strategy — supporting open government by bundling and publishing consumer information and environmental and geo data — Germany has no existing vision developed for handling freely accessible data (Granada Strategy, 2010). First steps were made in fall 2010. By gaining experience in implementing prototypes, experiences and making mistakes, politicians and administration could learn step-by-step. Regarding this, it could be a long and difficult road to a multilevel open government data strategy. So, there is need for a short framework of strategy for opening politics and administration, containing general guidelines to the accessibility of data, information and knowledge, standards, interfaces and coordination.

#### 4. Compact analysis of Open Government Data

In addition to the drafted potentials and added value in chapter 2, some current challenges of Open Government Data have been outlined in chapter 3. Both of these issues — added value and challenges — should take part in the compact analysis in table 2. The aim of this illustration is the support of the change process within the different administrations and the information of the different participants, by clarifying the positive as well as the negative aspects of Open Government Data. Thus, the compact analysis of 'strengths', 'weaknesses', 'threats' and 'opportunities' is supplemented with possible 'areas of application' and 'benefits' of Open Government Data. Weaknesses and threats should be observed: There must be a standing rule about copyright, data protection or informational self-determination before and after using the data, the correctness of the supported data must be assured. For increasing technical interoperability, a modulated solution, providing different Application Programming Interfaces (API) should be preferred. Misinterpretations of data will be published but should be avoided if possible, to inhibit populism. Regarding the impact for the citizenship, the cultural shift kicked off by Open Government Data also offers chances for the public administration. Good management of the administration can reduce the negative aspects and strengthen the positive impact, such as the

activation of citizenship, promotion of economic development and the modernisation of the public administration, including an innovative climate for citizens, administration and economy. Time will tell if the positive aspects prevail.

**Table 2: SWOT-Analysis of Open Government Data**

<b>Areas of application</b>	<b>Benefits</b>
Generating facts & information Information of society Visualization of complex data Collaborative programming of new applications and services based on data and interfaces	Strengthening of society by a cautious opening of the state Re-use and recovery Transparency, participation, collaboration External forces of innovation Usage of collective intelligence
<b>Strengths</b>	<b>Weaknesses</b>
More intensive usage of stored data of public authorities Opening and connecting of data Diversity of opinion and interests Confidence-building measures Input for economic development	Cultural shift for the public administration Danger to current business models Uncertainty of existing copyright laws Long standardisation processes Digital divide
<b>Opportunities</b>	<b>Threats</b>
Strengthening of an active citizenship Paradigm shift in state (incl. administration) Modernization of administration in an increasing open world Increased political legitimacy Innovation for citizens and administration	Contact surface by becoming open Missing Interpretive Predominance Misinterpretation Populist mobilisation of mass Attendance for a wide openness Ignorance of criticism and open platforms

## 5. Conclusion

This article increases the awareness for Open Data and Open Government Data. By taking notice of these approaches, benefits, advantages, opportunities, threats and weaknesses, managers and employees can estimate the potential of freely accessible government data. If managers, politicians and people in positions of responsibility are realising that Open Government Data is one piece of the puzzle in the modernisation process of public administration it must be classified when and which data and applications should be first introduced and how and by whom in the implementation process. Variables could be an available time slot, the interests of economy and the existing engagement of associations, programmers and research institutions in the Open Government Data community. Synergistic effects can result from a reciprocal exchange and networking of the participants.

Viewed realistically, knowledge from using freely accessible data will be identified by administrations step by step. A co-operation with the principles and an interest in opening their own database is preferable. To achieve the desired sustainability and achieve the intentions, a mission statement-oriented strategy must be developed at an early stage. This statement contributes orientation and a framework for further steps for a fitting corporate strategy and an efficient

implementation by the public authorities. It contains guidelines for opening data sets and key performance indicators for the intended achievement of objectives. Simultaneously, traceable boundaries must be set for all participants for the definition of an acceptable and sustainable data-opening process. Different user groups should be integrated to provide a large number of interests. These forces can be harnessed by the participation of communes, citizens, companies, associations and researchers in an open innovation process. Several decision criteria can prioritise the data sets in the publishing process: actuality of data, potential of annotation, improvement, transparency, economic potential and innovative capacity. Because of data privacy, the publication of data must be evaluated most time. For an early perception of risks and resistance, a prospective risk analysis is recommended, to estimate outcome and identify and reduce risks, conflicts or security threats. Access to data sets in the internet does not guarantee the locating and using of these data. But (re-)usage of the data can be boosted by well structured, machine readable data catalogues including meta data, data portals and interfaces for an automatic data transfer. This automatic transfer makes sense in the context of dynamically-provided data demands with fast-changing values or of the proactive offers of public authorities. It is especially important that the target groups of Open Government Data, including citizens, companies, researchers and developers must be informed about news, innovations and solutions in freely accessible public data by the appropriate responsible public press office. New publications formats, portals and competitions can extend the range and the re-use of data catalogues and opened datasets (von Lucke/Geiger, 2010). These approaches deliver the opening of stored data in a continuous dialogue. Administrations should not only inform the public, but react acceptably by gathering and reviewing demands and suggestions of the users (Deloitte Research, 2010). Good input can create valuable forces for a more complex society in an open state. Each part of the society profits by openness and transparency of public agencies by free accessible data, because they strengthen the belief in public action.

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# Municipal Open Data Catalogues

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**Abstract:** *In this paper we will provide a proposal for municipal open data catalogue model. Local governments have a vast amount of data, but not all data is publicly available. Local government policies define the data set that is publicly available. This dataset can change over time, and make data publishing more complex. Municipal data catalogues should ease the process of publishing, discovering and tracking the usage of public government data. Data sets that are being published differ among municipalities. This makes the process of better understanding and measuring e-gov 2.0 on the local level non-uniform. In this paper we propose basic data set categories for open public data. This basic data set can be extendable and should provide a better way for measuring and comparing e-gov 2.0 progress at the municipality level.*

**Keywords:** open public data, local government, data catalogues, basic data set

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**O**pening public government towards citizens is one of the major goals recognized all over the world. Starting with 2009, the Obama Administration commenced establishing an unprecedented level of openness of the Government as a primary goal (Obama, 2009). This goal will be achieved when the government becomes transformed into a transparent, participatory and collaborative entity. Following the USA government steps, European countries are starting their own initiatives for government openness. The Belgian Presidency hosted a Conference in Brussels in December 2010 named "Lift-off towards Open Government"<sup>1</sup>. The main theme of the conference was Open Government and the implementation of the cross-border interoperability. During the conference, the Malmö declaration was translated into a concrete 2015 Action Plan that will set out the e-Government path for the following four years.

Volumes of government data are constantly increasing which makes publishing and managing governmental data a very tricky and demanding task. Governments on all levels have vast amounts of data, but not all data is available to the public sector. Data availability can vary greatly over time. It can be available for only a short period of time, considering public interest in data or its "expiration" date, or for a very long time, in case of static information regarding some important procedures. However, it is not only necessary to publish data, but also to allow searching,

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<sup>1</sup> Lift off towards Open government, <http://www.opengov2010.be>

querying, filtering and downloading it, as well as reusing it for other purposes. This further leads to problems of data categorization and organization. The concept of open data has truly defined an open government but has also directed its growth towards data, rather than services, as it was the case in E-Gov 1.0. Data is a core feature of E-Gov 2.0, while free access to data is a core service of open government.

One very important product of government openness initiatives are open government data catalogues. Data catalogues offer users all available governmental data in one place. Each government department is responsible for defining its data categories, named datasets, and for publishing them through government data catalogue. No matter whether their scope is national, regional or local, they serve as a one stop shop data portals which provide available government datasets (Maali & Cyganiak & Peristeras, 2010) along with necessary metadata. Data.gov.us<sup>2</sup> is contributing to the government openness by enabling people and organizations outside the government to find, analyze, compare and combine published data sets with other relevant information and is setting an example for other governments all around the world. Besides US open data portal, many other European portals are in development, both on local and state level. The UK has launched a data portal<sup>3</sup> for publishing government information and the Spanish autonomous community of Catalonia has an open data web site<sup>4</sup> launched as a part of Reusing Public Sector Information Initiative.

Serbia has only just started to adopt open government concepts, and as a beginner in this area have a lot to achieve, learn and apply in order to accomplish the high goals set by neighboring countries. In order to facilitate the introduction of these newly defined concepts, we performed research on the current state of Serbian local governments and proposed a model for introducing open datasets and developing open data catalogues which would embrace all open government concepts. The model is being developed taking into account the current situation in Serbian cities and municipalities which have no data catalogue portals, and is based on the already existing best practices.

## 1. Open public data

Opening up the government towards citizens and businesses is one of the major goals recognized all around the world. The essence of this goal is data openness, data availability and data formats that enable its understandability and reusability. Open data is governmental data of public interest that is available without any restrictions and can be easily found and accessed. Opening up the government, however, needs to be pursued by enacting necessary legislative frameworks and directives related to free access to and publishing of governmental information.

On his first day in office, the President of the USA, Barak Obama, issued two memorandums. One focused on the Freedom of Information Act<sup>5</sup> and the other focused on transparency and an open government<sup>6</sup>. As the result of Obama's Open Government Memorandum<sup>2</sup>, in which he intends to ensure the public trust and establish a system of transparency, public participation, and

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<sup>2</sup> US Government portal, <http://data.gov.us>

<sup>3</sup> UK Government portal, <http://data.gov.uk>

<sup>4</sup> The Autonomous community of Catalonia open data portal, <http://opendata.gencat.cat>

<sup>5</sup> Executive Office of the President, "Freedom of Information Act," 74 Federal Register 4693, January 26, 2009.

<sup>6</sup> The White House, Memorandum for the Heads of Executive Departments and Agencies: Transparency and Open Government, Office of the Press Secretary, Washington, DC, January 21, 2009

collaboration (Obama, 2009), the Open Government Directive<sup>7</sup> was issued later on the same year. This directive requires executive departments and agencies to take the following steps toward the goal of creating a more open government: publish government information online, improve the quality of government information, create and institutionalize a culture of open government and create an enabling policy framework for open government (Orszag, 2009).

When it comes to the European Union, most of work in the area of open government is done by the UK. The UK Centre for Technology Policy Research published a report titled "*Open Government some next steps for the UK*" giving steps for implementation of open government in the UK (Centre for Technology Policy Research, 2010). The UK Government Licensing Framework (UKGLF)<sup>8</sup> provides a policy and legal overview for licensing the re-use of public sector information both in central government and throughout the wider public sector. It sets out best practices, standardizes the licensing principles for government information and recommends the use of the UK Open Government License (OGL)<sup>9</sup> for public sector information. The UK has also launched the open data web site [data.gov.uk](http://data.gov.uk) that offers free access to a huge amounts of public-sector data for private or commercial reuse under the OGL.

In Serbia, where an open government is concerned, initiatives are being raised but in a very shy manner. Government agencies and organizations are publishing varied data, some of them are of great importance for the public but a lot of data remains stored in internal databases without the ability to be openly accessed. At the state level different data of public interest is published but not at a centralized web portal. For example, we can take the example of the Statistical Office of the Republic of Serbia. Statistical data, published by the Statistical Office of the Republic of Serbia, are currently only available in a non-reusable format. It would be of great importance for those who use this data for different analyses to have statistical data available in a machine-readable or reusable format. The situation at the local (city, municipality) level calls for even greater concern. Among Serbian municipalities there is not a well defined set of public data and there is no policy at any government level defining information of public interest to be made available to the public in a reusable and machine readable form. Because of this, data is often available in a non reusable format, and therefore is unsearchable and is not being integrated in the online data catalogue at any level (state, local or regional).

Being aware that local and state government data exists but that it is not consistent and there are no such acts that provide the publishing of data on Web portals, we will propose a basic open data set and a model for publishing government data on a municipal level.

## 2. Basic open data set

Open data portals around the world offer a vast amount of data to companies and citizens. This data often includes geographical information, transportation data, environmental data, statistics, demographics data, health data, etc. Each portal offers different data sets that directly reflect data availability to public disclosure.

Local governments in Serbia have in their internal databases miscellaneous data generated in an everyday government work environment. However, this data is in most cases poorly available

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<sup>7</sup> The White House, Memorandum for the Heads of Executive Departments and Agencies: Open Government Directive, Washington, DC, December 8, 2009

<sup>8</sup> The UK Government Licensing Framework, <http://www.nationalarchives.gov.uk/documents/uk-government-licensing-framework.pdf>

<sup>9</sup> The National Archive, Open Government Licence, <http://www.nationalarchives.gov.uk/doc/open-government-licence/>

through Web portals to the public sector. The available data is mostly present in a non-reusable format. The most common information available through local government Web sites include: budget plans, local statistics, city demographics, events and news, city acts, and overviews of constructed, planned and buildings under construction. Besides existing in a non-reusable format, local government data lacks consistency. In publishing government information, larger cities have much more data to offer than smaller or undeveloped municipalities. Data set categories are not defined, and every local government publishes information according to their own criteria. The third problem that arises is that local government data is published on local government Web sites along with other government information. It is especially notable that not a single city has a portal dedicated exclusively to publishing data of public importance. Because of differences in data sets, inconsistent categories and having no guidance for publishing governmental data, our idea is to propose basic data set categories as well as an open data catalogue model for local governments. This will enable local governments to publish and easily manage data sets that will be available for reuse through open data portals. In order to define the basic data set that will be most suitable for Serbian local governments, we will pursue the research through four steps: considering best practices around the world, analyzing Serbian local government policies, reviewing internal databases and analyzing public sector interest in government data.

### Step 1: The analyses of best practices around the world

Table 1 gives an overview of open data sets belonging to different data portals around the world. As shown in Table 1, data.gov portal has a wide range of categories covering all issues at the state level. Other data portals with regional or local character have fewer data set categories. Most common data set categories are highlighted in the table and they include Health, Education, Environment, Employment, Transportation, Infrastructure, Government operations, etc.

**Table 1: Open data sets in different countries**

State / City / Region	Data set categories	
Edmond CA, <a href="http://data.edmonton.ca/">http://data.edmonton.ca/</a>	City Administration	Facilities and Structures
	Demographics	Transportation
	Educational Institutions	Public Works
	Events	Fringe Festival
DC Columbia USA, <a href="http://data.dc.gov/">http://data.dc.gov/</a>	Education	Human services
	Environment	Infrastructure
	Government operations	Demographics
	Health Care	Public Safety
	Historical Outlook	Economic Development
Seattle, <a href="http://data.seattle.gov">http://data.seattle.gov</a>	Community	Fire
	Crime	Permitting
	Education	Transportation
San Francisco USA, <a href="http://www.datasf.org/">http://www.datasf.org/</a>	Admin & Finance	Human Services
	Environment	Transportation
	Geography	Public Works
	Housing	Public Safety

11. New York City USA, <a href="http://www.nyc.gov">http://www.nyc.gov</a>	Construction and Housing	Education
	Facilities and Structures	Environment & Conservation
	Community Service	Events
	Administrative and Political Boundaries	Library
	Cultural Affairs	Finances
	Media	Business and Economic
USA government, <a href="http://data.gov">http://data.gov</a>	Agriculture	International Statistics
	Arts, Recreation, and Travel	Elections
	Banking, Finance, and Insurance	Population
	National Security and Veterans Affairs	Wholesale and Retail Trade
	Business Enterprise	Natural Resources
	Construction and Housing	Social Insurance and Human Services
	Education	Health and Nutrition
	Geography and Environment	Transportation
	Energy and Utilities	Science and Technology
	Federal Government Finances and Employment	State and Local Government Finances and Employment
	Foreign Commerce and Aid	Information and Communications
	Labor Force, Employment, and Earnings	Prices
	Income, Expenditures, Poverty, and Wealth	Law Enforcement, Courts, and Prisons
	Births, Deaths, Marriages, and Divorces	
	12. UK Government, <a href="http://data.gov.uk/data">http://data.gov.uk/data</a>	Local authority
Traffic		GIS
Economics and finance		Health
Education		Transparency
Population		People
13. London UK, <a href="http://data.london.gov.uk/">http://data.london.gov.uk/</a>	Art and Culture	Planning
	Business and Economy	Sport
	Championing	London 2012
	London Crime and Community Safety	Housing
	Demographics	Health
	Education	Environment
	Employment and Skills	Transport
	Young People	Transparency
14. Community of Catalonia, Spain <a href="http://datos.fundacionctic.org/en">http://datos.fundacionctic.org/en</a>	Administrative procedures and services	Weather data
	Statistical data	Transport and mobility
	Geographic and cartographic data	News
	Visual data	Language data

As we can see from the examples given in Table 1, types of data sets are different in different governments and they depend on many factors. For instance, the geographic position of the city

can define the data set. A city on the sea-shore will have a specific data set related to the sea, which is opposite to city located inland. Population and infrastructure of the city itself also affect available data sets. Cities with a developed infrastructure and transportation system will have much more data available for display as opposed to rural cities or municipalities.

On the municipality level differences in data sets exist among countries but also within the municipalities in the same country. This comes from the differences in location, infrastructure, municipality leadership and many other factors. For example, some cities offer public data sets organized by categories such as: city administration, transportation, demographics, education, events, etc. Other cities organize a vast amount of different public data in alphabetical order or by keywords, covering water issues, sanitary issues, street lighting, street cameras, schools, parking, biking lines, web map services data, parks, etc.

### Step 2: The analyses of Serbian local governments

During 2009, the Faculty of Electronic Engineering in Niš, implemented the project of selecting the best ICT practices in Serbian cities and municipalities, with the support of the Standing Conference of Towns and Municipalities and USAID's Municipal Economic Growth Program. The project involved 24 towns and municipalities that had voluntarily signed up in the best practices competition for one (or more) of the following categories: public services for citizens, public services for businesses, internal services. The results of the project are published as a case study entitled "Best ICT Practices of Serbian Cities and Municipalities" (Stoimenov & Markovic & Stanimirovic & Bogdanovic & Antolovic, 2009). Here we would like to present partial results, concerning the existing electronic services in Serbian local governments. Table 2 gives an overview of the most common e-services provided by local governments.

**Table 2. The most common e-services in local governments in Serbia**

E-services for citizens	E-services for businesses	Internal e-services
Virtual registry office	Environmental permits	E-notary
Voter's list	Building permits	E-sessions
E-Notary	GIS	E-document management

As can be seen from the table, these are services oriented towards citizens and businesses as well as internal governmental services. They all can be classified according to the nature of problems they are addressing. For example, Environmental permits could be placed within the Environment category, Building permits within the Infrastructure category, internal governmental services could all be placed within the Government Operations category, and so on. There we can see the connection between the open data sets analyzed within step 1 of the research and the analyses of Serbian local e-services.

**Table 3. The most common electronic services offered on the state level in Serbia**

E-services for citizens		E-services for businesses	
<b>Employment</b>	Services for employed, Services for unemployed	<b>Business</b>	Registration of businesses, Permits
<b>Education</b>	Professional training	<b>Environment</b>	Urbanism, Environment
<b>Finance</b>	Taxes	<b>Finance</b>	Tax payers, Large taxpayers
<b>Traffic</b>	Vehicles, Documents	<b>Health</b>	Health insurance

Considering e-services offered on the state level of Serbian government<sup>10</sup>, we can notice groups of e-services, very similar to those we have previously analyzed. Table 3 shows the most common groups of state e-services in the Serbian government as well as some of their belonging services. The performed have shown that although Serbian local governments are still not close to the Openness concept, there is a good basis for opening them up in accordance with Open Government demands and standards.

### Step 3: The analyses of internal databases

Electronic services that are present at state and municipality levels provide user interface toward data residing in internal government databases. Within the project of evaluating local state governments in Serbia, we have visited a large number of cities and municipalities, and have had an insight into internal government operations and databases, which gave us a clear overview of stored information. Stored data should be made available to citizens and businesses, not only through the existing e-services, but also through open government portals.

Most local governments keep information about citizens in internal databases, which is a good foundation for creating categories related to information about citizens. The existence of environmental and building permits services implies the existence of environment and infrastructure related data in electronic form, thus enabling the creation of environment and infrastructure categories. Serbian municipalities also have well developed services in the fields of procurement, employment and customs declarations (Stoimenov & Veljkovic, 2010) (Stoimenov & Veljkovic & Bogdanovic-Dinic & Nogo & Macan, 2010) while health related services are the least developed. Based on these facts we can say that local municipalities so far have enough data for creating Employment, Environment, Infrastructure and Population categories. However, these categories alone can not form a basic dataset.

### Step 4: The analyses of the public interest in governmental information

The last and, in our opinion, the most important criterion for the development of basic data set categories is public interest in public data. However, this criterion could not be evaluated in Serbia since the Web sites of local governments did not offer any form of user feedback on this subject. We can only emphasize the importance of the existence of such feedback and public involvement in general.

### Research results

Our four-stage research has shown that there are great initiatives all around the world regarding opening up governments towards citizens and enabling free access to published data of public importance. Analyses of Serbian local governments have shown that there is enough data for

<sup>10</sup> Serbian E-government portal, <http://www.euprava.gov.rs>

setting up Employment, Environment, Infrastructure and Population categories. These categories are very important, and they certainly should be a part of basic open data set. Analyses of available open data portals indicate that the most common data categories present, besides the previously mentioned four, are Finance, Health, Energy, Education and Transportation. Each one of these categories contains information that is of great importance for the public and each region/city/municipality needs to have data belonging to them. According to these factors we propose the following categories as a basic dataset:

- *Finance and Economy* (government budget, annual budget plan, income, expenditures, donations, scholarship funds, taxes and revenue, poverty, wealth, investments)
- *Environment* (meteorological data, pollution, emissions)
- *Health* (social care, hospitals, nursing homes, pharmacies)
- *Energy* (energy consumption, energy savings, monthly energy prices)
- *Education* (schools, faculties, students, universities, private schools, exchange programs)
- *Employment* (percentage of employed/unemployed citizens, tracks of open positions in enterprises and firms)
- *Transportation* (roads, maps, streets, public transport advisories, schedules)
- *Infrastructure* (plans, roads, maps, streets, building sights, permits)
- *Population* (births, deaths, marriages, divorces)

By introducing a basic data set, the development of datasets in local municipalities will be facilitated and more importantly, the communication among different municipalities in terms of data interchange will be further standardized. The descriptions of the categories content are not fixed; each municipality can extend the contents based on its own needs and available data. This basic data set is mandatory but extendable with other categories, specific to local governments or public interest. For example, an extended set could contain GIS, Culture, Sport, News and Events, and other categories. Depending on the importance of city demographics, location, population characteristics, and other specific features on one side or public sector interest on the other, there will be significant variance in designing extended data set categories. The basic dataset categories could be seen as high value datasets. They should be available to the public sector through local government online portals. In order to apply the proposed categorization on Serbian local governments it is necessary for the municipalities to make an effort and extend their local databases with additional data required for the implementation of the proposed dataset. Each local government can expand the basic data set with other data set categories specific to the local community or public interest. For managing datasets and publishing data in an efficient way we propose the open data catalogue model described in the following section.

### 3. Open data catalogues

Managing large amounts of data is a challenging task, especially in the case of open data sets when the amount of facts and information available is constantly increasing. Governments have a lot of information for public interest that is being published constantly over time through various government portals. As the volumes of data grow, the need for a solution for managing this data through appropriate data catalogues is increasing. However, there are at least two major problems that need to be addressed in order to successfully implement a data catalogue. The first one is the storage problem. Physical space for archiving all the data should be provided and maintained, and as the amount of data increases, so should new space be made available. But providing storage space is not as simple as it may seem. The amounts of data can be so large that several different, storage spaces need to be allocated. In this case a second problem appears, that is the problem of

connecting these distributed units for the purposes of searching, performing analyses and providing requested information to the end user in a short period. Considering those challenges, developing an efficient data catalogue solution is a tricky task that requires the time and effort of an entire team. From a user perspective, the most logical approach is to develop a web application that integrates all data on a municipality level and allows users to search, query and download it. Such an application could be used to explain the open data effort for internal and external stakeholders but also as a “one-stop-shop” for finding significant datasets. In the background of this application should be a data catalogue. There are two different yet important approaches when developing such catalogues: the data warehouse approach and the linked data approach.

The data warehouse approach implies developing a data warehouse as a central data repository. This approach has all the advantages of data warehouse systems, which are specifically designed for managing large amounts of data. They provide a multidimensional view on data and effective performance of different kinds of analyses with short response times. Watson & Fuller & Ariyachandra (2003) implemented this approach in the health care industry of North Carolina. In order to provide citizens with as much health care information as possible, they designed a data warehouse system, based on multiple data sources, and gathered a team of experts responsible for maintaining the system and constantly developing SQL queries for data analyses. The benefits they gained by introducing such a system were substantial: a unique view on data as a result of uniquely organized data, valid and consistent reporting across the organization, better data analysis and time saved by users. Another example of this approach in practice is the data catalogue of the District of Columbia<sup>11</sup>. There are a lot of advantages of the data warehouse approach. Creating a central data repository makes it easier to manage the datasets infrastructure. Considering this approach from a municipality level, the dimensions of a data warehouse could be composed of datasets from different departments, so that each department is responsible for managing and uploading its own dataset. For example, the dimensions could be Finance, Health, Economy, etc., where the Financial department is responsible for uploading financial datasets, Health department for health datasets and so on.

Another approach to dealing with this challenge is the linked data approach. Linked data can be defined as open, modular and scalable (Berners-Lee, 2009). Linked data is open because it is accessible from an unlimited variety of applications and it is expressed in open, non-proprietary formats; it is modular because it can be combined with any other data that follows the Linked Data standards without any prior planning; and it is scalable because it is easy to add more linked data. This approach is primarily about developing a Web of data, where the main idea is to publish as many datasets as possible and link them so that when a user explores some data they can always expand the research to other relevant data from different datasets by simply following the links. In this way, a user can gain much more information than in the case of simply searching limited data sources. From an open government point of view, the linked data approach can provide a lot of advantages by interlinking government data that belongs to different government departments. For example, government data on health care expenditures for a given geographical region can be combined with other data in that region, such as characteristics of population, in order to assess the effectiveness of government programs (Berners-Lee, 2009). The Linked data approach is based on RDF standard for representing data on the web and linking it with other available resources (Bizer & Cygiani & Heath, 2007). Published data can be available for download in any of the supported formats: pdf, xml, csv, rdf, or others. Considering the implementation of a data catalogue based on the linked data approach, developing RDF models for each dataset will be necessary. Government data can be stored in all kinds of different formats: databases, xml, excel

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<sup>11</sup> District of Columbia data catalogue, <http://data.dc.gov>

or custom formats, and then each of them should be converted to RDF. There are a lot of easy to use tools available for this kind of file conversion. However, if data is stored in a custom format then a custom tool for converting it to RDF needs to be developed. This approach could result in links being broken as the locations of repositories or datasets move. Many existing data catalogues use this approach; some of them are Community of Catalonia Spain<sup>12</sup>, USA Government<sup>2</sup>, UK Open University<sup>13</sup>.

Both proposed approaches have their advantages and disadvantages. Data warehouse systems are reliable, efficient, and are specifically developed for managing large amounts of data, but on the other hand are very expensive, and the implementation can last a very long time. Also the process of updating tables is time consuming. Linked data however is a relatively new, modern concept, based on semantics principles, whose strongest advantage is linking with other, available online data. However, the process of introducing linked data technology can be very tricky due to the needed conversion of all source files into RDF models and developing custom conversion tools in case of custom file formats.

Open data catalogues are increasingly present in governments all around the world and the concepts of an open government and open data are being widely embraced. According to the research described in (Maali & Cyganiak & Peristeras, 2010), and performed on seven catalogues from different countries, among which are the USA government, the UK government, the Australian government, and the City of San Francisco, most government data catalogues are in beta version and are under constant development. The research has shown that all catalogues contain the following basic common features: a structured description of the catalogue itself, datasets metadata, data categorization and availability of data in different formats – reusable and non-reusable. These results can certainly be used as guidelines in developing standards for data catalogues and for further developing data catalogues. Serbia, as a young follower of these new concepts, has a lot to accomplish in order to achieve the high goals set by other EU countries. The first step towards embracing open concepts is already defined in the previous section and it refers to defining basic datasets. The next step is developing open data catalogues that allow free access to published datasets.

Based on the discussed data warehousing approaches, we propose a model for introducing and developing data catalogues in Serbian municipalities (Figure 1). Our solution uses the data warehouse approach and relies on a central data repository, maintained and updated by responsible government departments, as well as an auxiliary repository, which could be a data warehouse that holds information about data usage. An open data catalogue can be searched by users, queried and data could be downloaded in different supported formats. The model proposes a three-layered organization of an open municipality: user layer, data layer and back office layer, which all interact with one another. The back office layer represents a government department (Finance, Health, Economy, etc.) and each department is responsible for the maintenance and updating its own dataset. It interacts with the Data layer by publishing new and changing existing datasets. Each time a new dataset needs to be published an administrator at a government department publishes it using the local administrative application, after which it will be added to a data catalogue and made available for public usage.

The User layer represents open data users. Typically, they are citizens wanting to find relevant government information, but they can also be some other application or service. A citizen approaches a web government portal online and initiates a search by requesting data, while

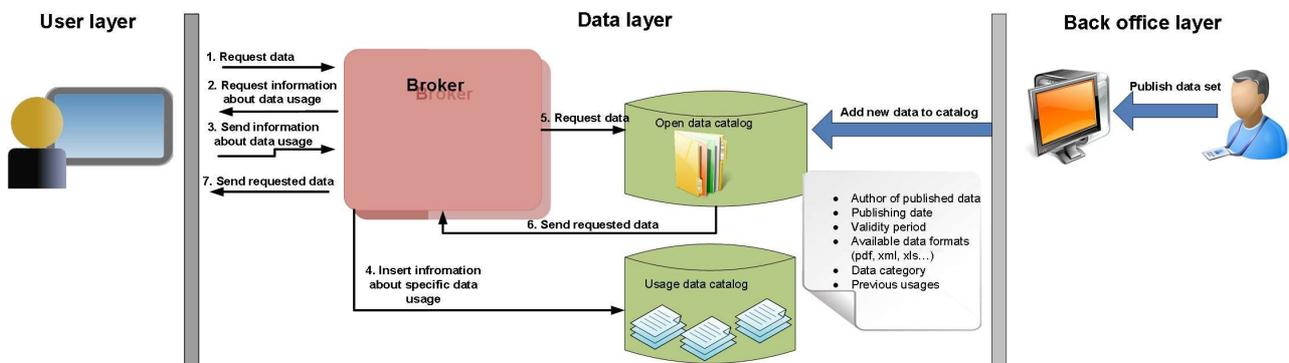
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<sup>12</sup> Community of Catalonia data portal, <http://datos.fundacionctic.org/en>

<sup>13</sup> UK Open University, <http://data.open.ac.uk/>

services and applications interact with a Broker directly through some message exchange protocol. The Open data portal communicates with the data catalogue through a Broker component.

The Data layer is the core layer of the proposed model, comprised of two data repositories and a broker component. The Open data catalogue is a data warehouse that holds published government datasets. Each dataset consists of a set of data and metadata. Metadata holds information that further describes the published data, such as the author of the published data, the date of publishing, validity period, available data formats, download links, data category, etc. Data itself can be stored in different formats, listed in the metadata description, and downloaded from available locations. According to this, an open data catalogue is primarily a catalogue of metadata, while data can be downloaded for further usage. The Usage data catalogue is a catalogue that holds information on data usage. Each time a user requests some data they have to leave information about why they need it and how they will use it. This information is then stored in the usage data catalogue and made available as part of the data description on a government portal or held private, depending on the policy of the government department.



**Figure 1: A model for introducing data catalogs in Serbian municipalities**

The Broker component is a mediator between users and the data catalogue. The Broker accepts user requests, processes them, executes queries over the data catalogue and returns responses to users. The Broker is the first component that receives users' data requests made over an open government portal or directly. It first checks the validity of a request, and, if valid, asks the user for additional information regarding data usage. After receiving this information, the Broker inserts it into the Usage data catalogue and sends the data request to the Open data catalogue. It retrieves the requested data and then returns it to user.

Each municipality in Serbia should define basic datasets for each government department, implement a data catalogue and make it available online through a municipal open portal, according to the proposed model. Datasets should be defined following a unique standard in all municipalities in order to achieve compatibility of different data catalogues, and therefore facilitate data interchange between different municipalities. This will eventually lead to the development of a standardized government data catalogue on a state level. The end goal that has been set is very ambitious, but with hard work and a united effort, it's certainly achievable.

## 4. Conclusion

The open government initiatives appearing all over the world are promoting government participation, transparency and collaboration. Governmental data within this concept needs to be available to the public sector for searching, analyses, discussion and reuse. The current state of the local governments in Serbia is that they are falling behind the European standards and in order to keep up with these, it is necessary to constantly improve the developmental strategy and apply

new concepts and principles. To assess the level of readiness of local Serbian municipalities for accepting the concepts of open data and open data sets it was essential to perform this research and present the results. We have proposed the basic open data set for Serbian local governments, taking into account best practices around the world, local government policies as well as public sector interest in government data. Upon that proposal we have developed an open municipality model for introducing and developing data catalogues in Serbian municipalities. This catalogue will help local governments to publish their datasets and make them available for public use. In order to test the efficiency of this model, our future plans are to apply this model to various municipalities and then expand upon it with the generated results.

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# Generation of knowledge from “good practices” as open government procedure

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**Abstract:** Research objective is the generation of knowledge from virtual library of “good practices” in administration management for empowering open government. A framework for knowledge generating process is presented. Our proposal is the knowledge extraction to be performed by text mining technique. Different aspects of text mining are considered together with the results obtained. Knowledge resulting from document processing through text mining, i.e. tacit knowledge is in the form of topics, relationships, document groups, categories and links. Text mining software solutions are also presented. The scope of topics concerning “good practices” about public administration management is defined. Preliminary results and conceptual framework for the establishment of knowledge management system for good practices regarding administration management are discussed.

**Keywords:** Knowledge generation, text mining, data mining, knowledge management system, virtual library, public administration management

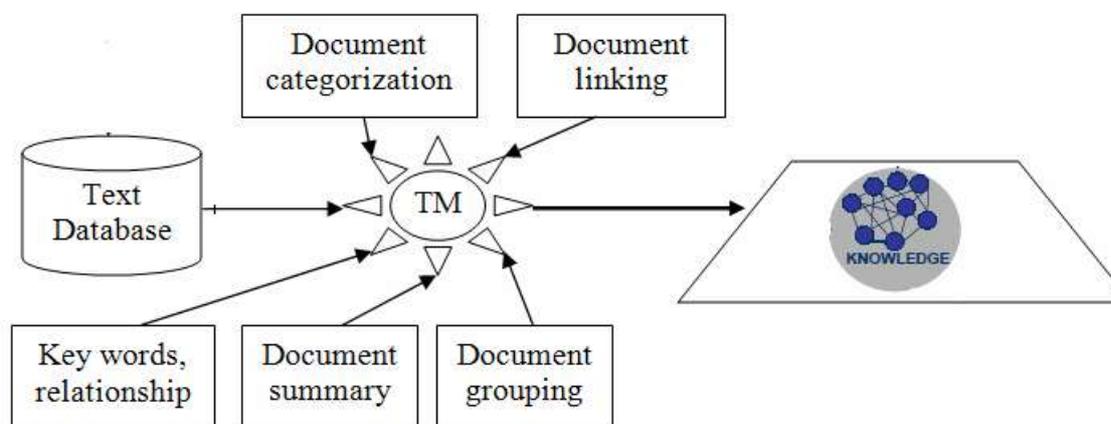
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**M**anagement of any kind needs both information and knowledge for the elaboration of appropriate and timely decisions at all levels. Howard (2005) suggests that besides decision making, information and knowledge support operational issues as well as medium and long-term innovation initiatives. Wilson and Thomson (2006) point out the role of knowledge in management for improving its quality and for setting up trustworthy policies, strategies, regulatory mechanisms and innovative technology solutions. A lot of the latest EU regulations consider the transformation of our “information society” to a “knowledge society”. Knowledge is considered explicit and implicit (tacit).

*“Explicit knowledge can be stored, processed, transmitted and shared in the form of data, scientific formulae, specifications and manuals while tacit knowledge is hard to discover and formalize.” (Mladkova, 2010, p.91).*

Tacit knowledge is created from explicit knowledge, mental models, experience, crafts and skills. Sveiby (2001) discusses tacit/explicit transfer of knowledge in creating value for an organisation. Consequently tacit knowledge plays an important role in supporting management. Generally the knowledge needed for elaboration of management’s decisions is “buried” in the database that registers facts and holds the documents of the organisation’s activity. Management isn’t aware of

this since it's hidden, i.e. doesn't exist in explicit form. We consider a store (library) of information about good managerial practices as a natural resource for knowledge discovery, extraction and presentation. Modern information and communication technologies provoke and empower the idea of virtual libraries. Tsankova (2010, 2011) describes virtual library that has been established from documents concerning "good practices" for administrative and business management. The documents - conference and symposia proceedings, case studies, reports, discussions and analyses are all stored in a text database. They represent explicit knowledge. It's dissemination through the virtual library aims to empower operational administrative management, research and training activities. On the other hand its content enables searching and deriving suggestions, probabilities and relationships between topics. They are referred to as patterns and represent tacit knowledge. We have considered the knowledge generation process and the relevant information technologies that empower it. They are shown in fig.1.



**Figure 1: Information technologies for knowledge generation**

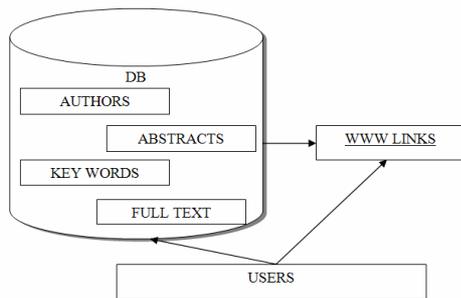
These technologies concern an artificial intelligence approach denoted as TM – text mining. It is applicable to databases storing text documents. As shown in fig.1. TM involves several document processing techniques. Mining stands for exploration, discovery and highlighting. Another mining technology is Data mining (DM). Unlike TM DM is applicable to structured data. DM is:

*“The use of machine learning algorithms to find faint patterns of relationship between data elements in large, noisy and messy data sets, which can lead to actions to increase benefit in some form (diagnosis, profit, detection, etc.).” (Nisbet & Elder, 2009, p.17)*

The results obtained by TM are in structured format and can be processed further on by DM for deriving knowledge.

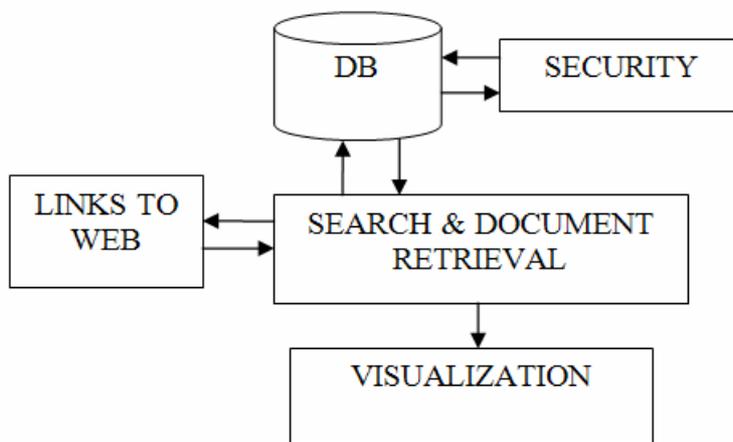
## 1. Virtual library - source for knowledge generation

A virtual library has been created as a result of the project “Research and Education Centre for e-Governance”. It has been designed by the project team, authorities from the state and municipal administration and students studying public administration. It stores documents concerning European and world practice and experience as well as innovative national research ([www.epractice.eu](http://www.epractice.eu)), ([www.ru.acad.bg/library/index.php](http://www.ru.acad.bg/library/index.php)), ([www.teacher.bg](http://www.teacher.bg)) submitted to conferences, seminars, round tables and discussion forums. The library operates both as a standard library and virtual library through the integration of World Wide Web and database technologies. The virtual library in our project is accessible from <http://fman.tu-sofia.bg>. Its structure is shown in fig.2.



**Figure 2: Information content of the virtual library**

The virtual library described above is driven by four groups of functions: searching abstracts and key words for document retrieval; security; visualization of relevant documents and linking to related documents in the web. This functionality is provided by software architecture, shown in fig.3.



**Figure 3: Software architecture of the virtual library**

Document retrieval is enabled by a search tool. A search can be performed by both authors' names and key words. The search scope is document abstracts or full texts in the library and the web. The virtual library is designed to store good practices in administration management. Documents contained therein are topic oriented. Topics have been derived from the structure levels of an administrative management system: Level1 – Operative management, Level2 – Tactic management, Level3 – Strategic management. For the purpose of topic establishment operational level refers to local administration management, tactic level – to regional and strategic level – to national administration management. Processes such as planning, accounting, analysis (decision making) and regulation are present at each level. Each process can be viewed at a corresponding management level. Process decomposition at management levels is considered the starting point for the library documents decomposition and grouping along pre-defined topics. The topics that were established for searching and document retrieval are:

1. National administration and its subsidiaries:
  - a. New vision
  - b. Public policies
  - c. Human Resource Management

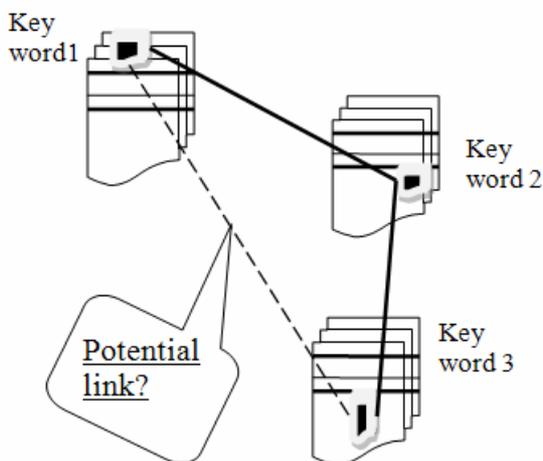
- d. Performance evaluation
2. Municipal administrations:
    - a. Decentralization and good governance
    - b. Horizons development
    - c. Municipal policies
    - d. Administrative Services
  3. E-solutions for effective administrative actions (E-Government):
    - a. Conceptual framework
    - b. E-government
    - c. E-field and E-community
    - d. Presentations from conferences
  4. Public-private partnership:
    - a. Script win-win
    - b. National Practices
    - c. Municipal Solutions

## 2. Knowledge generation

Generally information retrieval is performed as a search for documents or abstracts matching specific key words and topics. A topic search relies on pre-established taxonomy. As opposed to this type of search and retrieval that is available in library systems and web search tools, knowledge is obtained by exploration and research. The result is a new fact, unknown before and not contained in one particular document. Exploration excludes pre-defined topics, key words, phrases or labels. Text mining is the information technology implemented in the process of generating knowledge from text documents. It is defined by Sharp (2001) and Hearst (2003) as discovering new, previously unknown information by automatically extracting it from different written resources. Feldman and Sanger (2007) consider it as the process of extracting useful information from document collections through identification and exploration of interesting patterns. Manning and Schütze (2005) involve in it natural language processing as well. The notion of “undiscovered public knowledge”, i.e. tacit knowledge was announced by Swanson (Swanson, 1986). In a series of studies he revealed links between pieces of information that were fragmented in separate documents by manually performing an intense mining process. Each link that was revealed represents a hypothesis that can be explored further by the relevant methods. A hypothesis that stemmed from the exploration process represents knowledge by itself. Swanson’s research consisted in looking for the most frequently occurring key word in documents on any given topic. Further on he repeated the process with this keyword and identified again the most frequently occurring keyword. By this he presumed relationships between these identified key words and the initial topic. The direct link between them wasn’t contained in any particular document or even if so contained was with negligible frequency. The presumption that was formulated was investigated later on and was confirmed. Swanson’s process has been incorporated later into the computerized text mining. The process model of text mining application presented in (Fan & Wallace, 2006) is described by the following steps: document collection, document retrieval and preprocessing, text analysis, storing analysis results in a database, processing the database for generation of knowledge. As shown in fig.1. text analysis involves the following techniques:

- **Preliminary stage** – document identification, systematization and classification, setting up a thesaurus of pre-defined topics and establishing search taxonomy.
- **Extraction of key phrases and relationships** – there are text sequences (topics) defined and the text is searched for identifying matches. Topics can be: people, place, time, etc. Text sequences are revealed and relationships among them are highlighted. This preliminary analysis of a high volume of documents is the basis for further exploration.
- **Setting up document summary** – reduces document's length while preserving its main points and overall meaning. It's performed by the extraction of important sentences based on computed statistical weight or position – following key phrases, headings, markers of titles or subtitles, etc. It provides for further categorization of documents.
- **Topic identification** – the main topics that a document covers are identified on the basis of a thesaurus of pre-defined set of topics. Relationships are defined by looking for broader terms, narrower terms, synonyms and related terms. Documents are ranked for closest coverage of the given topic.
- **Grouping similar documents** – documents are assigned to sets (clusters) according to the topics covered. For each document topics are identified and the document's match to each topic is weighted. The weight describes how a document fits into clusters. A document can appear in multiple clusters.
- **Linking related documents** – shared topics in documents are identified and related documents are connected thereafter in a semantic space.

Tacit knowledge results from text analysis by the text mining techniques thus presented. It consists in patterns. A pattern is derived knowledge concerning possible relationships, links and dependencies between topics / key words obtained by exploring text documents. The semantics of these patterns is the probability for one key word to be a reason for, consequence of, prerequisite for, contribution to, suggestion for or outcome of another key word as shown in fig.4.



**Figure 4: Tacit knowledge – Patterns of related key words**

The key words are obtained by computing and measuring occurrence in the documents involved in the exploration process. Key words in the mining process are considered the words with highest frequency. This is the basis accepted for closest reference to document's content. These key words don't coincide with the ones that are explicitly stated in most of the text documents in the database and used by library or web search tools. Statistically extracted key words from many documents are used as input into classification algorithms which result in patterns. By computing,

measuring and weighting frequency of word / phrase occurrence, a hypothesis for a potential link between them is generated. The fact of their simultaneous occurrence implies a probability that they are related. Methods like co-occurrence statistics and co-word bibliometrics can be implemented for discovering patterns (Newman, 2008). The higher the co-occurrence is, the stronger the relationship. The knowledge obtained is the meaning of patterns, i.e. fact3 (key word3) contributes to or provides for fact1 (key word1).

Text mining tools are presented in (Fan & Wallace, 2006) and (www.kdnuggets.com/software/text.htm). The tools and the availability of text analysis techniques in them are shown in fig.5. Key word extraction and categorization are the most supported features followed by concept linkage, clustering and summarization.

		Company							
		Inight	Autonomy	Clearforest	SAS	Convera	Megaputer	SPSS	IBM
Feature	information extraction	x	x	x	x	x	x	x	x
	topic tracking		x						
	summarization	x	x			x	x		x
	categorization	x	x	x	x	x	x	x	x
	concept linkage		x	x	x				
	clustering		x			x	x		x
	information visualization	x						x	
	question answering		x				x		

Figure 5: Text mining tools and text analysis features (Fan & Wallace, 2006)

Sample of knowledge discovery by performing text mining process with SPSS (Yu, 2009) comprises the following steps:

- Extraction of terms (words, phrases) and types (semantic groupings of terms) carrying important connotations. They serve as a basis for further categorization. Fig.6. (Crowsey, 2007) shows results of terms extraction. These results contain computed concept frequencies, number of documents that contain the concept and the percent they represent from the total number of processed documents. The calculations and the numbers obtained imply that the processing for term extraction subject the text to “numericizing” (www.statsoft.com/textbook/text-mining/). The step of term extraction results in deriving clusters of words or documents and identification of "important" words or terms for prediction of another variable of interest. The resulting table (data matrix) with numerical data for the terms extracted from documents represents structured data. Therefore it can be processed further on with all standard statistical and data mining techniques. Data mining analysis algorithms evaluate nonlinear relationships between the predictor and target variables. Analytical models for implementation of DM techniques for discovering patterns are presented in (Rozeva, 2010).

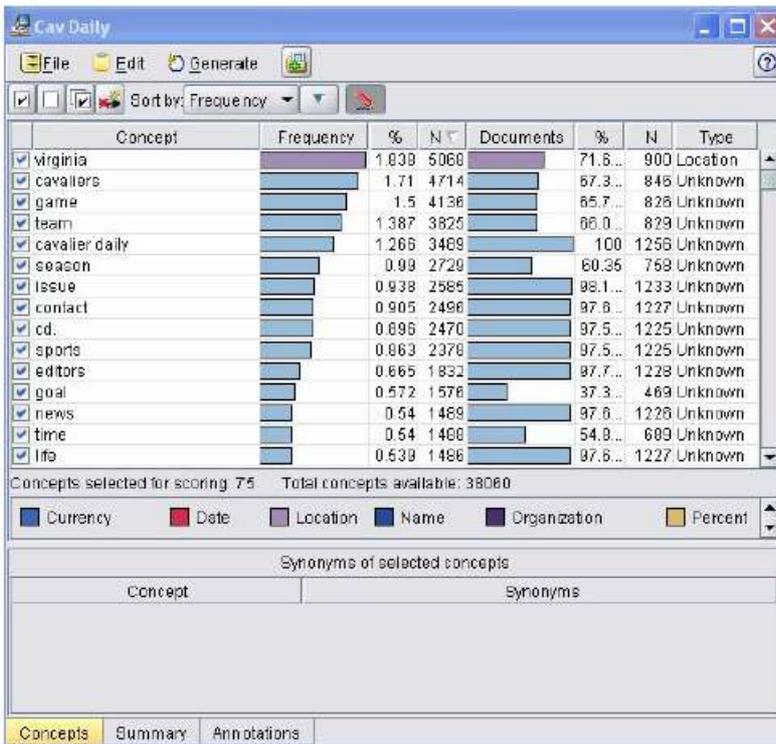


Figure 6: Text mining – term extraction

- **Grouping** related concepts - themes categorization. This is a data-driven and iterative process. Concepts initially discovered in the text patterns are chosen for categorization. Subsequent documents are checked for text pertaining to these categories. New categories may be elaborated and existing ones may be altered. Same pieces of text may be assigned to several categories, i.e. overlapping of membership is allowed.
- **Relating concepts** – establishing relationships between concepts. This represents a pattern. Fig.7. (Yu, 2009) shows patterns as a semantic space.

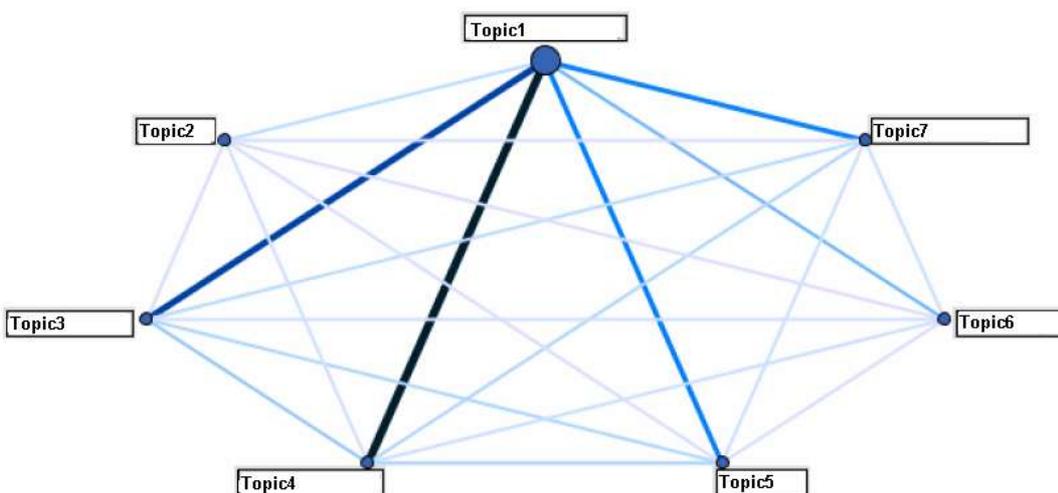


Figure 7: Tacit knowledge – concept relationships

### 3. Virtual library and knowledge management system

A research team from the Technical University of Sofia, Bulgaria, working in the field of public administration management, makes approbation of a virtual library of “good practices”. The aim of the library is support of the establishment of new technological solutions for management of administrative services. The solution that we propose is a knowledge management system (KMS). Research on using a digital library in a development environment for text mining is presented in (Witten & Don, 2004). A general knowledge management model for central and local government agencies is presented in (Staniszkiš, 2002) as a platform for implementing knowledge management initiatives. It’s pointed out that a KMS involving intelligent knowledge management capabilities supports management processes in administration. KMS for “good practices” for administrative management can be developed in two directions: pragmatic and intellectual. The pragmatic direction represents direct use and dissemination of “good practices”. The intellectual direction concerns discovering patterns as tacit knowledge. It provides for establishing new administrative and management technologies and raising the quality of management processes. Our proposal is to involve the virtual library and its database of “good practices” for developing an intellectual KMS. It is presumed to maintain both explicit and tacit knowledge. Tacit knowledge obtained by the knowledge generation process is to be combined and socialized in a knowledge base to become available for further dissemination or exploration. We presume the process of knowledge generation as a combination of text and data mining. Text mining will produce the numerical data matrix from unstructured documents. This matrix can be further factor analyzed, clustered, classified or used for predictions. In the case when the database that sources TM processing is a text database the DM outcomes need to be stored in a knowledge base. They aren’t text documents and therefore cannot be integrated in the source database. The conceptual framework of the KMS is shown in fig.8.

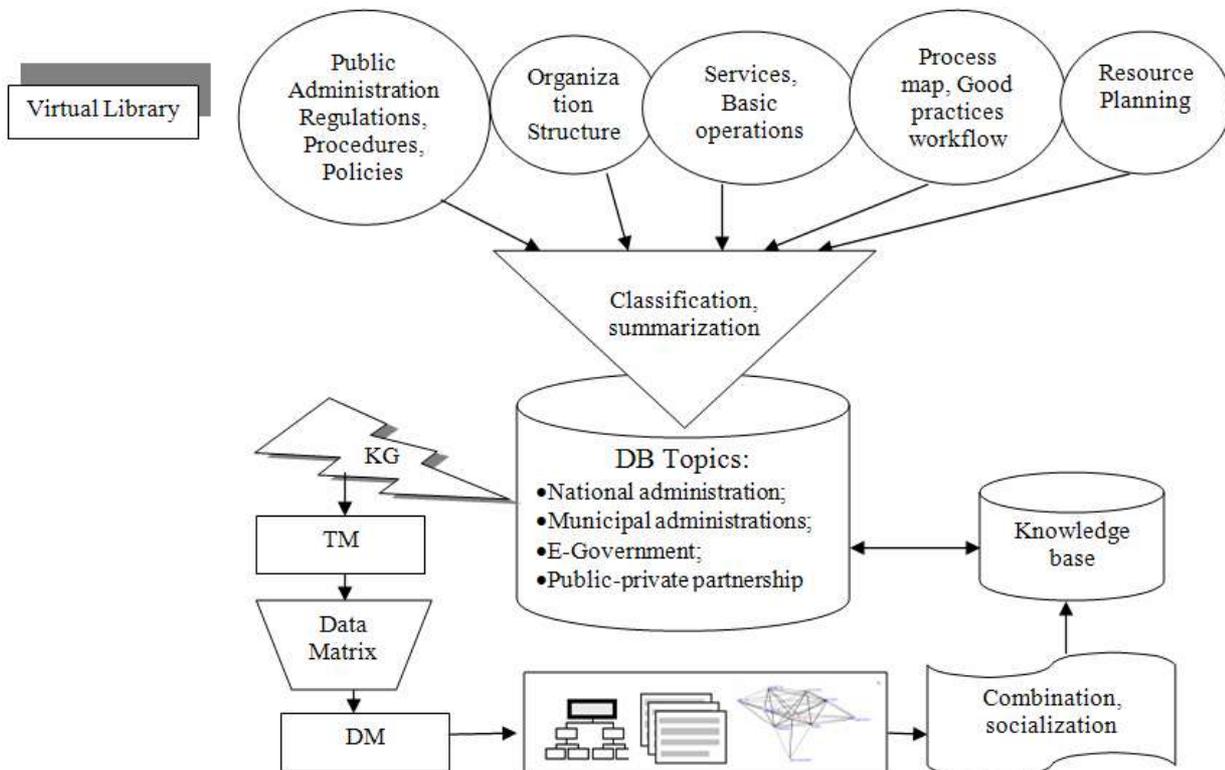


Figure 8: Conceptual framework of knowledge management system

Documents concerning administration management such as regulations, procedures and policies, organization structure, services and basic operations, process maps, good practices workflow and resource planning are stored in the library. They are classified and systemized according to the topics derived from the levels of an administrative management system. This preliminary step provides the source for the knowledge generation (KG) process. The methodology for implementing KG in our proposal consists in: TM for obtaining structured numerical data (Data Matrix) and application of DM for analysis and prediction. The resulting tacit knowledge after socialization is stored in a knowledge base. It can also be treated as explicit and further used for knowledge generation.

Areas of application of the KMS for good management practices in public administration concern:

- Identification of factors contributing to good practice;
- Analyzing services for content and discontent from surveys with open-ended responses;
- Automatically routing e-mails with claims to the proper municipal officials;
- Establishment of relationships and dependencies between managerial levels;
- Contribution to open government procedures and services, etc.

#### 4. Conclusion

Knowledge empowers management for qualitative decision making. Its dissemination is provided by knowledge management systems. They maintain two types of knowledge – explicit and tacit. Tacit knowledge is derived from the explicit one by means of information technologies for mining and exploration analysis. Results of the knowledge generation process are patterns implying relationships, dependencies and relevancies. The conceptual framework of knowledge management system concerning good practices in administration management has been presented. Its foundation is provided by virtual library storing of good practices for public administration management. Its content of explicit knowledge is shown. Techniques, outcomes and software tools for knowledge generation are outlined. The knowledge management system is intended for empowering the administrative processes' management. Its establishment is in the conceptual and preliminary stage. The initial steps concern the proposed systematization and classification of the examined subject area. The key words, annotations and full document text, obtained according to the proposed classification provide the basis for text mining analysis. The results from this analysis represent the source for data mining analysis and pattern discovery. The knowledge management system is considered to be in close relation and co-modality with virtual libraries for “good practices” and can be regarded as their natural evolution. Once the proposed conceptual framework is accomplished it will combine explicit and tacit knowledge in a socialized form.

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## About the Author

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# Monitoring the Political Self

*A Study of a Swedish Politician's Blogging Practices before the 2010 Elections*

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**Abstract:** *The elections 2010 were the first in Sweden where social networking sites was used to a large extent by politicians and parties in their campaigns. I have followed the liberal parliamentarian Nina Larsson, who conducted a campaign online with the guidance of a web and PR agency, Hello Clarice. In this paper I have focused on her use of two blogs. The research question I will attend to in this paper concerns what rationalities governed her blogging practices before the 2010 elections. My results indicate that she used her blogs expressively, to control and negotiate her political identity. As such the blogs were largely used in relation to traditional media, as a commentary, to complement and monitor the image of her as a politician broadcasted through offline media channels. The expressive use of her blogs in this context of election campaigning often had the function as an amplifier; to draw attention to her own appearances in offline media, but also to other offline texts and news stories that in one way or another suited her political agenda. As part of political identity negotiation she also used her blogs to comment on other politicians' appearances, most often those of fellow party members.*

**Keywords:** E-democracy, E-campaigning, Expressive Rationality, Networked Individualism, Late Modernity, Blogging, Identity.

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**In this paper** we follow Nina Larsson. She is a young female politician in her 30's who was elected into the Swedish Parliament 2006. Nina represents *Folkpartiet* (the Liberal Party) voters from the *Värmland* constituency (Midwest of Sweden). Before the 2010 elections Nina Larsson contacted the web agency *Hello Clarice* for guidance and help conducting a campaign for re-election online through facebook, twitter, a special campaign website and two blogs, as a complement to traditional campaigning. In this paper I have focused on her use of the blogs, one personal political blog, symbol and design wise tied to her political party, and one blog connected to a regional newspaper VF (*Värmlands Folkblad*). The overall research question concerns how she used the blogs during the months leading up to the elections (19<sup>th</sup> September 2010) and for what purposes. In other words, what rationalities governed her blogging practices?

I will start this paper with a background section situating political blogging in social and cultural theories of late modernity and digital technology. This section will be followed by a discussion of

rationalities, some short notes of methodology, before presenting the results and concluding remarks.

## 1. Background

Research on SNSs (social networking sites) in political contexts often departs from an instrumental view of online communication platforms, as instruments to implement beforehand decided communication/ campaign strategies (see Anduiza, 2009). The purpose of this paper differs from such research. Instead of evaluating the potential usefulness and effects of online media platforms on political communication, the aim here is to contribute with a discussion on what rationalities governs new patterns of political communication in an era of increasing digitalization. To do this we need first to situate new digital technologies in social and cultural theory. I will start with theories of late modernity and discuss how digital technology and individualized society reinforces each other.

The experience of increased personal autonomy, individualization and the expressions of this is one of the most debated trends in our time (see Lasch, 1979/1991; Giddens, 1991; Bauman, 2001; Dahlgren, 2006). In accounts of our late modern era processes of individualization are given priority over the collectively shared cultural frames of references that dominated social spaces and their organization in modernity (such as family, nation, class, party affiliation et cetera). Today with digital technology, processes of individualization tend to become more networked in character (Castells, 2001, pp. 122-125). The negotiation of oneself as a unique individual becomes impossible without visibility, and constant updating in, and of, self-selected/ created social networks online, where connecting your self to other nodes in the network with their supposed connotations, are central for negotiating, managing and monitoring the own subject. In this way the emerging digital media landscape gets conflated with pluralisation of lifestyles, tastes and subcultures that in turn work in tandem with our times manageable and negotiable individuality (Donath & boyd, 2004; Dahlgren, 2009, p. 152). When socio-cultural processes, media and patterns of communication mutually reinforce each other, I believe it is appropriate to speak of a *digital* late modernity (Svensson, 2011).

At the same time as society, individuals and technology mutually reinforce each other towards increasing individualization and the network as the model of social organization, it seems like citizens are more and more dissatisfied and estranged from the processes and people of representative democracy (Loader, 2007; Coleman & Blumler, 2009). Since representative democracy has its roots in an era marked by modernization and industrialization, contemporary withdrawal from its institutions may be understood as a consequence of new forms of sociability and increased emphasis on processes of identification in digital, late modern and networked societies (see Coleman & Blumler, 2009, p. 84). Instead of joining a political party and vote, we experience new forms of expressing political engagement and new ways of participating that rather underline the late modern preoccupation with identity negotiation (Giddens, 1991, p. 253; Loader, 2007, p. 2; Vromen, 2007, p. 106).

Discussing individualization and citizens' withdrawal from representative democracy, the Internet and SNSs (social networking sites) takes on a double role. On the one hand it could be argued that individual political blogs and facebook pages reinforce the processes that undermine a democratic system based on identification with traditional political parties with roots in the popular movements of modernity (Coleman & Blumler, 2009, p. 84). On the other hand SNSs have been discussed as instruments for political parties' election campaigning, not least through Obama's presidential campaign 2008 where much of his support and electorate engagement was initiated and staged with the help of SNSs (Costa, 2009; Montero, 2009, p. 30). When the Swedes went to the election polls 2010, little research had been conducted on Swedish politicians' use of SNSs (see Bergström, 2007; Buskqvist, 2007; Brundin, 2008; Strömbäck, 2009).

Having followed Nina Larsson's campaign closely during one year up to the elections and searching for previous research to inform my study, I argue there is a tendency in academia to discuss and measure new media platforms online according to old ideas of communication as transmission, media as instruments, and to discuss new technology and its meanings for society in deterministic ways (Schweitzer, 2010, p. 3). Studies of politicians' use of SNSs (social networking sites) is often conducted from an effects studies perspective, evaluating online media platforms according to their ability to meet strategic communication purposes outlined by party strategists (see Anduiza, 2009). For example it is often claimed that political parties and its representatives have come in a greater need of communicating outside a mass party model, since ties between parties and voters has become weaker lately (Kalnes, 2009, p. 64). Within the field of strategic political communication the potential of the Internet is underlined because of the medium's capacity to circulate great amounts of information that can be directed selectively to specific voter groups and networks (Anduiza, 2009, p. 6; Schweitzer, 2010, p. 3). Blogs are supposed to be used as an alternative to traditional media to circumvent its gate-keeping function and to reach one's electorate (Zafiroopoulos & Vrana, 2009, p. 78). The ties between politicians and citizens are supposed to be reinforced and the quality of the information to the voters is expected to become better and more voluminous (Anduiza, 2009, p. 5; Zafiroopoulos & Vrana, 2009, p. 78). Internet is supposed to mobilize voters and attract uncertain voters (Anduiza, 2009, p. 7; Montero, 2009, p. 28). These are some examples of the instrumental approach to the Internet in political communication research. However, when society and technology evolves together, hand in hand, causal models of explanation where the Internet either are understood as causing changes (see Shirky, 2009), or for that matter, where political participation remains the same (see Hindman, 2009), are unsatisfactory. Such approaches tend to ignore the inherent dynamics and the social aspects that characterizes all types of communication and hence should be prominent, especially when studying of online SNSs, consisting of complicated and multilayered relations. Not least I believe it is important to keep in mind changing patterns of individualization and identification in digital late modernity. The above-mentioned studies clearly illustrate the attractiveness the Internet has for communication strategists and campaigning politicians. However I argue that many of these studies are based in a one-way directed model of communication with distinctly demarcated senders, receivers and messages that are supposed to be purpose-directed and measurable. I believe we need to attend to the actual uses of the Internet in political contexts and what is governing these uses.

## 2. Rationalities

Rationality has been widely discussed in connection to democracy and communication. In this context it is impossible to understate the importance of Habermas. His analysis of the rise and fall of the public sphere (1989) and what procedures and qualities should persist in democratic fora and the communication therein (1996) has been central to research on communication and democracy. Through criticizing the commercialization of the public sphere, Habermas questions whether the instrumental rationality that predominates market transactions, should prevail in the public sphere. Instead Habermas (1996, pp.114-115) argues for a communicative rationality, a rationality he bases on peoples' inherent strive for enlightenment through listening to each others arguments and being willing to change one's opinions according to the best argument. In this way consensus is supposed to be reached (Habermas, 1996, p. 140). This is in opposition to the form of instrumental rationality, where participation in the public sphere is motivated by predetermined and self-centered interests (Svensson, 2008b). As I shall attend to next, today we find proponents of communicative rationality in theories of deliberative democracy.

Theoreticians of deliberative democracy has attempted to apply Habermas' normative philosophy and evaluate democratic procedures according to ideas of an ideal public sphere where everybody is heard, can voice their concerns and consensus can be obtained based on the best arguments (Fishkin, 1991 ;Dryzek, 2000; Fenton, 2010). Rational conversations, deliberations, are supposed to have a democratizing effect because participants are supposed to become more attuned to the common good of all rather than to negotiate between predetermined personal interests (Svensson 2008a; Coleman & Blumler, 2009, p. 17). Deliberative democracy has gained grounds within public administration and the institutions of representative democracy with its communicative view of citizens. This view has become attractive when reorienting citizens back to the fora of representative democracy (Svensson, 2008a). Conceiving of the citizen as a client, based in the 80s popular theories of New Public Management, was based in an instrumental understanding of participation. This view has more and more become shadowed by the idea of involving citizens through communicative rational deliberations (Svensson, 2008a; Coleman & Blumler, 2009, p. 15).

The Internet was early given attention because of its potential to engage citizens in deliberations within schemes of participatory democracy (Loader, 2007, p. 11; Coleman & Blumler, 2009; Dahlgren, 2009, p. 26; Kies, 2010). The emergence of the Internet coincided with lower participation in elections (Dahlgren, 2009, p. 159; Coleman & Blumler, 2009, p. 143), and a deliberative turn within public administration (Svensson, 2008a). Recent research has questioned the potential of the Internet to reorient citizens back to representative institutions, and questioned whether communication platforms online really are governed by communicative rationality. Research has indicated that political participation on the Internet most often is based in a high level of political participation offline (Calenda & Mosca, 2007, pp. 87, 92; Dahlgren & Olsson, 2007; Vromen, 2007, pp. 97, 113), and that the active information-seeking characteristic of Internet-use rather seems to invoke users to seek confirmation of their already established viewpoints than to expose oneself for new and diverging opinions (Sunstein, 2001; Anduiza, 2009, p. 8). However, the vision of the deliberative democratic potential of the Internet lives on, not least because users, and the areas of uses, increase steadily. Above all, SNSs (social networking sites) have begun to take place in the discussions of Internet as medium for public and communicatively rational deliberations.

The question is whether a normative notion such as communicative rationality could be used for analyzing general and real participation and communication on communication platforms (Stokes, 2005). Some have pointed at the expressive character as a complement to instrumental and communicative understandings of political communication (Brennan & Lomasky, 1993; Engelen, 2006; Svensson 2008b). In this perspective, participation and communication are understood as means to construct, negotiate and maintain identities and the stories of one self (Svensson, 2008b). Especially in digital late modernity with increasing individualization and networking, an expressive model of explanation becomes relevant for understanding political communication on social networking sites online (Svensson, 2011).

With this background of late modern individualization, and the different ways to approach rationality in political communication, I will now turn to the discussion of how Nina Larsson used blogs in her campaign and for what purposes. Was her use and expressions motivated and justified by self-centered reasons or a strive for consensus for the common good? Will her use of blogs in her campaign for re-election entail an increased focus on Nina as an individual and the negotiation of herself? First, some notes on methodology.

### 3. Notes on Methodology

The method used in this research project is (n)ethnographic (Kozinets, 2006; Angrosino, 2007; Berg, 2011). In a (n)ethnographic study we are released as researchers from the physical place to conduct observations in a virtual context (Angrosino, 2007, p. 94; Berg, 2011, p. 120). The specific situation I am interested in is how a politician, Nina Larsson, is campaigning online. I have followed Nina Larsson over one year, both online as well as offline, and observed how she uses the Internet in her political campaigning. For purposes of space and delineation I have chosen to specifically focused on her use of blogs in this paper.

Digital technology and so-called “new” media are neither neutral artifacts nor do they have inherent capacities for social organization and change (Castells, 2000, p. 29; Coleman & Blumler, 2009, p. 10). Technology and society evolves in tandem (Svensson, 2011), hence new technology and new media should be understood from its uses and social contexts. Information and communication technologies are constructed, maintained and given meaning through a range of complex and social processes (Coleman & Blumler, 2009, p. 10). Hence, I do not believe that a medium in itself possess qualities that automatically will change society. To avoid essentialistic, causal or technical deterministic studies, it is therefore important to instead inquire into how and in which circumstances technology is used. Causal models of explanations are potentially misleading since it is impossible to isolate Internet use from other social practices and hence determine what causes what (Anduiza, 2009). One way of dealing with this is through a case study. When focusing on a case, the webpages to study are almost given in advance, and researchers may concentrate on events and practices in a more empirically constructive manner (Gerodimos & Ward, 2007, p. 118).

Case studies are most often generalizing in their aim, something the (n)ethnographic study is not (Agar, 1986). I am aware that the study presented in this paper may not be generalized to politicians' blogging practices in general. However, this study may point out tendencies on directions of political campaigning in digital late modernity. The aim of this paper is to contribute to the discussion of the rationalities of political communication in an emerging digital media landscape, characterized by an increased individualization and networking. For this purpose, Nina Larsson's campaign is very useful.

Nina Larsson is a rather young politician that is used to the Internet and blogging since before. As a female politician in her 30s, she is hardly representative, and it might be questioned why I chose to follow her. Political communication is in a transition today in which more and more politicians seems to adopt communication platforms online (Anduiza, 2009). Nina Larsson's campaign is an example of this transition, and she represents a new generation of politicians, politicians that do not shy away from technological challenges or new ways to communicate with voters.

In a (n)ethnographic study the researcher conduct observations in a virtual context on communities that can be understood as social in its character (Berg, 2011, pp. 119-120). The aim of (n)ethnographic research is to understand the social interaction taking place online, hence a focus on user-generated information flows (ibid., p. 120). The (n)ethnographic approach thus suits the aims of this paper since I am studying how Nina uses SNS (social networking sites) and the information flow she initiated and/or took part in. Doing (n)ethnography I followed Nina Larsson on all her different social media platforms, taking field notes and screenshots when I observed something I deemed particularly interesting. I use her SNS as archives of information (see Berg, 2011, p. 126), but I have also created my own archive with screenshots since data and interactions on SNS are instantaneous and may be changed or disappear. As a participant researcher, I have participated on some of the debates on Ninalarsson.se (as well as twittered and facebooked with her). My interventions with Nina followed a simple plan; when I reacted on, or felt I wanted to get clarification, information or just agreeing on something she posted, I interacted with her (for

example commented on, or forwarded a posting). My interventions most often concerned statements on education policies and infrastructure (since I work at the university and commute to work). Examples of interactions were posting comments about my train delays and asking for her ideas of improving the railway tracks in Värmland.

For this paper I have focused on Nina Larsson's two blogs, one connected to the regional newspaper VF (Värmlands Folkblad, <http://blogg.vf.se/ninalarsson>) and one personal blog tied to her as politician representing the Liberal Party (<http://www.ninalarsson.se>). This project started in 2009 and I have followed Nina since then. Ninalarsson.se have been up and running since 2006, and is constructed as a blog where postings with more obvious political angle are communicated. The months prior to the elections Nina posted approximately five posting a week. On the blog there are links to Nina's Twitter and Facebook account, her campaign website as well as the VF blog. On the regional newspaper Värmlands Folkblad (VF), Nina had a blog since 2008. Her aim was to post one posting a day during the height of the campaign, however, postings here were rarer than on ninalarsson.se, approximately one posting per week. Nina decided herself what to post on the VF blog, the newspaper only provided the domain. There were also other blogs from other politicians and citizens on VF to follow. Nina stopped using this blog after the elections.

(N)ethnography is different from ethnography in its exclusive focus on net-based social environments. The physical absence is compensated by different textual and figurative representations, which gives the user larger possibilities to reflect on, test and review different ways of action before they become part of the social interaction (Berg, 2011, p.121). This also requires the user to make an active and conscious effort when presenting her-self online. Hence we can distinguish between asynchronous postings, allowing for greater reflection and planning (for example on Nina's blogs and campaign website) and synchronous postings, happening in real time (on her Twitter and Facebook, see Berg, 2011, p. 127). Because of the enhanced possibility/requirements of reflexivity on SNSs, (n)ethnography is a good companion to theories of late modernity. (N)ethnography is also good to combine with a more traditional ethnographic method, especially when being interested in what considerations lies behind (inter)actions online. Since this was the case here the observations online were complemented with continuous interviews with both Nina Larsson herself and Olle Nilsson and Gunnar Bark at *Hello Clarice*. I have also followed Nina Larsson offline during some weeks before the elections.

## 4. Results

Talking to Nina Larsson, she tells me that she conceives of the blogs as an aid in her relation to her voters, as a channel to come in contact with new voters and to broaden her web of contacts. Nina explains that she uses the Internet as a complement to personal face to face meetings which she means are the best way of getting in contact with citizens. Talking to Nina about her blogs it becomes obvious that she uses a discourse of communicative rationality to frame her campaign, offline as well as online. It is about coming in contact with her constituency, discuss and listen to the different sentiments among the voters. Nina opposes an instrumental use of blogs and claims that many politicians still use them as a megaphone, as another channel to broadcast their statements (see also García & Lara, 2009). Nina admits that she herself used blogs in this way during the last elections (2006). Now she conceives the blogs more of as platforms for dialogue rather than as megaphones. Communicating online Nina claims to have different possibilities to interact directly with citizens than she would have in traditional media. She also claims that Internet makes a dialogue possible and in this way reinforces representative democracy.

It is hardly surprising that Nina as a professional politician in interviews underlines the purpose of her blogging to come closer to her constituency and to dialogue with potential voters. But if I go beyond this façade of a communicative rational discourse I soon also discern instrumental

purposes with Nina's blogging practices, such as being visible, becoming re-elected, getting new voters to her and her political party. The interactions Nina establishes and participates in are mainly on her terms and around the topics she herself puts on the agenda. It is Nina who decides what will be discussed, even if she cannot completely govern the commentaries she gets (however, during some periods comments have had to be approved before being published). It does not really seem that the so-called dialogue on her blogs should lead to, or bring about consensus. For example, Nina defines a good posting on her blog *ninalarsson.se* as something that not everyone agrees upon and something that is a little bit provocative. Through coaching by *Hello Clarice* she confirms that she has become more daring in her postings and more provocative in her tone. Olle Nilsson from *Hello Clarice* explains that they give Nina feedback on her postings in forms of thumbs up or thumbs down with the purpose of getting her to mediate certain kinds of emotions and to get her to think right about online communication. When asking Olle what thinking right implies, he explains that they coach her to become more personal, to dare to be more provocative and direct in the communication with her voters. Nina on her hand claims that she has noticed that this tone attracts more readers to her blog. Hence, to be exposed to a large amount of readers that might not always agree, seems to be of greater importance for Nina when posting on *ninalarsson.se* than reaching consensus and agree upon an issue.

A deliberative discourse, based in communicative rationality, as well as references to more strategically instrumental uses, are utilized by both Nina and people at *Hello Clarice* to explain her blogging practices and provide it with meaning. However these interview results become interesting when observing the actual communication on *ninalarsson.se*. It seems that the explanations of why using blogs in political campaigning and how she makes her blogging practice relevant, differs from what is actually taking place on *ninalarsson.se*. A closer study of the blogging during the period up to the elections indicates that the more provocative and personal tone actually have not led to more comments, which I would take as an indication on whether she had succeeded to attract more readers or not. On *ninalarsson.se* there was only one discussion with over 12 comments. It was when commenting on the Animal Rights movements attack on Swedish farms. Nina had to clarify her posting *Eat Pork* for dissatisfied readers with opposing opinions on the meat industry. One comment was especially interesting. Someone invited Nina to his/her own blog instead of "fighting" in the commentary section of Nina's blog. When talking to Nina she says herself that communication tends to become unpleasant rather quickly online even if not really meant to. The overall picture emerging of Nina's use of *ninalarsson.se* blog is that it is framed in a mix of a communicative rational discourse of increasing dialogue with citizens, and a more instrumental purpose of being exposed to as many potential voters as possible though provoking debate with people with diverging opinions. However, when such a debate finally is happening it seems hard to maintain. This could be explained from many different perspectives. I will argue that neither communicative rational dialogue, nor debate with opposing opinions is the main rationale for Nina Larsson when using blogs in her political campaign. Rather something else is going on as I will attend to next.

Talking with Nina about her blogging practices and purposes she underlines the possibility for her to put forward her own version in her own media channels. Researchers have discussed whether the Internet contributes with ways for politicians, and others, to circumvent the media logic that established and commercial offline-media have set up (see Altheide, 2004). For this purpose, circumventing offline-media, it is hardly the interactive potential of blogging that is underlined. Rather the blog gives Nina a possibility to use another channel she has greater control over than established media channels, in order to communicate with her voters. Whether this use circumvents the media logic of established media channels might be argued against (see Schweitzer, 2010). Studying the postings on *ninalarsson.se* it seems Nina rather uses the blog to

position herself in relation to traditional media, whose stories and angles she has no influence over, not to circumvent traditional offline media channels. For example in one posting she comments an investigative journalistic TV show scrutinizing the presence of MPs during voting. She was mentioned as one politician being absent at many parliamentary votes. In another posting she comments the editorial of leading national newspaper. In this way established media channels are setting the agenda for her blog posting practice. More than 60 percent of the postings on ninalarsson.se refer to media texts initially broadcasted offline. These postings either comments on or spreads texts initiated in traditional offline media. If Nina for example writes a debate article in a daily newspaper, or appear on TV or Radio, this will almost automatically generate a blog posting often linking to the original appearance. In this way the blog is used like an amplifier of selected offline media texts. Communicating and disseminating the media appearances of her in the role of a politician appears to be an important part of her blogging practice. In an identity negotiating digital late modernity it seems like the increasing information noise in the main part consists of puffs, links and reinforcements of already, on traditional media channels, published texts.

It is not only her own appearances in established offline media that generates blog postings. She also links to, and comments on, current news stories and other politicians debate articles. Being liberal is a salient part of her political identity. Her postings and comments thus cannot be separated from the politics of the Liberal Party. Ninalarsson.se is also largely used to promote the Liberal Party, to reinforce the political messages that other Liberals have been communicating in both offline media, as well as on their blogs and social media platforms. A virtual patting the backs of fellow party comrades seems to take place in form of multiplying and commending each others appearances. Measuring the links in and out of ninalarsson.se to other blogs, up to 90 percent were to, and came from, other liberal party members. This illustrates the kind of network individualsim Castells (2001, pp. 122-125) is writing about. It seems that it is important for Nina to connect her political persona to other liberals in her network through linking to and commenting on each others blog postings.

The use of ninalarsson.se and its purpose seems more to deal with negotiating the image of her as a politician. Contrary to Sey & Castells (2004, p. 366) who writes that it is more difficult for politicians to control the information flow on so-called social media, I argue this is precisely the reason why Larsson is blogging (see also Zafiroopoulos & Vrana, 2009). And it is not primarily the information she seeks to monitor, rather the image of her self as a politician, her political identity. In this way she uses ninalarsson.se to put forward her versions of stories being discussed in newspapers and TV shows, promote own media appearances and those of fellow party members. Ninalarsson.se does seem to be in a communication network where traditional media channels are part as important nodes. My conclusion is that it is the expression and negotiation of the politician Nina that is in the foreground for her blogging practice. This becomes even more obvious when studying the other blog on the regional newspaper VF (Värmlands Folkblad) as I will attend to next.

The postings on the VF blog are more private in its character compared to ninalarsson.se. The postings do not address political matters as directly as on ninalarsson.se. Instead her postings are more connected to her feelings about her life and job as a politician, and also to some parts of her private life (she consciously chose not to write anything about her boyfriend and family). According to Gunnar Bark at *Hello Clarice* the strategy for the VF blog is for the reader to get to know Nina on a more private level, in contrast to ninalarsson.se, which is more used to express political views, discuss and inform debates. According to Gunnar the VF blog reader should more easily embrace Nina as person, through shorter postings and more pictures. A posting that Gunnar think is great is the one below.

Stort!

2009-11-10 11:04 skrev [Nina Larsson](#)



Känns alltid lika stort att komma gående från centralen på tisdagmorgnar och passera riksdagsvalven! Tänk att jag fått möjligheten till detta! 😊

[2](#) | [Kommentarer \(0 + 0\)](#)

**Figure 1. From the [blogg.vf.se/ninalarsson](http://blogg.vf.se/ninalarsson), 2009-11-10. “Big! - It always feels big to come walking from the central train station on Tuesday mornings and pass through the vaults at the Parliament! Imagine that I get the possibility to do this ☺”**

Gunnar explains that what makes this a great posting is that Nina “steps out of her role as a politician and is just Nina”. The individualization of politics is illustrated here, how important it is for a politician to also show off his or her personality. Nina herself defines a good posting on the VF blog if she succeeded with a good picture of an exiting meeting, or an entertaining story. The pictures are central in the VF blog and are of more private and home recorded cell phone character, reinforcing an image of Nina as an ordinary person rather than the professional politician she really is.

The more intimate tone on the VF blog allows Nina to develop a more personal relationship to her readers, but also to control and monitor her political persona. Nina says that the image she wants transmit on the VF blog is as an engaged and hardworking, both at work and at home. In other words she is negotiating her identity as a politician. This is about a form of impression management/ monitoring (see Donath & boyd, 2004) or expressive rationality (see Svensson, 2008b & 2011) where identity negotiation is at the foreground for the political expressions that take place on the blogs she uses. Another example is when Nina is putting a picture on herself fixing the floor in her apartment.

## Mattläggning

2009-11-29 21:34 skrev [Nina Larsson](#)



Hej å hå, helgen har ägnats åt golvläggning.. tröttsamt, men det blev rätt så bra!

[Okategoriserad](#)

**Figure 2. From [blogg.vf.se/ninalarsson](http://blogg.vf.se/ninalarsson), 2009-11-29. “Carpet Laying - Hi and ho, the weekend was devoted to laying floors.. tiring but the result was pretty good”**

Nina explains that with the above picture she wants to combat the image of a politician that “just sits and drink cocktails and lives the highlife taking cabs everywhere”. It is obvious that Nina has worked out strategies for the information that she presents, even the personal, which is in line with late modern individualization and the personification of politics that goes along with it.

In conclusion, Nina uses her to blogs mostly for the purpose of negotiating and monitoring her political persona, to control the image that is broadcasted of her in established media. Readers may comment on the postings that Nina chose to put on the agenda (her blogs), but they hardly have any influence over this agenda. The strategic purpose to stand out and be seen through provoking debate is not compatible with striving for consensus through deliberation. Debate does not take place at great length on the blogs she uses. Rather, observing the exchanges I witness calm and friendly exchanges between what seems to be a rather familiar and party political network. This rather points towards an expressive use of blogs, to negotiate herself as a politician through amplifying the messages and the performances she has participated in herself on other media channels, comment on current affairs and not least to tie her political identity to other liberals.

## 5. Concluding Remarks

Some argue that the Internet will involve more and more citizens in an ongoing debate about political issues in many areas, not only during the weeks the campaign lasts (Turiera-Puigbò, 2009, p. 18; Gerodimos & Ward, 2007, p. 119). Certainly Nina's blogging practices indicates a trend towards the constant campaign, but perhaps even her blogging practice indicates the ongoing and constant identity negotiation. In digital late modernity, it is through the use of technology/communicating on social networking sites online that our identity will be expressed, negotiated and manifested. The negotiation of Nina as a Liberal Party politician seems to be in the forefront of her use of blogs before the 2010 elections. At the same time Nina make use of both communicative rational, as well as instrumental, discourse in order to understand and make her blogging practices meaningful. I argue however that expressive rationality should not be set aside for studying and understanding political practices even though the practices are more often explicitly framed in a

deliberative discourse of communicative rationality or motivated by instrumental goals. I hope this paper has showed that discussing rationalities, also from an expressive perspective, can be useful for understanding political blogging practices before elections in a digitalized and late modern society.

So what happened to Nina after the elections? Nina Larsson was not immediately re-elected by the Värmland voters 2010, but eventually she got to keep her seat in the parliament due to a so-called adjustment mandate (my translation; utjämningsmandat) that was awarded the Liberal Party in the Värmland constituency. After the elections she was also promoted to the Liberal's Party Secretary since her predecessor was appointed Minister for Integration in the new government.

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# Fostering eGovernment as State Social Responsibility (SSR).

*Case Study of an Australian City Council*

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**Abstract:** *Citizen-apathy towards the governments is a concern now more than ever that democracies are facing across the world. eGovernment is certainly a platform to enable citizens regain the confidence and faith in democratic processes. There are voices stressing the need to understand the stakeholders, their involvement, the relationships and responsibilities of governments in eGovernance. This paper presents findings of the study conducted in an Australian City Council for putting the city council on City e-readiness plank to initiate subsequent e-Government activities. We propose the idea of 'Centrality of Citizens' in context of eGovernment. We further develop the concept of deeming eGovernment as 'State Social Responsibility' (SSR) (Karna, 2010) by governments at all levels*

**Keywords:** *State Social Responsibility, eGovernment, Citizen-Stakeholder, Citizen-Customer, Stakeholder Networking, Holistic Globalization, ISO26000, Corporate Social Responsibility*

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**T**he concept of e-government is a reality now. It is here to stay and will only grow further and will mature with each passing day. As per UN Global eGovernment Readiness Report (2005) governments are at different levels of delivering eGovernment services. As some developed countries are migrating from eGovernment to iGovernment 'Internet Connected Government', some States are in the transactional phase of eGovernment and still others are at the initial phase of eGovernment, with static website delivering very few services online. Sweden is a leader in eReadiness followed by US (as per the report) and only 2% of the States lack online presence. Discussions and debates are happening across world on hurdles and challenges being faced or envisaged. Certainly, the journey will not be simple and easy because, there would be no universal fit. Each State will have to arrive at its own appropriate fit taking into consideration the socio-economic-cultural-political-diversity mix and infrastructural & technological capabilities. UN eGovernment Survey (2008) looked at the movement from eGovernment to connected governance from the perspective of how governments manage and how they should manage their back office processes to establish themselves as connected governments with citizens and other

stakeholders. The latest UN eGovernment Survey (2010) spelt out that, “The value of e-government will increasingly be defined by its contribution to development for all. Citizen-centricity, inclusiveness, connected government, universal access and use of new technologies such as mobile devices are the benchmarks against which electronic and other innovative forms of public service delivery will be assessed”.

The motivations for eGovernment are many. Speed, wider reach, increase in transparency and accountability of the office bearers, cost efficiency and effective, convenient way of delivering services to the citizens are few of many reasons. No doubt all this is hugely being facilitated by advancements in Information and Communication Technology (ICT), and availability of that technology for eGovernment work. Moreover, citizen-apathy towards the governments is a challenge that democracies are facing across the world. It is viewed that movement towards eGovernment will increase civic-involvement leading to social inclusion and active citizen-participation, alleviating citizen apathy.

We aim to i) further develop the concept of deeming eGovernment as State Social Responsibility (SSR) (Karna, 2010) and ii) propose the idea of ‘*Centrality of Citizen*’ as key to success of eGovernment implementation in a democratic set-up.

## 1. Framework on eGovernment

United Nations E-Government Global E-Readiness report (2005) defined eGovernment as, ‘The use of information and communication Technologies (ICT) and its application by the government for the provision of information and basic public services to the people’. This definition clearly emphasizes the extensive use of ICT in making information and services available to the people at all levels of a State. The American Society for Public Administration (2008) defined eGovernment as, ‘The governance practice that includes the use of all information and communication technologies, from fax machines to wireless palm pilots, to facilitate the daily administration of government’. Hence, like eCommerce, the popular interpretation of eGovernment is the one that defines it exclusively as an Internet driven activity. But, ASPA goes a step further and makes it clear that – ‘eGovernment improves citizen access to government information, services and expertise to ensure citizen participation in, and satisfaction with the government processes. It is a permanent commitment by government to improving the relationship between the private citizen and the public sector through enhanced, cost-effective and efficient delivery of services information and knowledge. It is the practical realization of the best that government has to offer to the citizens’. It is clear that role of ICT is that of a facilitator, but still it is an important element, as the availability of ICT and its cost efficiency will have defining effect on the entire pursuit of eGovernment.

Similar elements are considered by Seifert & Chung (2009), but they bring-in spirit-of-democracy into the ambit of eGovernment, when they define eGovernment as a combination of two key elements i) Improvements in provisions of governmental service quality and cost reductions in the administration through ICTs ii) Inclusion of more social dimension of participatory eDemocracy, such as on-line voting and fostering greater social inclusion through eCommunity involvement. The definition by Groznik (2008) delves further, and addresses various key aspects of democracy, which should be upheld under all conditions by everyone (more so by Democracies). These aspects are: Enhanced expression of democratic values, Greater inclusiveness and say of people in State’s governance, and citizen empowerment. They define eGovernment as ‘The intensive or generalized use of information technologies in government for the provision of public services, the improvement of managerial effectiveness and promotion of democratic values and mechanisms’. Mcloughlin & Comford (2006) looked at e-Government as a programme of transformation, which implies changes in structures, processes, working practices and corporate

cultures, thereby having a bearing on everybody involved with the local government. These include elected members, staff and, of course, citizens and local business in their various dealings with the local authorities and requiring extensive partnership to coordinate and join service providers for effective co-ordination with national departments and agencies.

Further, the role of meaningware in political participation and concept of citizenship in digital age with their implications for Political (and Social) Science are also being discussed (Brady and Reuben, 2010).

Thus, review of existing literature makes it very clear that, eGovernance and eGovernment not only have technical implications, but they also have far reaching social, cultural, political and economic implications for countries as well as organizations. This makes it imperative, that countries critically assess their eReadiness before embarking on the journey of eGovernment. Once embarked, 'Roll back' may not be a possibility. After over a decade of active consideration, adoption and adaption, many countries have made their foray, the early movers being USA, Sweden, Canada, Australia and New Zealand. Service delivery through electronic means (eService), (Internet being the most used tool), has taken a center-stage at all levels of governments, more so at local authority. All over the world, city (municipal) councils are becoming usually the first points of citizen contact, reach and interaction.

We are of the opinion that governments will have to think beyond ICT deployment. They will have to examine prevailing management systems, work processes, hierarchy/structure, culture, stakeholders and then develop a consensual strategy for active citizenship, participation and partnership with stakeholders (employees, citizens, NPOs, businesses etc.) while encouraging networking among stakeholders, at all levels. Partnering with local community is essential to encourage active citizen-participation and civic engagement.

In the following section, we build upon the concept of State Social Responsibility (Karna, 2010) and propose the idea of 'Centrality of Citizens' in eGovernment. eGovernment fostered with SSR zeal will garner greater support from civic users. Implications of these perspectives for the entire process of eGovernment are also discussed.

## 2. Conceptual Framework of State Social Responsibility (SSR)

As per ISO 26000, International Standard on Social Responsibility of organizations takes into its ambit many important aspects: Responsibility of an organization for the impacts of its decisions and activities on society and the environment, Transparent and ethical behavior, Sustainable development, Respecting stakeholder interests, Compliance with applicable law, Respect human right and integrate Social responsibility throughout the organization. As is evident from these aspects, a government ministry or institution involved in the process of eGovernment has to incorporate all the above, in order to act in a socially responsible manner.

This complexity demands that respective governments and democracies should look at the domain of eGovernment as State Social Responsibility. This idea of fostering eGovernment as State Social Responsibility (SSR) was first proposed and coined by Karna (2010). Skill and will to share the power of decision making with citizen-customers and other stakeholders, such as NGOs and NPOs, through eGovernment forms foundation of the concept of SSR. Skill should include technological capabilities along with managerial competencies.

We opine that eGovernment can not only be technology intensive, but will also demand greater transaction, interaction, sensitization of governments and will to share power. It is suggested that social scientists, civil societies and citizens be directly involved, not only in understanding the City e-readiness levels, but also in generating awareness to understand the problems and challenges, and estimating the resources required and balancing them with the resources available. UN Global

eGovernment Readiness Report, (2005) provides guidelines on accessibility and social inclusion by way of providing access to disadvantaged groups, supporting ICTs use for socio-economic development and promoting social cohesion and consensus on socially inclusive approaches. The report also highlights the great potential of ICTs for eGovernment in reducing gender access-divide. The report states that ICTs can help women enhance economic and social empowerment and greater political participation.

Moreover, as cited earlier in the paper, eGovernment has to uphold the basic values of democracy, which means that entire endeavour has to be with a mission of SSR. Initiation and implementation of eGovernment project at local body levels per se does not usher-in SSR, but by constant education, motivation and encouraging networking amongst citizens and all other stakeholders in the community, it is observed to increase the usage of online government services and participation in democratic processes actively (Karna, 2010a).

Looking at the complexity involved in conceptualization of eGovernment and issues being raised by researchers and practitioners, it can be very well understood that if progress towards eGovernment is made with zeal of State Social Responsibility (SSR), then there is tremendous potential for eGovernment to succeed and advance its maturity into Politically Participatory eDemocracy. Potentially, SSR provides the very quintessential foundation for interplay of varied socio-political, technological, economic and ethical concerns and aspirations of people in a country, and countries across the globe. The fervor of SSR is important in eGovernment because citizens are emerging as most important entity in the entire conceptualization and implementation of eGovernment. Elliman et al (2007) are of the view that growth and development in the relationship between government bodies and the citizens would define the future trajectory of this domain. Das et al (2008) in their work tested the relationship between eGovernment and trust and suggested that e-government can potentially impact the development of open source software, because open source software lies in public domain, and in order for the society to adopt it, there needs to be a higher level of trust. Williamson (2010) emphasizes empowerment of citizens in eGovernment, wherein they have the ability to influence and affect public policy and diversity of opinions & where knowledge is valued. Hacker et al (2009), acknowledge the existence of 'Digital Divides' and how the inequalities of participation in network society governmental systems can affect the extent of individuals' empowerment and disempowerment within those systems. According to them there is likelihood of Digital Divide gaps contributing to structural inequalities in political participation. They further opine, 'These inequalities work against democracy and political empowerment for some people, while at the same time producing expanded opportunities of political participation for others. This raises concerns as to who benefits the most from electronic government in emerging network societies'

UN (2005, 2008, 2010) provides practical framework and guidance for eParticipation, as follows:

**E-Information:** *Government websites provide information on policies and programs, budgets, laws and regulations; along with other briefs on key public interest. Tools for broadcasting of information are available for timely access and use of public information, including web forums, email lists, newsgroups, and chat rooms.*

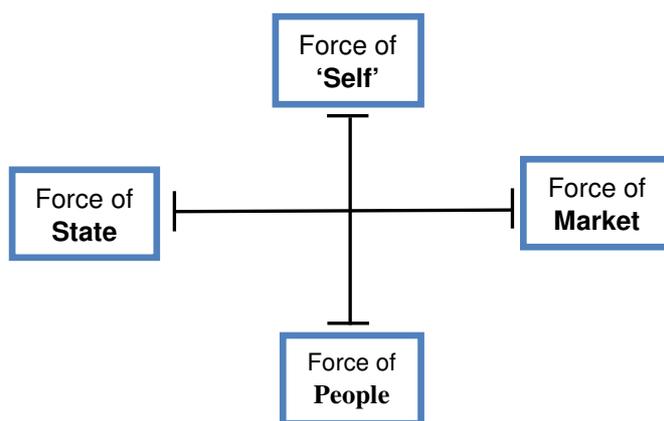
**E-Consultation:** *The government website explains ways and means of e-consultation and tools, while offering choice of public policy topics online for discussion with real time and archived access to audio and video of public meetings. The government encourages citizens to participate in discussions.*

**E-Decision-making:** *The government informs that, it will take citizen input into decision-making, while undertaking to provide actual feedback on the outcome of specific issues.*

Linhart and Papp (2010) suggested 'Echo' as a novel approach to turn eParticipation into a politically mature and active citizenship, thereby bridging the gap between bottom-up and top-down eParticipation approaches.

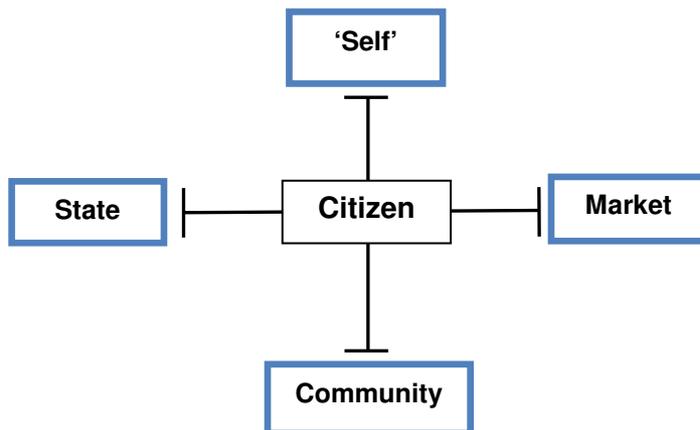
Lim et al (2007) provide a stakeholder dimension to eGovernment against the backdrop of strategic orientation of control and collaboration management philosophy. Their study looked at eGovernment from three critical aspects of Stakeholder Management i.e. Identification of stakeholders, Recognition of dissimilar interests within stakeholders and Ways and means of an organization catering to and furthering interests of these groups. Wong et al (2007) also argue similarly that there is an urgent responsibility for government to involve stakeholders in driving eGovernance through eGovernment and ICT forward at local, state, national and international levels, for societal as well as economic benefits. Brady & Rubens (2010) consider ethical dimension of information exchange as important in this impending paradigm shift.

Seeing the emerging presence of eGovernment, experts and scholars see awareness generation and involvement of people in the process of eGovernment as crucial. It is clear that Citizen holds key position. 'Four global forces' suggested in context of 'Holistic Globalization Model' by Dr. Sharma (2007) are very much relevant in understanding the 'Centrality of Citizens' to the concept and purpose of eGovernment. Dr. Sharma opines that Force of Market, Force of State, Force of People and Force of Self are always in dynamic interaction with each other, and when these forces are in harmony, there is synergy (Fig.1).



**Fig. 1: Model of Holistic Globalization (Source: Sharma S.[24] , 'Beyond Pyramid and Pyramid Thinking: Pyramid vs Coconut model of Thinking')**

In light of above discussion, we propose that 'Citizen' be considered as center of these forces (Fig. 2). This placement of citizen at the center provides direction to the planners and implementers to work for complete success of eGovernment in any country or economy.



**Fig. 2: 'Citizen' placed at the Centre of 'Model of Holistic Globalization'**

On doing so, the Citizen is a Primary Driver and will have 4 expressions – 'Customer' in the context of Market, will be a 'Rightful Owner' in context of the State, 'Primary Stakeholder' in context of Community and 'Enlightened Individual' in context of Higher Self, with all elements of four forces dynamically interacting with each other; and conscious efforts and interventions being made to strike a balance among all the forces and elements.

Having elaborated on deeming eGovernment as SSR and 'Centrality of Citizen', as a key aspect in eGovernment, the paper further focuses on these aspects in relation to Australian City Council for putting the city council on City e-readiness plank to initiate subsequent e-Government phases for moving towards a fully transactional and relational eDemocracy stage in Australia.

### 3. eGovernment and Australian Perspective

Australia has 721 local government bodies. During year 2010, Australia implemented its e-Government plans as Data Centre Strategy (Australian Government Data Center Strategy (2010), through Ministry of Finance and Deregulation, for the purpose of providing Data Storage facility for the ICT industry. All agencies under the Finance Ministry and Accountability Act (FMA) support most government programs that deliver services to citizens and businesses. This Strategy caters to future data centre requirements with initiatives and actions to achieve \$1 billion savings in costs and to build up infrastructure for ICT industry for the next 10-15 years in taking Australia to top position in the world ranking for e-readiness and e-Governance. The most strategic initiative for taking e-Government forward in Australia was the National Office of Information Economy (NOIE), by providing leadership on the whole gamut of government information management strategies from overseeing policy, to defining specifications and offering guidelines for fresh initiatives. Economist's latest annual global E-Readiness Rankings (2009), ranked Australia at fourth place among the top ten, after the US, Hong Kong and the Netherlands. Less e-participation from citizens is an immediate challenge for Australia similar to all other countries, probably due to lack of direct, online consultation by governments at various levels coupled with a weak presence of elected representatives and political parties online (Bruns and Wilson, 2009). This trend calls for steps on war footing basis with an increasing trend in net savvy citizens networking among themselves to portray government lacunae with location independence and demand for transparency. Lack of Trust on Internet is a definite major factor for less e-participation as has been observed by other researchers (Colesa and Dobrica, 2009; Das and Burbridge, 2008).

### 3.1. Methodology

A post-hoc analysis of action research and exploratory case study conducted in the City of Plenty (disguised name) is deployed to gauge the extent of city's compliance with the concept of SSR. Given the nature of such a research aim, case study and histories have become a choice of investigation (Yin, 2003). The initial study as a part of in-house process innovation team of business analysts (through action research and exploratory case study) was undertaken to revamp business processes and technology so as to socially include citizen-customers and other stakeholders for encouraging collective social responsibility and leverage collective wisdom. Archival perusal threw light on pre-eGovernment era of this council. Open-ended questionnaire interviews were conducted with employees concerned, with a prior appointment for time and place. Brainstorming sessions, Edward De Bono (1999) workshops preceded interviewing of concerned senior, middle level and front-end staff, top down. The research primarily focused on citizenry, civic community and all other stake holders for their active civic e-participation, social inclusion and social cohesion. The community-inclusive attitude brought this council to what it is today as an innovative one winning many accolades from state and federal governments. The Australian case is interesting because Australia stood at fourth place on Global E-Readiness Rankings (2009). This case allows us to analyze the extent to which, the city eGovernment is marching forward on aspects of stake holder inclusion and active citizen e-participation. The motivation for this research is Paskaleva's (2008) suggestion of examining organization for its hierarchy, processes and culture before, during and after initiation of eGovernment projects.

### 3.2. City of Plenty: Description

'Working together with the community to improve opportunities for the people of Plenty' is the slogan adopted by this council. In Mayor's words –"Ours is the third most culturally diverse municipality in Victoria, we understand how vital that commitment is. We demonstrate it through our 28 programs and plans supporting diversity." In year 2009, the City became one of two municipalities to trial a major three year Victoria Health program called the Localities Embracing and Accepting Diversity (LEAD) Project (2011).

The City is among the fastest growing municipalities in Victoria, with population forecast to double over the next 20 years. There are around 40,000 dwellings with a population of 146000 in the City. The municipality faces the complex and distinctive challenges of balancing the dynamics of urban and rural areas, rapid growth, social disadvantage and high demand for services. The City has one of the most culturally diverse populations, with over 57.3% of residents from Non-English Speaking Backgrounds and has the fourth highest population of indigenous people in metropolitan Melbourne. The City is characterized by pockets of high socio-economic disadvantage, ranking as the fifth most disadvantaged in Australia. It also ranks the third lowest on Melbourne's Index of education and occupation and the sixth lowest on the Index of Urban disadvantage (City of Plenty, 1999).

This city has higher than average number of people aged below 25 years age necessitating the city to generate jobs locally. One third of residents are born overseas with migrants from over 50 countries. 48 percent of residents are from Non English Speaking Backgrounds (NESB). English, Italian, Macedonian, Greek, Arabic and Vietnamese are major spoken languages. Broadly, the council's community can be categorized as: 1) Rate Paying Residents 2) Non-Rate paying Residents.

Rate Paying Residents needed to be reached from view point of Annual Rate Calibration, payment arrangement, rate justification queries, installments, credit card payment mode, rate

assessment depending on family situation etc. With regard to Non-Rate paying Residents all other facilities and considerations given to residents and citizens within city applied.

A deeper segmentation of all residents is: i) Families with Children below 18 years ii) Empty Nests (Couple with grown up children away from home) iii) Pensioners and Senior Citizens (over 65 years age) iv) Non-English Speaking Background residents vi) Latest Immigrants vii) Refugees and Asylum Seekers viii) People With Special Needs (Disabled) ix) Businesses (Real-Estate Developers; Retail Malls, Restaurants etc) x) Non-Profit Organizations, Non-Governmental Organizations and others with interest in the City xi) Employees coming To work (from other city council areas) xii) Visitors and Tourists.

### 3.3. Case Discussion and Analysis

The city of Plenty was an example of a typical traditional municipality before embarking on eGovernment during 1999. The Chief Executive was techno-savvy, supported by a proactive senior management and a pro-community 'elected membership of council', but the organizational structure, culture, middle and lower employees were incompatible to eGovernment project to start with. This was mostly because of employees' perception of another impending 'Golden Handshake' subsequent to the one in 1999. The very first phase of organizational restructuring in 1999 resulted in automation of business processes by way of introducing a centralized Database 'Authority' that was outsourced to a consultant firm. Thus, process-automation preceded process-innovation, which is a common practice in many organizations, on 'Process Innovation Continuum'. Subsequently, from year 2000, the council wisely decided to design and align their business processes in a phased manner, through their own 'In-house Process Innovation' team, organized from within council's expertise (Karna, 2010). This arrangement was aimed at keeping the knowledge and core competence of employees specialized in revising existing processes to devise into citizen-centric processes. The first author, as a part of this team ('Business Analyst Project Officer') witnessed employee resistance initially, which was mitigated by building a personal rapport. In order to design processes, the in-house team in cooperation with the marketing group of the council, analysed and arrived at the tasks of identification and segmentation of stakeholders so as to devise processes amenable to individual citizen groups in community for receiving services electronically through all forms of possible channels of delivery, anytime, anywhere, anyway.

#### 3.3.1. Identification of Crucial Stakeholders

Stake is considered as having interest or share. Crucial stakeholder identification has been considered as inevitable aspect of corporate governance (Carroll, 1989). Other researchers elaborated further to identify strategic shareholders, on whose presence firms survival capability hinges and to channelize corporate resources towards these specific niches of stakeholders (Freeman, 1984). Ultimately the purpose of eGovernment can be served only through eliciting citizen and other stakeholder opinions, active civic-engagement and encouraging dialogue with citizens through a Virtual Socialization Process (Lim et al, 2007). This helps city (through the in-house process teams) to understand reasons for citizen-apathy for devising eGovernment processes and programmes to entice citizen back into public governance and instill trust, morale and confidence. In this process, citizen-stakeholders and non-citizen stakeholders also provide support continuously in co-designing, conceptualizing, implementing, maintaining and strategizing public services as posited by Lim et al (2007). This approach clearly puts apart the democratically elected and represented government bodies to make difference for themselves from commercial applications of stakeholder theory.

The proactive approach of public bodies, such as this municipal council, to reach out to all concerned categories of stakeholders, starting with primary stakeholders (citizens), paved way for moving out of rigid bureaucratic and red-tape oriented process to a citizen-customer centric process of social inclusion. Based on the characteristics of various segments of stakeholders, the city devised various far reaching eGovernment strategies and also encouraged networking of stakeholders among themselves for leveraging their active participation in democratic processes electronically (Lim et al, 2007) which is a reality now as can be observed on council’s portal site.

**3.3.2. Measuring up to Stakeholder Interests and Networking amongst Stakeholders**

Looking from citizen-centric and civic-engagement point of view, the council has provided something for everyone as elaborated on their website portal. The eGovernment initiation strategy of 1999, as depicted in table 1 speaks of establishing interactive and transactive electronic presence by providing electronic channels for improving quality, effectiveness and efficiency of all major services. Universally, rate payments and building plan approvals assume top most priority for rate paying citizen-customers. Our analysis of the council shows that now rates are payable online through a credit card with non-English language, audio/video and Bailey reading assistance coupled with manual assistance over phone or in person at council premises as the case may be in majority spoken languages – Macedonian, Arabic, Italian, Vietnamese, Greek, Turkish along with English. Based on what has been achieved so far since year 2000, the current vision statement 2025 (Council Annual Report, 2011) envisions the council’s accountability of social responsibilities to various segments of citizen-customers and other stakeholders on their web portal.

**Table 1: Objectives and Goals of Electronic Service Delivery (source: City Portal, 2011)**

Objectives	Goals
Establish a city’s interactive and transactive electronic presence for improving quality, effectiveness and efficiency of services	Provide ESD channels for all major council services. Provide electronic channels of communication between community and council. Purchase all goods and services for council electronically. Assess technology areas of video conferencing, virtual reality, interactive voice over telephone, speech recognition and synthesis, public kiosks, handwriting recognition, digital imaging and smart cards for application within council
Continue to develop efficient and effective electronic Internal systems for communication & reporting within council	All relevant staff to be trained on use of authority database. Provide standardized internal processes by electronic means on a business case basis
Provide widespread access of council Internet to community & businesses	Facilitate increased Internet connection by community

**3.3.3. eGovernment and State Social Responsibility (SSR) in City of Plenty**

SSR aspects in City of Plenty are identified and discussed in this section based on original eGovernment strategy document of 1999; against the back drop of what is accomplished so far over a decade of eGovernment initiation as follows:

Civic Engagement (citizen-customers as primary stakeholders along with others with a stake)

1. Funding/ Investment Involved
2. Transparency
3. Accountability
4. Training (internal and external stakeholders)
5. Infrastructure Development for eGovernment
6. Knowledge & Information Dissemination.

**Civic Engagement** through City Community Projects (CCF Projects) has been a tremendous success in considering citizens as primary stakeholders and community in general. The partners in the City of Plenty Community Futures Project are committed to community participation and strengths-based approach to achieve project outcomes and increase the capacity and resilience of the community. In response to this growing demand, the City joined together in a substantial partnership with over 40 human services agencies, community-based organizations and state government departments to deliver the City Community Futures (CCF) Project. The vision of the CCF partnership is to create a connected and inclusive community that shapes its own future achievable through developing innovative service models. Partnering with community, city of Plenty pursued for improved services and facilities for families, children and young people. Since its inception in 2006, CCF has steadily evolved into a strong partnership of multidisciplinary agencies working towards a common goal. The CCF Partnership has earned its reputation as planning and advocacy body of this city Community. Currently, six community partnership groups are supporting the development of six projects. The Senior Citizens Multicultural Program offers a range of events and activities that provide older people with relevant information on opportunities for social interactions.

**Funding** is predominantly from federal eGovernment Projects, State Level Projects and partially from within council. Total contribution of existing manpower towards City eGovernment project from time to time is shouldered by city. The City does not receive adequate levels of funding for many basic services. Increased State and Federal Government investment in social infrastructure and program delivery is needed to achieve a basic level of service provision.

**Transparency** in the area of Customer Service pertaining to Building Planning Permit, the council has after a decade of eGovernment project initiation now provided online progress tracking facility for applicants. Undue delay, if any, caused can now be pinned to the concerned staff member for immediate redressal. Council also introduced online payment provision of rates, parking penalties, pet registration fees, debtor payment and event facility fees. Based on the observations of 'walk-throughs' with citizen-customers and developer- customers (Real Estate), during process redesign, the most delayed process was perceived to be Planning Permit application and approval which is now addressed to with transparency. However, applying electronically and receiving planning permit electronically is the vision of initial eGovernment project that is to be accomplished by the council in near future.

**Accountability** is concerning answerability of government to the public pertaining to its performance (Council Annual Report, 2011). The information and interactivity provided through various news bulletins and links to e-magazines shows the city is more responsive to individual citizen demands and needs. In 2004, a Strategic Plan for Human Service Delivery in the City was developed that was instrumental in identifying the gaps in human service delivery within municipality, as well as identifying unmet community needs and funding disparities between municipality and other municipalities. This Plan was also successful in securing funding for the establishment of the "Community Futures Partnership" - bringing together over 40 key non-

government and government organisations that have a stake in the delivery of services to the city residents. The revised strategy would provide a coordinated 'whole of municipality' approach to the enhancement of community services and facilities in city through cooperative planning, infrastructure, program and policy development and funding.

**People Training** (employees and city's community) could not be given much importance during initial stages of eGovernment. The reason could be attributed to lean and mean manpower status due to an organizational restructuring exercise as already discussed. The golden handshake policy resulted in sending away of existing staff members from various departments and in getting casual staff members on hourly basis. The paradox faced by city was as to who to train when and where to train. Permanent staff were limited and pre-occupied with their basic responsibilities, in some cases even sharing responsibilities of other departments (for example planning officers partly working at Customer Service Desk). Casual staff couldn't be easily deployed for training given their status of temporary tenures. However, over a period the council has put in place regular training for employees in tune with the eGovernment processes as a result of which the city won many awards for their outstanding engagement of community and for innovative ways inviting community participation and social inclusion. For the citizen stakeholders in the city, the council initiated free training 'on the use of broadband for over 1500 residents and 200 businesses in the municipality' to start with.

**Infrastructure development** for eGovernment: The City of Plenty succeeded through their leadership role representing the needs of its community, outer metropolitan areas and the local government sector for installing faster broadband services. Working with industry, Victorian State Government (through 'Vic Urban') and with end users (to ensure their maximum use of the services) the City of Plenty accomplished advanced broadband services for their community. The Victorian State Government installed a fibre to the solution for up to 8000 residents, delivering five play services (phone, internet, FTA TV videos on demand and pay TV) over a 100 megabit link. This council symbolizes Australia's rapid advancing year by year on their innovative strength of enhanced connectivity – in fixed and broad band access (2010).

**Knowledge and Information** dissemination: Increased information is delivered on a regular basis and as a testimony the council publishes city scene e-magazine quarterly; a latest news bulletin, links to various city event information and weather warnings. However, an audio video presentation of council meetings is an expected information to be delivered online similar to councils in Europe, who are close to reach participatory democracy level (from Web Presence to Interaction to Transaction to Transformation to final stage of e-democracy of political participation on the evolutionary '5 Stage Maturity Model' (Siaou and Long, 2005). All these modes of information dissemination in real time empowers citizens to develop more proximity to council to access information for witnessing the transparency and judging city's performance (Wong, 2004). In late 2008, the Australian Federal Government's Department of Broadband Communication, and the Digital Economy (DBCDE) introduced their 'Digital Economy Consultation Blog. City of Plenty is one of 40 per cent of Australian local councils with online citizen feedback provision through their websites. All other municipalities are under duress from citizen-customers and other stake holders to provide eGovernment service delivery on par with eCommerce in other walks of life (O'Toole,2007).

#### 4. Conclusion

We observe that beginning the journey as early as 1999, this city council's momentum to evolve into a full-fledged politically-participatory eDemocracy, has been continuous. The council is partnering with primary stake holders i.e. citizens, businesses and other civic groups within the community in a segmented manner to reach out according to their needs of multi cultural, varied

income households and age groups. The initial static website of 1999 with only Web Presence has now evolved into a portal with audio/video facility for disabled and multi lingual civic community. This council stays now at Transaction stage of eGovernment maturity i.e. above mid-level, heading towards politically participatory eDemocracy stage. Hence, it may be very well seen that fervor of 'State Social Responsibility' in eGovernment evolution and 'Centrality of Citizen' (balancing four dimensions of Citizen) are contributing to the successful and evolutionary maturity of eGovernment in this city council in Australia. This council, despite its small size in geography and population is poised to become a model for other councils to emulate. Our study clearly shows that deeming eGovernment as SSR with Centrality of Citizen determines the successful maturity of any eGovernment initiative to evolve into wholly-politically-participatory eDemocracy stage.

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# Local Government and Social Networking Technologies in Germany: The Example of Twitter

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**Abstract:** *On local level the media expansion provides new media formats with low transaction cost. This fosters their innovative deployment by public governments. The development is new and first field trials evolve. This paper analyzes the use of Twitter by the City of Duisburg, Germany, from May to October 2009. Beginning as a niche phenomenon it became a persistent approach to better inform citizens about their city. This is a step forward towards open participative government. Twitter did not become a prominent application claiming an important role as the voice of the city government. But for its users it is easy to access and offers the option of being concurrently informed about the daily local events nearly in real-time. The messages are presented similar to short headlines of a ticker service. It is neither a local encyclopedia nor an official megaphone of governmental information. It belongs to the genre of infotainment media. In addition to other new evolving social networking applications it forms a local media arena which should be actively shaped by government and citizen and democratically controlled.*

**Keywords:** Social networking technology, local political communication, local government and media, open government, participative government, Twitter

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**S**ocial networking technologies evolve in local public administrations in Germany. Since the last years we realize a media expansion caused by the innovative use of the Internet. Media formats appeared like blogs, audio-podcasts, video-podcasts, city portals of the municipalities, city wikis, Twitter and other social network applications. They expanded the existing mass media formats like print press, radio and TV (Mambrey & Dörr 2009). The awareness of the new media formats especially by the younger generations and the time for media use is expanding as well (Sarcinelli 2008). In Germany this meets an innovative understanding by parts of the local public administration including elected local politicians about their services and their role and relation to the citizens. In this paper we will use the term “government” including the administrative and political bodies on local municipal level. Besides the well known EGovernment goals to enhance the internal efficacy and efficiency of the public administration through online tools and applications, online services for the citizens are currently discussed, which follow the guiding vision of the “participative administration”. This requires a new and different way of media use connecting

local governments and citizens by new communication formats. Usually citizens actively address the government for special purposes (documents, information, taxes etc.). Traditionally governments react to citizens' requests. Thus most of the actions by local governments are externally triggered or prescribed by law. Currently this is augmented by a new pro-active understanding of governments' roles and services. Governments inform their citizens pro-actively and – as a second step – try to involve them into the local opinion building and planning processes not only for democratic reasons but also functional reasons. Governments will need the local expertise and perspectives of and assistance by the citizens if they want to fulfill their tasks with fewer employees facing the demographic change and smaller financial budgets.

## **1. Participative Government and the Deployment of Social Networking Technologies as Objectives of Practical Experiences**

As a new strategy Governments on local level try to involve citizens and economy in a multi-lateral communication flow thus inducing a local public communication space. These public communication spaces serve as a public information pool for the local community as a whole. This goes beyond the use of local news papers, radio or TV as a broadcasting device of the government or the proposition of municipal web portals to the citizens which currently are the common practice in Germany. New social networking technologies include offers of information providing, of communication, of consultation and community knowledge building (Chadwick 2006). This opens a new dimension of the citizen-government communication.

Participative government aims at strengthening the citizens online as well as offline and integrates them as partners in the local opinion building process (see Kubicek et al. 2007; OECD 2007). The participation in opinion building often results in demands by the citizens to participate in the local decision making process as well and thus brings direct democratic elements into the representative decision making on local level. Concurrent with the media expansion new goals have emerged: Viral marketing, crowd sourcing, identity management, social networking, new production of services, new forms of legitimization etc. They aim at new practices in social, economical and political life. For the political sphere Beth Simone Noveck foresees a socio-technical development towards a "Wiki Government". She subtitles it with the question, how technology can make government better, democracy stronger, and citizens more powerful (Noveck 2009). Despite the lot of buzz words, hype and socio-technical forecasts, new forms of political communication between administration and citizens are not only predicted but in prototype versions experienced in daily practice (Habel & Huber 2008).

It is unpredictable now if "participative government" will be a sustainable guiding vision. At the moment there is a discussion in German public media (BehördenSpiegel 2009; Der Spiegel 2010) about the options and risks of new communication formats providing openness and accountability of governmental planning and decision making. This was fuelled by citizens' protests against new traffic infrastructures like the billion Euro project of the new station building in Stuttgart or the transport of nuclear waste on rails through Germany. An innovative perspective about citizen involvement in governmental planning was formulated by the representative for EGovernment and IT of the federal state of Brandenburg. According to him, participative government fosters the collaboration of citizens and enterprises with the government to design, publicly evaluate, and execute governmental tasks. But he sees a clear distinction to EParticipation which aims at political codetermination and decision-making. Without this distinction the general assumption can be evoked, that government invites for expanded codetermination in their local decision making. But decision making this is the exclusive task of the elected, representative bodies. The current discussion of the guiding vision of participative government focuses on the transparency and

responsiveness during planning and decision-making processes and the responsibility and legitimacy of governmental actions (Everding 2010). This position enhances the representative system which is dominant for German governments. Citizens' activists aim at codetermination and more influence on governmental decision-making pursuing a direct democratic position. This goes beyond collaboration and consultation (Der Spiegel 2010; Die Zeit 2010), which is claimed by government.

The use of the Internet as the infrastructure for their daily work is still an organizational and socio-technical test-bed of the local government. Until now there are no fixed common rules and regulations for the personal use of the Internet in German local governments. Most of the institutions forbid the non-official, personal use of the Internet but accept this without prosecution. Until now German governments use the options of the Internet reluctantly and cautiously (BehördenSpiegel 2009) although guidelines and best practices as templates exist. They inform local governments how to use new media efficiently to provide better and new services online for the citizens (BITKOM 2009). These guidelines encourage not only the use of social networking technologies. They claim new organizational structures and ways of working for the government according to the guiding visions like transparency, accountability, feedback, benchmark of services, peer review, bottom-up activities. These guiding visions are in contrast to the traditional hierarchical weberian organization and demand a new governmental culture. Some cities like Frankfurt, Cologne, Munic or Duisburg have started to deploy social networking technologies for their external communication towards the public. But these are trials at an early stage and it is unsecure if they become sustainable communication formats or will remain as prototypes with a short life-cycle. In Germany several outdated video-podcasts of city mayors are available online. They are online data ruins and not vivid virtual presentations of the governments' leading representatives. There are successful as well as unsuccessful experiments of new formats of political communication visible in the Internet. But all point into the direction towards a new local political communication culture which is based on multi-channel communication formats - offline and online - and an expanding variety of applications.

Evaluating new media formats four main goals could be addressed:

- They can provide better transparency for the citizens about governmental activities, decisions and plans and thus achieve more input legitimacy for the local political system (Luhmann 1969).
- They can provide a feedback-channel for citizens' expertise and perspectives into governmental decisions making them more precise, local and citizen oriented and providing output legitimacy for the political system (Scharpf 2007).
- They can provide an active identity management tool for positive public relations and advertisement. The self-presentation of the cities can lead to the requested impressions by others. This can be actively manipulated (Mummendey 1995).
- They can provide new ways of networking by actively linking and naming persons, organizations and activities to foster collaboration and participation. This can enhance direct democratic influences on decision making.

On the long run risks exist like the erosion of the representative system, opaque lobbying, and the pressure of minority groups which can articulate their specific interests. This can threaten the formulation of the local common good (Mambrey & Dörr 2009).

One possible methodological way to gain more knowledge about these ongoing processes is theoretical reflection and discussion. The other way is to document and analyze those field trials which are currently practiced on local level although knowing that a generalization is not possible. But heuristic findings can provide better insight to existing options and pitfalls and help to better understand and plan new ways of political communication on local level.

This leads us to our research interest: In this paper we want to analyze the social networking application “Twitter” in its practical use by a local government. We choose the Twitter experiment of the City of Duisburg, one of few local government experiments in 2009. Duisburg is the place of our University, so that we could put the messages into a well-known context. The city government of Duisburg fosters the development of different coexisting media formats similar to other bigger cities in Germany. We assume that this development of coexisting media formats on local level will lead towards a local socio-political resonance arena which shapes the local culture and identity beyond the impact of TV, radio and print press. Until now there are no empirical or theoretical studies to analyze the rising phenomenon of the growing media expansion on local level and its impact on the local political and social culture. The mainstream of media research and its political effects is drawn towards campaigning and its impact on elections (learning from Obama). Nevertheless political culture is also shaped by the day-to-day talks with family, friends and colleagues and the perception of the physical and virtual presence of the local world. And this world is spanned and shaped by the different coexisting media formats. They re-present daily experiences and produce redundancy as well as different perspectives thus providing a complex information and communication arena on local level. They co-create local impressions and identities.

We started to analyze this local socio-political resonance arena step-by-step because of limited resources. In summer 2009 several new media formats coexisted in Duisburg fostered by the local government and its organizations:

- The official city portal of the municipality: [www.duisburg.de](http://www.duisburg.de)
- Twitter (“Duisburg\_de”): [http://twitter.com/duisburg\\_de](http://twitter.com/duisburg_de)
- Facebook (Account „Stadt Duisburg“): <http://www.facebook.com/duisburg.de>
- NetVibez (Account “Duisburg\_de”): [http://www.netvibes.com/duisburg\\_de#Newsroom Duisburg](http://www.netvibes.com/duisburg_de#Newsroom_Duisburg)
- YouTube (Channel „StadtDuisburg“): <http://www.youtube.com/user/StadtDuisburg>
- Flickr (Account “Stadt duisburg“): <http://www.flickr.com/photos/stadtduisburg/>

All these new media formats added the existing media space historically spanned by print press, TV and radio. Nowadays these media formats coexist and co-represent the perspectives and topics of the local social and political world in the city and its region. Further research will evaluate them and their role. Here we want to concentrate on Twitter. First we want to describe Twitter in general then present our methodological approach followed by the results and an outlook.

## 2. Social Networking Technologies: The Application “Twitter”

Twitter is a micro-blogging service which enables the social networking of its users online. “What Are You Doing?” was the initial question and there are many answers to this: Descriptions of the current location, time, surroundings, feelings, emotions, expectations etc. These are short statements belonging to different genres: facts, fictions, satire, humor, irony in all kind of spheres like sports, culture, politics, business, advertisement – anything goes. Twitter is often used like a public personal diary and can be used to spread all kind of messages. Twitter is owned by a private company with over 300 employees. In its self description it is a real-time information network that connects you to the latest information about what you find interesting and compelling. In September 2009, Twitter had over 175 million registered users and 95 million tweets are written daily (Twitter 2010). The web application developed by Jack Dorsey, Evan Williams and Biz Stone is online since 2006 and gained popularity worldwide (Times 2009). Twitter reduces the concept of blogging: The messages called “tweets” are limited to 140 characters. They can be adopted by other users called “twitterer”. Those twitterer who adopted tweets of another user, are called

“follower”. Those twitterer, whose tweets are adopted, are called “friends” and are shown under the category “following”. The tweets of a twitterer are displayed chronologically in his “time line”. The success of twitter can be presumed in the easy access and use by the extreme simplification, which allows the users to create and spread content without programming knowledge and the integration of mobile devices (SMS, UMTS etc.). Everybody who owns an Email address can register themselves under [www.twitter.com](http://www.twitter.com) and send and receive tweets. Several mail programs like Outlook have integrated twitter, so that the users can administer their tweets. There are several descriptions and analyses of Twitter which will further inform those who are interested (e.g. Mischaud 2007; Simon & Bernhardt 2008; Jeners & Mambrey 2010).

### 3. Methodological Approach

Our research aimed at providing a rich picture about the local use of the Twitter application of the Duisburg government. This contains the topics of the tweets (messages), the importance of the Duisburg locality, the author of the messages, the follower of the messages, the origin of the messages, the communicative character of a message e.g. are messages just posted or did communication and interaction evolve. To analyze this we printed out all tweets of the official account of the government in Duisburg from Mai 26, 2009 until end of October 2009 and analyzed them. During this six month term 792 tweets were published. After a first impression we developed an analysis framework which was based on previous research (Mambrey & Doerr 2009) and extracted the data using MSEXcel. The empirical analysis was partially problematic: A tweet could address not just one but different categories. And sometimes it was unclear to which category a tweet belonged to e.g. culture, education, history, leisure or sports. In cases of uncertainty we unanimously decided about the problems. All tweets were written in German. For better understanding we translated some examples into English.

## 4. Results of the analysis

### 4.1. The Locality of the tweets is the leading criteria

All tweets were analyzed to which locality they address. This ranged from “local” to “federal-state” to “federal” until “world-wide”. The results show clearly that the biggest amount of tweets (>95%) address local or regional topics.

Examples are “speed control of the city of Duisburg” or “next week herring festival in Duisburg”. Tweets which addressed federal, European or even world-wide topics were the exemption and if they occurred they referred to a local event as well: “Information about the European elections in Duisburg” or “At Sunday we celebrate the universal children’s day in Duisburg”. As a result we can conclude that the city - respectively regional locality is the single guiding criteria. Other non-local topics simple do not exist in this media format. The customers are not entertained nor educated about world-wide news but informed about strictly local topics.

### 4.2. The internal cross-linking of new media formats creates redundancy and foster awareness

Usually at least one link is given per tweet. This promises those who are interested to get more information about the topic. Often links to other new media formats of the Duisburg government is given. This internal linking (see other Duisburg media formats on page 4) creates redundancy, because the same message is shown but replicated in other words. Published information in one media format is (re-) re-presented in other media formats under the same organizational umbrella. Thus by creating redundancy a local multi-new media arena is achieved which amplifies the topic

and thus can foster the awareness. “Have you seen – the new flickr channel of the city of Duisburg <http://www.flickr.com/photos/stadt-duisburg/>” or “in our newsdesk you can subscribe to the newest press releases...”



Figure 1: Screenshot of the Twitter Account of the city Duisburg, November 6, 2009

### 4.3. Topics addressed in the tweets

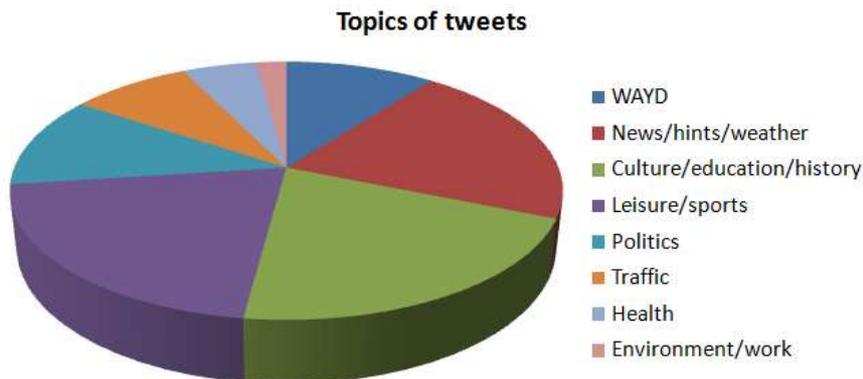
Since 2006 Twitter asks “What are you doing” = **WAYD** but since autumn 2009 this has changed slightly. The new initial question is “What is happening” a turn from personal to more general aspects. The proportion of the Duisburg tweets answering the WAYD question is only 10%, which is very low compared to the studies of other tweets where you find around 50% tweets dealing with this genre (Mischaud 2008; Jeners & Mambrey 2010). But in this case this deviation is easy to explain: Those who write the tweets for the government are not employed to report on their personal life. Their task is to re-present the city and atmosphere of Duisburg: “Good morning Duisburg! The rain has finally stopped! Welcome, sweet sun! And a good start into this week for everybody”.

The Duisburg twitter team presents itself only in a few tweets e.g. after being asked: “to answer your question, who we are: We are the Web team of the city of Duisburg. Being asked they also published their web addresses where more information is given about them personally: “Online journalists, technology aficionados, networkers, Web 2.0 addicted”. During the time span of our research this happened only once. They see their task in re-presenting Duisburg topics and not their personalities. They are professionals which do not claim anonymity but do not perform a personality show either comparable like an anchor journalist in TV.

Most of the tweets publish information which is typical for a citizen oriented service: **Local information about news, practical hints, the weather** e.g. (ca. 20%). An example for news: “On the place in front of the city hall a meeting takes place immediately to protest against the situation in the kindergarten. Take care, the parking lots are closed”. Here real time information is given of what currently happens in the city. This is different to the reports of events of the past day like the print press delivers daily. An example of practical hints is: “Excellent web site about health prevention see #Gesundheitsvorsorge”. An example of local weather forecast is: “Good morning Duisburg! The weather should stay as it is. But in the afternoon it will change to worse”. This is

typical for a tweet as a mixture between serious information and entertainment. Infotainment helps to raise awareness and keep the users interested in the Twitter news.

Approximately the same amount of tweets (ca. 20%) deal with **culture, education and history**. “The new Weblog of the Philharmonic Orchestra is online <http://...>”. – “From the dug-out to the container ship – time travelling through the history of navigation <http://...>”. Around 20% of the tweets deal with **leisure, sports and bigger events**: “Today no flea market at the Mühlenweide in Duisburg Ruhrort!!!”. Or:” The new cyclist calendar for August is available now. Enjoy the cycling! <http://...>”



**Figure 2: Topics of tweets in percent May to October 2009**

Those three genres (news, culture and leisure) contain nearly 60% of the tweets. They present the majority of the tweets and thus characterize what the twitter team delivers to their customers: Nearly real-time unspectacular information about the direct neighborhood. The remaining 40% of the tweets belong to different genres like **politics** (11%) “Live democracy - go voting! New online services for the municipal election 2009 can be found here <http://...>” – “All results of the election for the Bundestag are available here: <http://...>”. **Traffic** is the next important topic (8%). “Duisburg-Wanheimerort: Police roadblock of the Neuenhofstraße <http://...>”. This is followed by **health** (5%) “The day of the dental health 2009: Take care of your teeth <http://...>”. **Environmental topics** as well as **working life or social affairs** together present 6% of the total tweets.

This result is a snapshot of what was presented by the twitter team of the Duisburg government in the time period of our research. It is problematic to generalize the relation of the topics to each other because of the timely dependence of the tweets to current events. In this time frame two elections (municipal and European) took place and are frequently mentioned so that the topic “politics” was highly aware to the twitter team. Swine influenza triggered tweets belonging to the genre “health” and significant weather changes triggered tweets to the genre “weather”. These events were unforeseeable and in this sense arbitrary. But on the other hand you can see here the broad picture of genres which were presented by the government and the modality of their presentation as infotainment. The notion “infotainment” describes the mixture of news and entertainment which usually are separate genres in journalism. Postman (Postman 1985) criticizes that a rational discourse about topics like politics or culture is performed as shallow entertainment. Taken our concept of a local socio-political resonance arena into account we can recognize this by the linking policy of the twitter team: A redundancy of reporting local news was produced besides those new media (and old media) which also have published the information.

One perspective is the revelation of those genres which were presented. Another perspective produces a contrastation of the genres: Which topics were not re-presented at all or only concurrently by few tweets, although they were present in Duisburg? Is there a gap between

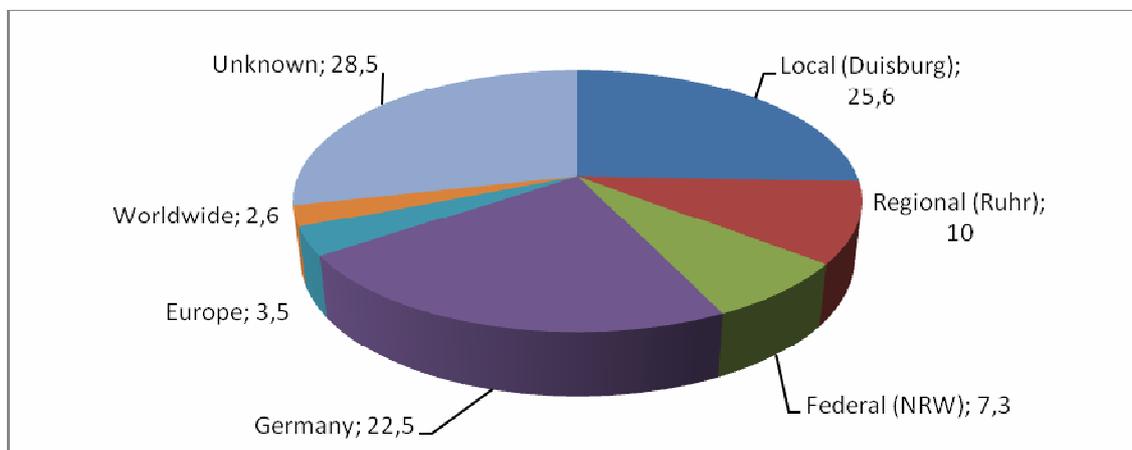
“present” and “media re-presented”? Some missing genres are **Third World and migration, university, freedom and religion**. In Duisburg around 60.000 Muslims live and the biggest mosque in Germany was built. But only two tweets were issued addressing religion in a wider sense: “At October 3, Houses of prayer invite to visit the open house”. Here further research is needed to explain how far the media re-presentation of a locality covers and reproduces the interests of the citizens and which relation between offers and demands exist. It is our belief that Government-owned media must have a stronger commitment to citizens’ needs and interest and must show a broader coverage of genres than commercial media which are profit-oriented.

#### 4.4. The origin of tweets and links

The majority of the tweets are not originally produced by the twitter team but came from “Twitterclients”. These are desktop programs like “Tweetdeck” or “Seismic” which assist the upload from the own desktop to the Twitter web site. Other tweets were produced by the Internet service “Twitterfeed”, which enables the production of feeds for different platforms like Twitter, Facebook etc. All tweets link to other information resources and thus provide an additional offer. Only few links did not exist probably because of the misspelling of the URL. Further research will be needed to clarify the origin of the information and the selection criteria of the governmental use of new media.

#### 4.5. Followers of the DuisburgTwitter

During the time frame of our research (22 weeks) the number of followers grew steadily. At the beginning in May 26, 2009 we counted 105 followers and in October we counted 841 followers. Per week the number of new followers ranged from one up to 65 persons. Several followers informed in their Twitter profile about their location so that the location of the followers could be analyzed.



**Figure 3: Locations of the followers**

The numbers represent the local clientel of the DuisburgTwitter. Approximately one third did not mention their location; another one third mentioned the city of Duisburg or at least the region (Ruhr). The rest mentioned as their location Germany and Europe and other countries of the world. These data are not easy to interpret. It could be that some announced the place of their physical living and others the space of their cultural background.

## 5. Outlook

This short evaluation of a project in progress shows several interesting details and raises a lot of interesting questions for further research. At the moment, January 2011, the amount of followers has doubled (1539) as well as the amount of tweets (1779). This shows a steady but not surprising growth. The relation between the number of followers and the number of inhabitants of Duisburg (1/2 million) makes clear that this social networking application is a niche phenomenon within the local media landscape. Twitter did not become a mass media claiming an important role as the voice of the city government. It has been established as a free offer by the government to inform those interested about the current diverse - often unspectacular - daily events in the city. This happens nearly in real-time. For the citizens there are no costs, it is easy to access and offers the option of being concurrently informed about the daily local events. It is not intruding and claims no specific efforts to follow. The tweets are presented similar to short headlines of a ticker service. It is neither an encyclopedia nor an official announcement of governmental information. Thus we can conclude that it belongs to the genre of infotainment media.

As we mentioned before there is a growing number of social networking applications within this city under the umbrella of the government. They permanently construct and reproduce information about the city thus re-presenting it virtually in the Internet. Such reality constructions shape the identity of the citizens with its city. They create a virtual image of the city mirrored by different media. In addition to other existing mass media these applications span the local information and communication arena which become more complex. The current developments are field trials and seem to be driven by individual enthusiasts of the government and not a cohesive media strategy. These deployments are more or less technology driven (testing it out in practice) and do not aim at a special social or political outcome. Given that this social networking media are sustainable, several questions occur:

- Do these new social networking applications substitute traditional mass media like print press, local radio or TV? Will they enhance them to a new local media arena or will they remain niche phenomena?
- What role does such a local media arena play for agenda setting, framing, provision of awareness and transparency in local politics and social life?
- How can this foster open government and local democracy?
- Do these new social networking media under the umbrella of a city government need specific requirements concerning the correctness, reliability, and responsibility?
- Does the presentation of the public image of a city need a professionalization in management and execution beyond existing public relation activities?
- Do such media applications under the umbrella of public authorities require a cohesive political steering and democratic control by the public?

Deploying new social networking applications is not per se participative nor leads to more transparency and open government. At first it means adding a new media channel on local level to the existing ones thus expanding the local media arena which becomes more complex and opaque. Local governments should actively shape and control their respective activities. Research can provide them with data and perspectives.

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# Linking Public Service Broadcasting and E-Democracy

*The necessity of making Civil Society part of Public Service Broadcasting Policies*

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**Abstract:** *Integrating Civil Society in Media regulation seems central to a new Public Service Media paradigm, if one regards the interactive possibilities of non-linear services as well as Individualization and Fragmentation of the audience. My analysis will start with defining the term „Public Value“ and the role of Civil Society in the process of producing it. Using Public Interest Theory, Complex Democratic Theory, the Principal Agent-model and the Voice-Exit model of Albert Hirschman I argue that integrating the public into Public Service Broadcasting policies is necessary. Second, drawing upon a model of Kees Brants and Yael de Haan, my thesis is that Civil Society has to be integrated rather at the level of regulation than of content production. By using ICTs, this inclusion can contribute to the principle of E-Democracy, which was also promoted through recommendations of the Council of Europe and therefore represents a major objective in order to foster the democratic organization of our societies.*

**Keywords:** Public Service Broadcasting, Civil Society, Public Value, E-Democracy

**R**elationships between the Public and political Authorities are transforming. This implies a new significance of the term “Citizenship” and “Civil Society”, which has the consequence that traditional “top down-mechanisms” of Government are not longer able to make up to the democratic value of accountability. The media policy paradigm shift from regulation to governance (Van Cuilenburg/ McQuail 2003) also requires the integration of Civil Society actors. Like Meier stated, “Governance is seen as a possibility for Civil Society to gain or to consolidate some new forms of participation in political processes and decisions” (2011: 158). This trend also refers to the Media, and the production of Public Value is central in the discussion about legitimizing strategies of Public Service Broadcasting in a digital age (Christl/Süssenbacher 2010; Moe 2010; Bardoeel 2008). The production of Public Value also requires Public Service Broadcasting to provide content Online and therefore using new Information and Communication Technologies (ICTs) to fulfill its remit. The German “Rundfunkstaatsvertrag” contains obligations for Public Service Broadcasting stations to enable the Public to “participate in Information Society” (§ 11 d Abs. 3 RStV). Aside from its legal authorization, Public Service Broadcasting also has the obligation of providing content on the Internet from a normative point of view, in order to counterbalance deficits in diversity, which the market can’t provide (Kops 2010: 8). I argue that integrating the Public into Public Service Broadcasting Governance-practices is central to a new Public Service Broadcasting paradigm regarding the interactive potential of non-linear services which new media provide for the production of Public Value. The participation of Civil Society in Public Service Broadcasting

Policies is not yet realized in central Europe. My analysis will start at defining the term „Public Value“ and the role of Civil Society in the process of producing it. I argue that serving the public interest requires the integration of Civil Society in the content regulation of public service broadcasting, rather than at the production level.

Civil Society here is defined as the so-called “third sector” in terms of “citizen engagement” (Adloff 2005: 17). This implies that the actors of Civil Society can be localized between the state and economy. The term “Civil Society” includes not only formal associations and lobbies (Adloff 2005: 8), but also every single actor which acts in the public interest and participates in the political decision-making process voluntarily. Therefore, the term of Civil Society is strongly corresponding with the term “citizen engagement”, which aims to solve small or big problems that cannot be solved from the state or private actors adequately. People can engage within an association but also as a single citizen. This definition finally implies the political participation of citizens within economic as well as political decision-making. Civil Society groups will nevertheless have to be defined in a new way, regarding the developments of multiculturalism and migration. Especially ethnic and linguistic minorities who will be central in the future of broadcasting policies and need to be able to express themselves and to see their interests represented in the content of Public Service Media Online. This also leads to the necessity of reforming the composition of the executive boards of traditional middle-european Public Service Broadcasters, because most of the legal definitions have not been revised for nearly 50 years. For defining Civil Society, I also draw upon the Theory of Public Sphere by Jürgen Habermas. Accordingly, Civil Society contributes to the creation of a “Public Sphere” (Fleming 2000: 2). In Civil Society, people discuss values, norms, laws and policies, through which public opinion is built. This process “can occur within various units of civil society” (Fleming 2000: 2). Like Cohen and Arato (1992), Civil Society can therefore finally be defined as “a sphere of interaction between economy and state, composed above all of the intimate sphere (especially the family), the sphere of associations (especially voluntary organisations), social movements, and forms of public communication” (Cohen and Arato, 1992: 207). The core of Civil Society comprises a “network of associations that institutionalizes problem-solving discourses on questions of general interest inside the framework of organized public spheres” (Habermas, 1996: 367). In this debate Civil Society is frequently seen as a locus for limiting the power of the state.

Second, the difference between social and economic regulation is central within this paper. While economic regulation refers to the structural regulation of the market on the one hand and conducting the regulation of a single company on the other (Kay/Vickers 1990: 224), social regulation intends to correct externalities of economic activities (Kiefer 2005: 379; Bates/Chambers 1999). When it comes to social regulation, the object of regulating provisions can be interpreted extensively. According to Baldwin and Cave, social regulation can be defined as “any influence on industrial or social conduct” (Baldwin/Cave 1999: 2). Regulation of broadcasting can be defined as social regulation, which is evident when, according to Kiefer (2005: 379) one regards the provisions for the protection of minors or the obligation to educate. Furthermore, the objectives of media regulation is to safe-guard positive and avoid negative externalities (Kiefer 2005: 379). Therefore, the production of merited goods should be fostered, which requires pluralism of information and opinion, chances for participation of society as well as cultural accountability. This perspective on broadcasting regulation implies that state regulation of Public Service Broadcasting is justified by the fact that it is social regulation and therefore the contradiction with media freedom is minimal.

Finally, the aim of this paper can be described as defending Public Service Broadcasting going Online. In a digital age, Public Service Media have begun to expand onto the Internet – which is criticized from private actors who see their economic interests in danger. Nevertheless, Public

Service Broadcasting Content on the Internet is justified normatively through its contribution to the enhancement of societal democratic values as well as the opinion-building process.

## 1. Why Civil Society should be part of the game

### 1.1. Public Value and the Public Interest

In order to find a valid definition of Public Value, the theoretical concept of social regulation will be combined with the concept of Public Interest by Denis McQuail (2005: 136-138). This perspective meets concerns about the compatibility of journalistic quality in a normative sense on the one hand, and an economic, audience-centered sense on the other. At this point, it is important to state that the concept of journalistic quality in broadcasting content is not enough for defining Public Value. Public Service Broadcasting as a public institution is characterized by its obligation to safeguard common welfare. It has to serve the public interest because of its public service remit. It also would be justified to start the discussion about Public Value from the point of quality in content. This perspective nevertheless seems very abstract, which does not consider the preferences of the public and the license fee payers. The recipients in fact only benefit from Public Value if it contains a certain amount of individual advantage for the consumer. This means that the produced media output should also serve the practical interest and the preferences of the recipients. Quality of content can provide this benefit for the recipient only in a normative way. Here a theoretical concept is needed which combines the "Consumer Value" and the "Citizen Value" to one of "Public Value" (Boyles 1995; Gundlach 2011). What is central therefore is that Public Service Broadcasting content Online provides benefits for society in a normative and practical way. For this reason, the discussion about Public Value starts at the point of serving the "Public interest", which is an explicit obligation of Public institutions. In contrast, journalistic quality alone does not measure up to producing Public Value, it is just one aspect of it. This vision was also held by Mark Moore when he created the term of "Public Value": One of the main components of producing Public Value from his point of view is the so-called "co-production" between Citizens and public institutions (Moore 1995: 16). This view also corresponds with the one of Denis McQuail (2005: 136ff), who differentiates between two components of public interest. The "Majoritarian View" is about what the public is interested in, while the "Unitarian View" means common values, norms and ideologies in a normative sense. Avoiding media concentration, media monopolies, commercialization of media content, the promotion of journalistic quality in media content, as well as security, social cohesion, cultural activities and morality are factors that determine the "Unitarian View" in a normative sense (McQuail 2005: 138). The commercialization of media markets leads to the manipulation of opinion and to the disregard of minorities. Minorities are not attractive in the perspective of market-driven media economies, where contacts with the audience are seen as an indicator for the popularity of any media company. High reach as well as high market shares are therefore necessary to be able to sell advertising space to their clients. From these criteria, there can be deviated some useful aspects for defining Public Value. Starting with this combination of Unitarian and Majoritarian View, the concept of public interest and therefore a new definition of Public Value can be generated. Public Value should finally meet the Majoritarian, but also the Unitarian view of Public Interest, which requires the integration of Civil Society because state regulation is probably only focusing on the Unitarian view within political decision-making. The integration of Civil Society in Public Service Broadcasting policies could strengthen the Majoritarian view of public interest.

### 1.2. Complex Democracy

The second theoretical foundation of the need to integrate Civil Society in Public Broadcasting policies starts at conceptualizing democracy. According to Baker and his concept of "democratic

pluralist theory” (2006: 118ff), media politics always consist of conflict. Different societal groups have different interests, the consequence of which is that the enhancement of democratic values requires a peaceful solution of conflicts (Baker 2006: 118). For the media therefore, societal groups have to be mobilized: Partisan media contribute to the promotion of democratic values in societies. Freedom of speech is seen as the highest good, as is the political participation of journalists. According to this model, the dominance of political interests in most of the Public Service Broadcasting executive boards in Europe, which are the result of political parties and governments appointing its members, are not criticized. In contrast, they are seen as serving the pluralistic ideal.

In contrast, within “republican democratic theory”, the legitimacy of law can only be safe-guarded if every individual gives it to itself (Baker 2006: 114). The concept of constitutional democracy has the consequence that individuals have to be forced to follow democratic ideals and values. The public interest as a collective figure is seen within this concept as justification of any action of government. Baker therefore writes:

*“The content of common good (...) can only be found through an informed discourse in a public sphere of which the media constitute the most important institutional element” (Baker 2006: 115).*

The media therefore has the obligation to “express and interpret the country’s common values” (Baker 2006: 115). Journalism, especially Public Service Media, therefore only has to act socially responsible. The second step which expands these models, is combining them with the concept of “complex democratic theory” (Baker 2006: 115). The intention of creating a model of “complex democracy” was already the one of Jürgen Habermas (1996). His concept consists of two aspects: On the one hand, conflict and pluralistic interests are needed for realizing democratic organization of societies. On the other hand, democracies can barely be functional if there are no common objectives, which safe-guard social cohesion in the sense of values that everyone accepts. Media therefore should transport different kinds of discourses, which includes the opinion of the minoritys as well as the majority. Here, the circle is closed when it comes back to McQuail’s model of public interest, as it also reflects the Majoritarian and Unitarian view. Serving the public interest therefore requires the integration of Civil Society in political decision-making of Public Service Broadcasting Policies on the one side in order to promote their preferences, but also the creation of binding common values on the other in order to foster the “Citizen Value”.

### 1.3. Principal Agent Relations

The third concept which can explain the need for integrating the public into Public Service Broadcasting policies is the Principal Agent-model. Applying this model to the Politics of Public Service Broadcasting, citizens and their elected representatives act as “Principals” and “Agents” (Kiefer 2005: 59; 74). The license fee payers which act as principals have delegated responsibilities to Public Service Media being their key agents. Therefore, it appears logically compelling that the accountability of Agents like public institutions is owed primarily to them. Nevertheless, citizens (or “the public”) are often relegated to the status of “external” stakeholders. Unfortunately, the principal has a lack of information, which gives an advantage to the agent. The result of this is that surveilling the agent creates many costs for the principal (Kiefer 2005: 74). If there would be control of the principal right at the start of the regulation process, which means direct influence of the public at a very early (especially at the legislative) stage, these costs could be reduced.

### 1.4. E-Participation as Voice Strategy

The concept of integrating Civil Society into Public Service Broadcasting Policies also strongly refers to the “Consumer-Citizen”- debate (Yúdice 2004). One approach here is the theory of Albert Hirschman, who created a model of “Exit, Voice and Loyalty” as reactions of consumers on

market-procedures (1970:30). He basically discussed the potentials and limits of market-based economies, and argued that the slack of economy is not simply a feature of less developed economies or economies in recession, but mainly an effect of all economies. These slacks are the result of many factors, such as poor management practices, monopolies, inefficient use of technological resources as well as regulatory failure and often result in poor-quality products and services. The most obvious reaction of the consumer to this is the strategy of “Exit”, which is the conventional mechanism in economic theory and constitutes the functioning of any market-economy. Here, consumers lose the ties with one company but also engage another shortly after. They therefore cancel the relationship with the organization or company and switch to another one. Second, there is the strategy of “Voice”, which describes the consolidation of the relationship of the consumer to the company by responding, complaining and communicating with the organization itself. The third possible strategy used by the consumer is the one of Loyalty. Here, the consumer maintains support for the company (Hirschman 1970: 31). The strategy of Voice is ultimately realized in the concept of citizenship. Its justification draws upon the following problem: As Hirschman stated, “If exit was too readily acted upon by consumers, then firms would lose the capacity to respond to market signals, as they would experience rapid decline in revenues before they could respond. Firms rely upon a certain level of stickiness or loyalty, on the part of consumers towards their product or service” (Flew 2009: 981). Nevertheless, the exercise of Voice strategy

*“depends also on the general readiness of a population to complain, and on the intervention of such institutions and mechanisms as can communicate complaints cheaply and effectively. (...) While exit requires nothing but a clear-cut either-or decision, voice is essentially an art constantly evolving in new directions” (1970: 43).*

Hirschman notes that the sensitivity of organizations to voice and exit differ. Furthermore, the likelihood of the consumer using Voice Strategy depends on the degree of Loyalty for an organization: “Loyalty holds exit at bay but activates voice” (Hirschman 1970: 77, 78). But also Voice facilitates the Loyalty for an organization:

*“A member who wields (or thinks he wields) considerable power in an organization and is therefore convinced that he can get it back on track is likely to develop a strong affection for the organization in which he is powerful” (1970: 78).*

In conclusion, the exercise of Civil Society’s Voice strategy is crucial for maintaining Loyalty of the license fee payers for Public Service Media, which can be realized by integrating citizens into Public Service Broadcasting Policies.

## **2. Models of integrating Civil Society in Public Service content production**

Brants and De Haan (2010: 417ff) developed three models of responsiveness, which means “taking the public into account” (Brants/De Haan 2010: 415). Responsiveness therefore can be described as the interaction with and the integration of the audience and the public. It is mainly located at the level of media production, as Aslama describes (2006: 91). Due to social developments like Fragmentation and Individualization of the audience (Aslama 2006: 91), Public Service Media must provide content and services that meet the needs of specific, smaller groups rather than large national audiences. Content should therefore bring together larger audiences and create social cohesion (Steininger 2005: 227). In order to counterbalance these developments of

Fragmentation and Individualization, common values are required. The creation of these values is the obligation of Public Service Media. Nevertheless, there are several ways of creating these kinds of common values. Accordingly, Brants and De Haan have created the following three models of responsiveness:

- Strategic responsiveness
- Civic responsiveness
- Empathetic responsiveness (vgl. Brants/De Haan 2010: 416-418).

Within the model of civic responsiveness, “media try to develop forms of listening and connecting with the public, putting their agenda first and (...) the focus is less on the traditional news values of negativity, conflict and scandal, but more on the possible range of solutions to perceived problems” (Brants/De Haan 2010: 416). It is mainly about being socially responsible, where the members of Civil Society are addressed as citizens. This model of responsiveness has a strongly interactive character. Second, there is the model of strategic responsiveness, which means listening to the demands and needs of the public as well, but the motive here is not so much socio-political but market- and commercial-driven. It is not about bridging the gap but rather about “persuading the public, binding them as consumers to the product to offer” (Brants/ de Haan 2010: 416). The Public should be attracted, which makes the use of strategic mechanisms necessary. This includes “making the public part of the programme, as involved bystanders or as experienced experts, bringing the man in the street to the studio, Vox Pop Interviews, Electronic Polls that are not so much about political topics but celebrities, historical figures, the nations` heritage and identity” (Brants/de Haan 2010: 416). By using internet websites, media companies try not to communicate, but to convert the wishes of the public to the content (Brants/de Haan 2010: 417). Viewers are therefore often invited to send their stories and video clips.

The final model is the one of “empathetic responsiveness”, where the media try to make the public feel that they are “one of them”. This type of responsiveness includes informative discussion forums and social networking sites. The motive here is mainly a moral crusade, the journalists act like the lawyers of Civil Society, which normally has no voice and can’t express its thoughts and beliefs (Brants/de Haan 2010: 418).

Finally, the thesis of this paper strongly refers to the model of Brants and de Haan: Public Service Broadcasting stations which depend strongly on advertising revenue and therefore tend to perform commercially and are expected to act strategically responsible, because of the need to attract the audience, which furthermore helps to maintain advertising revenues at a high level. On the other hand, Public Service Broadcasters which are not that dependent on advertising revenue are probably expected to act civically or empathetically responsible. Despite these theses requiring further empirical testing, I propose to include Civil Society at the first stage of defining the Public Service remit and secondary content provisions (as shows Chapter 5).

### **3. Civil Society and its contribution to E-Democracy**

Participation of Civil Society in Public Service Broadcasting policies could contribute to collecting the experiences and expertise of citizens. The dissolution of traditional social ties like political parties, religion and workplace lead to a declining interest in voting. Also, convergence and multiplication of media channels contribute to these developments. This means that there is a greater freedom to choose, but it makes it easier for recipients to only receive what they are interested in, which leads to media companies serving the “Majoritarian view” of Public interest. The intensified competition pressure as well as most of the media following market-driven objectives has the consequence that most of the media disregard serving public deliberation. The Internet offers several benefits with regard to these problems: Besides transcending place and

time, citizens are able to make better connections, build communities, help to recruit experience and expertise and take part in deliberative discourse. On the other hand, there are also downsides of online civic engagement: There are risks of political control, vague objectives as well as lack of informed inputs. Here Online-engagement of Public Service Broadcasting could reduce some of these downsides and foster the benefits through the binding of its public remit. Public Service Media are legally obliged to provide Online-content which contributes to the social, cultural and societal needs of society (European Community 1997: § 165-167).

Furthermore, the objective of realizing participation of Civil Society in the Public Service regulation process fosters the justification of Public Service content Online. This also refers to the term of E-Democracy. E-Democracy can be defined as the support and the expansion of citizen rights within an Information and Knowledge Society (Meier 2009: 3). The term "E-Democracy" includes Open Government in the sense of transparency of political decision-making, E-Participation of Civil Society through new Information technologies as well as E-Government in the sense of the enforcement of administration through ICT's. Whereas Open Government and E-Government refer to "E-Democracy from above", E-Participation means "E-democracy from below" (Coleman 2009: 90). Public Service Broadcasting and its Online-content can contribute to both concepts. E-Democracy is therefore closely linked to Public Service Broadcasting going Online.

This also raises the question if Public Service Broadcasting can contribute to E-Democracy through integrating Civil Society at the production or rather at the regulation level. Can E-participation of Civil Society at the production level contribute to E-Democracy? Which factors influence this ability to contribute to E-Democracy? My argument is that Public Service Broadcasting stations which depend strongly on advertising revenue (which fosters economic determinations of decision-making) do not contribute to E-Democracy with their efforts of integrating Civil Society at the production level, mainly using User Generated Content and Social Media for exploring the preferences of the audience. At this point, this analysis strongly refers to Coleman's and Blumlers model of a "civic commons" (2001: 90), which draws upon a publicly funded but state-independent agency that encourages citizens to use Online-platforms for public deliberation. This agency should promote, publicize, regulate, moderate, summarise and evaluate Public Service Online communication. This could include pre-budget consultation papers which can be responded to by the Users Online. This could also include councils to consult regularly with citizens on plans for their programme as well as the use of Wikitools and Weblogs, where recommendations from Civil Society members with regard to political decisions can be gathered. Parliamentary select committee inquiries could webcast witness hearings and invite groups with relevant experience and expertise to discuss, comment and supplement evidence presented (Blumler/Coleman 2001: 20). This could also include policy consultations with citizens in the pre-field of legal implementation, as well as deliberative polls to assess how views are formed and can change. In addition, Online-Initiatives in order to change Public Service Broadcasting and Online-Content could strengthen the ability to use Voice strategy and therefore Loyalty of Civil Society to the institution of Public Service Broadcasting. Citizens may perceive that stations are responsive through improved communication and interactions with citizens on the one side, as well as accessibility by being available around the clock seven days a week on the other (Tolberg/Mossberger 2006: 357). They may also perceive this as being responsible through the handling of personal information submitted Online, as well as being transparent through the posting of information such as data, policies, laws and meeting schedules. Therefore, it would also contribute to a definition of Open government, which sees transparency of governmental actions as crucial for democracy. Finally, participatory Online-town meetings and bulletin board systems as well as chat rooms for citizens should be considered. This would also correspond with Mark

Moore's concept of "co-production" and therefore contribute to the production of Public Value (Moore 1995).

#### 4. Conclusion

Finally, the main question still remains the one of the adequacy of direct democratic procedures. To which extent representative democracy enhances the capacity to act for states, and to which extent direct democratic elements endanger democratic and constitutional values? The integration of Civil Society into Public Service Broadcasting Policies, which certainly contains radical democratic elements, requires Loyalty and commitment of the members of society for democratic majority votings, be they corresponding with fundamental democratic values or not. Of course, the approach presented above needs further empirical evaluation. For testing the thesis analyses of E-participation performance of Public Broadcasting stations is required, which differ in economic dependencies and ad-funding.

For sure, there exist several possibilities to establish direct democratic elements at the regulation level of Public Service Broadcasting. Such establishments would also correspond with the "Recommendation of the Committee of Ministers to EU-member states on E-Democracy" of 2009 (Council of Europe 2009). The essence of this approach mainly refers to the assumption that E-Democracy is about democratic practices, but not about technology (Council of Europe 2009: P1). The aim of these recommendations was to put the citizen at the center of democratic institutions and decisions. One objective of E-Democracy therefore is the "Support of the democratic intermediaries between citizens and the state, such as democratic institutions, politicians and the media" (Council of Europe 2009). E-democracy "concerns many different stakeholders and requires their co-operation. (...) Citizens, Civil Society and its institutions, politicians and political institutions, the media and the business community are equally indispensable for the purposes of designing and implementing e-democracy (P.9). Stakeholders of E-Democracy are all individuals and institutions involved in and benefiting from democracy (P.8). Thus, E-Democracy refers to the integration of Society at the level of political decision-making process at first, but not so much at the Every-day production level of public services. Nevertheless, the recommendation states that E-Democracy "does not in itself affect the constitutional and other duties and responsibilities of decision makers; it can provide them with additional benefits" (Council of Europe 2009: P.21). As a result, direct democratic elements through ICTs have to be seen as complementary, not as a substitution of representative democratic practices.

One Sector of E-Democracy therefore is "E-legislation", which can be defined as "the use of ICT for drafting, commenting on, consulting, structuring, formatting, submitting, amending, voting on and publishing laws passed by elected assemblies. It makes legislative procedures more transparent, improves the content and readability of legislation, provides better access to it, and thereby enhances public knowledge of the law" (Council of Europe 2009: P.37). Thus, there would be the possibility of establishing E-consultations as a way of collecting opinions, E-initiatives to enable citizens to set the agenda as well as E-petitioning to deliver protest (P.43-P.45). The Council finally refers to the media itself:

*"The media play a crucial role in e-democracy (...), they provide a forum where citizens can engage in public debate and defend their interests in the public sphere" (Council of Europe 2009: P.23).*

Public Service broadcasting has the obligation to establish this forum, not only because of the economic argument that the market fails in the media sector, but also with regard to the normative argument that the market does not provide enough pluralism in opinion and journalistic quality (Kops 2010). The original purpose of the institution Public Service Broadcasting was the

enhancement of democratic values, which requires even more fostering of e-democratic procedures within Public Service Broadcasting policies. When it comes to the assumption that Public Service Broadcasting stations act strategically instead of civically or empathetically responsible within their Online content production, one can come to the conclusion that the integration of the public, which is necessary to take the needs of a fragmented and individualized society, has to start at the regulation level instead of the production level. This integration can be crucial when it comes to the appointment of executive board members, which often are not democratically legitimized (E-Voting). Furthermore, it is crucial when it comes to the definition of content regulation provisions as well as the regulation of budgetary issues (E-participation). The consideration of public opinion should therefore be compulsory for any Public Service Broadcasting station when it comes to the definition of the remit or of secondary content provisions. Furthermore, it is important to establish the possibility of an “E-Initiative” for license fee payers in order to change the content provisions. According to Jens Steffek, there are three concepts of public accountability (Steffek 2010: 55):

- “Electoral accountability” means accountability directly to the citizens or to political bodies elected by citizens. The default sanctioning mechanism is voting.
- “Legal accountability” to nonelected courts that protect the rights of citizens. The default sanctioning mechanism is judicial review.
- Finally, there is “public accountability” to the public in the sense of the “public sphere”. The default sanctioning mechanism is a shift in public opinion that leads to a loss of reputation.

Finally, I propose a forth concept of “legislative accountability”, where Public Service Media have to be accountable to their principals when it comes to the definition of the Public Service remit (direct E-Democracy). This is essential at least for Public Service Broadcasters that depend on advertising revenue. By acting civically responsible at the legislative and regulative level, the broadcasters can be prevented from acting strategically at the production level.

In conclusion, the most important aspect is transparency. A definition of Civil Society that fosters public deliberation first and foremost needs a certain standard of accountability and permeability (Open Government). Defining Public Service Broadcasting policies as social regulation has significant consequences for a democratic society and implies that it has to be heard in this regulation process. I argue that this cannot be achieved without a minimal involvement of the state, which means that an ideal type of regulation authority (in the sense of the proposed Online-platform “civic commons”) is needed, which has the sovereign authority (state regulation) as well as the possibility and obligation to cooperate with the public (social regulation). Any independent Public regulation authority therefore has to follow a mix of state and social regulation that differentiates from traditional Co-regulation, which means cooperation of political and private actors.

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# Reputation Management as a Lever of Public Sector Innovation

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**Abstract:** *Recently, the rise of reputation management has attracted significant interest from both the practitioners' and scholars' communities, in view of its potential applications to the public sector. The main goal of the research presented is to deepen the understanding of how reputation management may be used by public administrations in order to improve their effectiveness. We investigate these aspects by analyzing an Italian case study conducted on the authority responsible for regulating the Italian securities market. The analyses conducted provides evidence on how the new communication patterns enabled by the web are contributing to increase the role of citizens in counterbalancing the deficit of attention present in governance processes.*

**Keywords:** Reputation Management, e-Government, Public Sector Innovation, Web 2.0.

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**N**ew ways of working and communicating are arising (Friedman, 2007). People no longer exchange opinions by letters or even by telephone, instead web interaction is becoming the main way of communication, especially among the new generation. Online communities are spreading rapidly (Osimo, 2008) and this trend impacts the way people formulate their opinions. This has a significant effect on several aspects, such as businesses brands, policy acceptance and popularity. Indeed, long-lasting reputations can be made or broken by unmonitored influential opinion makers on the web (Liu, Hu & Cheng, 2005) and the brand image of a company may be irreparably damaged by the viral power of the web (Telofski, 2010). If not managed effectively, all these changes may represent a risk or a missed opportunity for both the public and the private sector. For this reason the present article intends to explore this phenomenon in order to better understand if and how it may be harnessed to produce value.

Since the web is in constant evolution, it is becoming too complex to be effectively examined with conventional monitoring strategies. Several tools and methods, such as online reputation monitoring, are being used on the web to answer the difficulties related to the exchange of information and opinions on the web and to analyze online behavior.

Clay Shirky (2008) in his book “Here comes everybody: the power of organizing without organizations” states:

*“Sociability is one of our core capabilities and it shows up in almost every aspect of our lives as both cause and effect. Society is not just the product of its individual members; it is also the product of its constituent groups” (Clay Shirky, 2008, p.14)*

Later, he carries on by saying that:

*“[Our] social nature even shows up in negation. One of the most severe punishments that can be meted out to a prisoner is solitary confinement” (Clay Shirky, 2008, p.15)*

Individuals do not live in isolation, but belong to groups. Thanks to Web 2.0 tools the size and the geographical dispersion of social groups is increasing. Nevertheless, not only the relationships between individuals are changing, but also new forms of management are gradually moving from a logic of command and control to another one of connection and collaboration, both internal and external to the public sector organization (Friedman, 2007), the collaboration between people is increasing and Web 2.0 is emerging as a primal aspect of human nature in the use of the World Wide Web. As a matter of fact, it does not refer to an update to any technical specifications, but rather to cumulative changes in the way software developers and end-users utilize the web. Related to this, new virtual areas where people can meet and communicate are emerging - blogs, wikis, social networks, online communities – and the need to manage and control the information flow is becoming a central issue (Osimo, 2008). Indeed, the process of knowledge development and communication on the web is strongly influenced by the level of collaboration, participation and interaction among people, which is principally obtained through their interpersonal communication (Wenger et al., 2002). Furthermore, the type of information that people provide is an important aspect to take into account when the online behavior is analyzed. Bad postings, negative feedback in blogs, harmful testimonials in popular forums, unrealistic comments, and product reviews from false users can potentially put a company out of business and can destroy its reputation with only a “click”.

In such a context, both the private and the public sectors have to equip themselves in order to be ready in responding to changes that occur in the context in which they operate. Firstly the changes that occur in the public sector environment and secondly the new communication patterns that are arising, impact on the activities conducted by the public administrations that have to understand how to manage these new shifts. At the same time, however, new tools are emerging that can help public administration in managing these changes. An example is represented by reputation management systems that can raise the awareness of public administrations about the online behaviors of the web users, and help them to understand the nature of opinion changes and formation. Furthermore, the increased engagement of citizens and the wider use of ICT tools result in four main potential innovations in the interaction of citizens with the government: 1) broader value added to government from citizens thanks to data mining of social networking sites; 2) re-engagement of younger citizens in policy making processes as they are more likely to use social networking tools to express opinions; 3) increased numbers of citizen viewpoints represented in policy formation through use of social networking site analysis; 4) increased levels of interaction between citizens and government in policymaking.

Given these aspects, in this paper we formulated the following research question: “How does reputation management add value to the services offered by public administrations?”. We answer to this question by using the studies conducted by ActValue Consulting & Solutions.

We structure the reminder of this paper as follows. Section 2 provides a literature review about reputation management. Section 3 presents the research method. Then, the analysis of the data and the main results are shown in section 4. Finally, we provide conclusions in the last section.

## 1. Reputation Management

Reputation is a cross-disciplinary concept, including ideas from marketing, social psychology, economics, and decision science (Yu and Singh, 2002). Several research papers have shown how social entities, people and organizations monitor their own reputation and others reputation (Bromley, 1993; Emler, 1990). Specifically, Bromley (1993) highlighted that people not only monitor their reputation, but also are concentrated on managing it. Also decision science studies the reputation concept. They look at reputation in terms of game theory. Indeed, the prisoner's dilemma is strongly related with the concept of trust and reputation building, given that if players trust each other then they can both cooperate, otherwise a player punishes the opponent in the case that defection is observed.

When the reputation issue is considered, the important aspect that emerges is the dissemination of the reputation information. One way through which reputation information can be created and disseminated in online communities is with the use of a reputation management system (Nielsen, 1998). These are systems that allow users to provide their judgments and opinions about the quality of a product, the delivery of a service, the performance and actions of a company, the behavior of individuals and services delivered by public administrations. Typically, responses of users are aggregated, elaborated and shown providing an overall reputation score. This overall reputation score can be usually used as an indicator of the reputation of companies, individuals, public administration and so on. One of the main principles related to reputation management systems is collaborative filtering. Goldberg et al. (1992) pointed out that "collaborative filtering means that people collaborate to help one another perform filtering by recording their reactions to documents they read".

Reputation Manager's goal is to search for Web 2.0 content proactively in order to find issues posted by citizens not directly addressed to the person in charge for a given policy, but just commenting and highlighting on generic web sites – e.g. I'm not satisfied of the new road plan of my city, and post this on a blog or forum instead of writing my disappointment directly to the town councilor. Moreover, Reputation Manager can help bring "the crowd" closer to policy-making and let citizens feel more influential on the policy agenda. How can be this achieved? Reputation Manager allows policy makers to engage directly with the end users who are commenting or posting on various online forums. Reputation manager helps to respond directly to any online post, so as to acknowledge that the issue has been spotted and will be worked out by the competent authorities. Another key aspect to keep in mind is that the explanatory and satisfactory effect of this reply "going straight to the target" does not impact only on the citizen who posted the comment, but also on everyone else who will access the same web page. In fact, every piece of web content "lasts" for quite a long time; vice versa, any issue left open can generate an increasing dissatisfaction over time.

However, even though in the past few years, a growing body of academic and practitioner literature has emerged concerning "reputation management" (Fombrun, 1996), the usage of reputation management on the Internet is still in its infancy. We believe that the actual infancy state of the reputation management could be overcome, even though there are many problems that need to be addressed in order to perfect the inner workings of such a system: feedback may not be provided at all; people often hesitate when it comes to providing negative feedback; unreliable reporting can be possible.

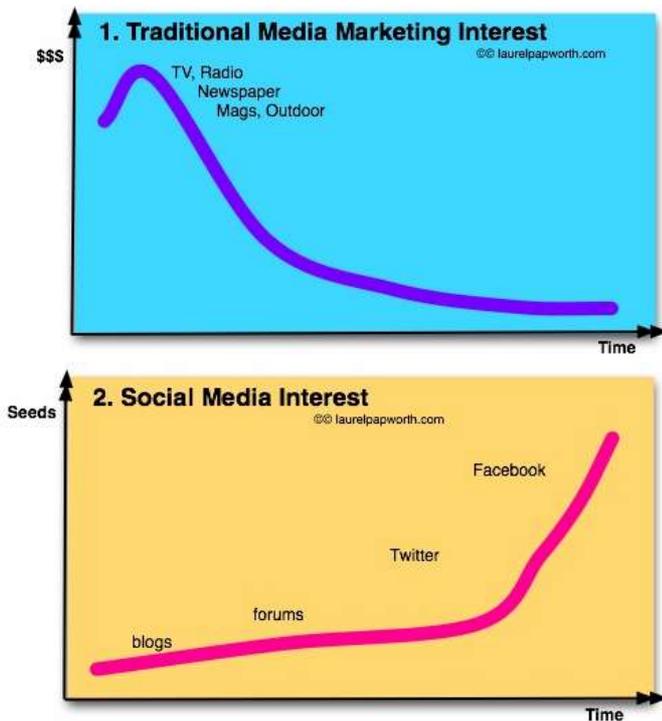
But, why is reputation management becoming increasingly important? Unlike the past when reputation management was an impalpable concept, committed to the collective memory, nowadays it becomes a real "business card". It is concrete given that everything is written and is especially easy to access by everyone. The reason for this conceptual revolution was the strong

acceleration of the Internet diffusion among citizens and companies, which has now reached a critical mass capable of establishing itself as a media reference. Currently there are about 30 billion pages on the Web, with 23.8 million users. The first channel is Facebook audience (35.6%), whilst the second is Youtube (31.6%). July 2010 counted 23,835,000 Italians online, an increase of 9.9% compared to July 2009. Active users are 10.8 million on average in a day, sailing on average for 1 hour and 28 minutes a day. Furthermore, the 43.6% of the Italian population with more than 2 years access to the Internet, access it at least once a month (Alloisio, 2010). Specifically, the number of visitors and pages viewed in 2010 are shown in table 1. Furthermore, a survey conducted by Reputation Manager in January 2011 shows that around 450 Italian Mayors (over 5% of the total) - ranging from small villages to big cities such as Rome, Florence and Bari - have an official presence on Facebook. They use the social network to regain a direct communication channel with their constituency without the mediation actions and filters routinely performed by civil servants, journalists and organized stakeholders.

**Table 1: Social Network interactions (Alloisio, 2010)**

	Visitors (millions)	Pages viewed (millions)
Facebook	550	630
Youtube	480	69
Twitter	96	6.4
Linkedin	41	1.9

In such a context, marketing campaigns prefer the social media channels, instead of the traditional media channels, such as TV, radio and newspapers (Figure 1), since they can reach more quickly the final users and understand their needs.



**Figure 1: Traditional versus social media interest (Laurel Papworth, 2010)**

The popularity of social media platforms results in quicker and informal communications, and allows rapid distribution of both positive and negative opinions. Thus, for companies, monitoring, protecting and enhancing their image means value creation for the future, based on public confidence in the company and positive attitudes associated with its products and services. Whereas for public and political figures, taking care of their online reputation means creating a conscious relationship between their identity and the network in order to:

- Monitor the content associated with the name
- Promote the professional image to create a network of contacts relevant to their business and to build career opportunities
- Protect and control the privacy, security and credibility

In order to understand the dynamics that characterize reputation management, Papworth in 2008 has proposed a framework to show how reputation management works among web users. She has identified four main steps, distinguishing between the active and the passive reputation management: 1) the first action consists of the profile creation on a site; 2) then, the web user makes connections with friends and adds applications, groups and events to define an identity; 3) third, users interact, offer contents, comments and ratings, gaining a reputation over time; 4) finally, the reputation is then turned into a “trust factor” where can be decided how trustworthy a social network member is by the way they fill out their profile, by the connections they make, and by the content they submit.

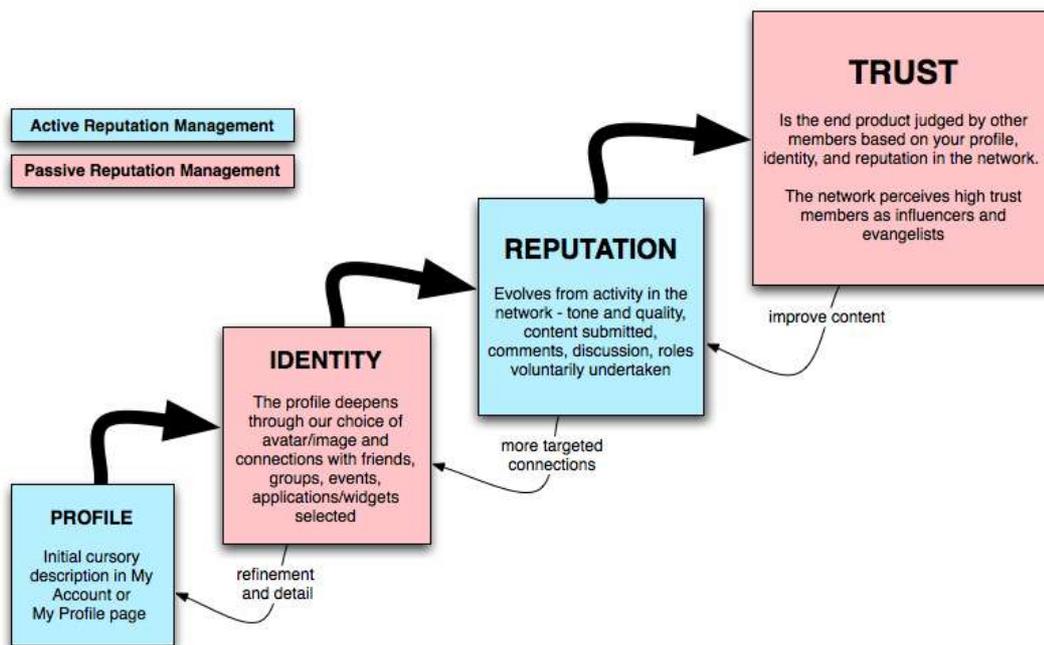


Figure 2: Social web – reputation management cycle (Laurel Papworth, 2008)

## 2. CONSOB and ActValue Consulting and Solutions

The study object of this paper is conducted on data gathered by ActValue Consulting and Solution, whose data collection and analysis is ordered by CONSOB in a pilot monitoring effort that started in November 2009. Thus, before describing in more detail the research method followed in this research study, we believe that is important to understand firstly what CONSOB is and which are its activities, and secondly provide a short presentation of ActValue Consulting & Solutions and its guidelines.

## 2.1. CONSOB

CONSOB is the supervisory authority for the Italian securities market. Its mission is to protect investors as well as the efficiency, transparency and development of the Italian stock market. Its activities are thus aimed at overseeing:

- transparency and correct behavior by securities market participants;
- disclosure of complete and accurate information to the investing public by listed companies;
- accuracy of the facts represented in the prospectuses related to offerings of transferable securities to the investing public;
- compliance with regulations by auditors entered in the Special Register

CONSOB thus conducts investigations with respect to potential infringements of insider dealing and market manipulation law. In 2009 it decided to explore the usage of reputation management services as a means to improve and expand its overseeing activity.

## 2.2. ActValue Consulting and Solutions

ActValue Consulting & Solutions was founded in 2004 from a group of professionals coming from the major consulting and industry companies, and operates in the field of Information Technology developing advanced solutions for goods and services production and distribution companies. The objective of ActValue is to promote the increase and the development of enterprises through processes, organizational methodologies and computer science technologies innovations. ActValue develops its own offer and technological innovation along three main guiding lines: human resources, automation and logistics and Web 2.0.

Specifically, we focus on the third activity of ActValue named Reputation Manager: an application for the analysis, of the reputation of a business and the opinions expressed from customers of the Web about products, services, people, organizations and/or any relevant topic. The aim of the analysis is to survey the comments, especially on the informal web (forums, blogs, personal web sites, opinions and reviews portals), which means 'listening' to online conversations held by UGC (User Generated Content), in order to provide information to companies and institutions such as the CONSOB. Specifically, by interviewing the researchers of ActValue, we have identified the methodology followed by them, which can be summarized in ten points:

1. Monitor the current situation of web perception in regard to aspects related to the activity of CONSOB and listed companies.
2. Identify the most discussed topics on the Web, classified according to their positive or negative connotation.
3. Identify in which area negative comments are concentrated, by paying particular attention to the discussions developed on blogs and forums rather than on institutional portals and news sites.
4. Follow daily the development of consumers and investors conversations regarding CONSOB's provisions and their impact on the market in order to prevent and deal promptly with any possible viral effects on other information channels such as print media.
5. Identification and analysis in detail of the most significant domains.
6. Analysis of the sentiment of conversations.
7. Analysis of the most active thematic channels.
8. Analysis of video portals and monitoring of relative comments.
9. Analysis and positioning of domains (media mapping).

#### 10. Calculation of Effective Reputational Risk Coefficient (CERR®)<sup>1</sup>.

As can be seen above, the analysis is divided into classes of investigation which tend to represent the reality we want to investigate. This methodology allows them to obtain a detailed output that helps to better understand in which areas are concentrated with the relevant cases and which information public administrations can provide to companies, in order to increase their awareness on what happens outside the company's boundaries.

### 3. Research method

The study conducted in this research is explorative in its nature. The aim of this paper consists of investigating how reputation management can add value to the services offered by the public administrations and what information reputation management can provide. To answer this question, we have used three research sources. Firstly, we have conducted a literature review in order to understand how the reputation management is seen by the practitioners' and scholars' communities. Secondly, we have conducted interviews with the researchers that operate in ActValue in order to comprehend deeply how they conduct their studies and how their reputation management tool works. Thirdly, we have conducted a desk research by using data that ActValue provides to CONSOB on two Italian companies: a biopharmaceutical company and a leading financial group<sup>2</sup>. The research sources used in this explorative study is summarized in Figure 3.



**Figure 3: Research methodology**

Specifically, the data used in this study is the output of the research activity conducted by ActValue by looking at more than 30 Internet sites, such as [www.finanzaonline.com](http://www.finanzaonline.com), [www.borse.it](http://www.borse.it) and [www.gazzettino.it](http://www.gazzettino.it), each of which have different information channels such as blogs and forums. Among all the studies conducted by ActValue, we have decided to focus our attention on the results concerning the two most discussed companies on the web in October, 2010. The first is a small company and the second is a large company. On the one hand, the small biopharmaceutical company is focused on developing and commercializing novel agents in an extremely narrow and specialized market. On the other hand, the large company is one of the leading European financial groups with a worldwide network presence. The biopharmaceutical company is the "most discussed" listed company on the Web 2.0.

We analyze a small company and a large company as we would like to understand how the importance and the dimensions of a company can impact the opinion formulation of the web users and how the reputation management, in both case, can help CONSOB to protect investors by

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1 CERR® considers an objective numerical parameter associated to content based on: 1) The strength of the message whether it is positive or negative; 2) The popularity of the website based on how big the potential audience may be based on channel type; 3) The relevance of the message to the business model.

2 We do not provide the name of the companies for confidentiality reasons.

increasing their awareness about what is happening in the market and to encourage the efficiency, transparency and development of the market itself.

#### 4. Analysis and main findings

The analysis follows a two stage process. First, we provide an analysis of the role that Internet has in the opinion formulation when a small or a large company is discussed. Second, the reputation management contribution in the service delivery of the public administrations is highlighted.

Considering the analysis conducted by ActValue on the small company, in a review of the papers made by CONSOB on the Web 2.0 in October 29<sup>th</sup>, 2010, one of the main statements was:

*"It is possible to say that the Web 2.0, compared to traditional media such as printed paper, actually moves ahead in regards to smaller companies, and late or otherwise "dragged out" in regards to bigger companies. In other words, in regards to small companies rather ignored by the press for these very reasons, they are still judged by the users in order to speculate on the stock market gaining on increases or downturns, on the web the users get active by formulating assumptions to create potential scenarios also by trying to anticipate news of the markets, that sometimes became true and published in official newspapers. The typical case, inside the Italian market, is actually a small biopharmaceutical company, no doubt the most discussed company on the whole Web but of which we do not read a lot on the printed press".*

In support to the previous statement, it is important to analyze when the information about the company appears on the web and when in printed media. An example of a quotation on the small biopharmaceutical company made by a web user of the financial forum Yahoo is shown in the next box, which is dated October, 2010.

DOMAIN: www.finanzaonline.com

DOMAIN IMPORTANCE: Medium

CONTENT EVALUATIONS: 

POST: Monday was the expiry date to reach the requirements of joint stock on the Nasdaq (achievement of \$ 1 per share). I personally know the beast B. This weekend I would not be quiet with celles in the portfolio. There are more than 8 years that I follow this share and I usually reserve all splits that I have been made during the week end. There was a little surprise on Monday morning. I found out a "classic week end surprise": a reverse-type of 10 shares. Today I have reduced mine. Today, I think I will go out definitely. I do not think that during this week end Mr B. will surprise me. This is just a personal comment. Of course someone will say that will be asked an extension of 180 days, but on which basis? I believe that Mr. B. has to demonstrate that Nasdaq will obtain an extension.

The previous quotation was done days before the printed media started to discuss the small biopharmaceutical company stock options. Indeed, only after the Web 2.0 anticipations, the news regarding the small biopharmaceutical company were published, specifically on November 3<sup>rd</sup> 2010, in the newspaper "La Stampa", on the column dedicated to Economics:

*"Nasdaq grants the small biopharmaceutical company an extension to renew the observance of the requirement concerning the minimum price of offer FTA Online News. Today the small biopharmaceutical company has announced that the Nasdaq Stock Market has granted another 180 days to regain the requirement Nasdaq needs concerning the minimum price of offer equal to \$ 1.00 according to the Marketplace Rule regulation. Previously-- a statement made - on May 3th, 2010, Nasdaq had notified CTI that CTI did not satisfy the requirement for the minimum price necessary to continue to be included in the Nasdaq list, setting the date to November 1th, 2010 - the last date of the compliance achievement. CTI will be considered according to whether, during the 180 day period and prior to May 2th, 2011, the closing price of CTI's ordinary stock will be at least \$ 1.00 per share, with a minimum of 10 consecutive working days".*

As can be seen above, the gap in terms of time periods when the web discusses the small biopharmaceutical company' stock options and the printed press reports information about the same company, indicates how the web is acquiring a new role especially in case of small companies. Indeed, opinion exchange on stock options made by forum users can impact on the investment decisions before authoritative sources speak about the same issue. Nevertheless, if the web enables users to reach higher information quantities but are not filtered without the presence of gate keepers, then information may be not authoritative, reliable or easily maneuverable.

Now, considering the analysis made on the leading financial group, here the web seems to literally drag, as most commenting is on the news reported by newspapers. In order to understand how in this case users are more likely to follow the mainstream media rather than anticipate them, as it usually happens for smaller companies, we may refer to the recent dismissal of the former CEO of the group we are speaking about: the news has been debated on the web 2.0 but only after it happened. In the box below we show a comment that appeared in the Web 2.0 on September 25<sup>th</sup>, 2010, a few days after the group CEO announcement. Online users started to write on the web only after the publication of the news in an article in the newspaper "La Repubblica".

DOMAIN: www.finanzeonline.com

DOMAIN IMPORTANCE: Medium

CONTENT EVALUATION: 

POST: During a meeting Italian politicians spoke about the future of the big leading financial group. They made a three step plan to attack the manager: 1) alert the media about Libya, which has forced the CONSOB and the Bank of Italy to seek clarification with the manager; 2) media attack from Germany, with the "Süddeutsche Zeitung" irritated by the arrogance of the CEO; 3) hold an extraordinary council with the major shareholders "to re-examine the performance of management". This is exactly what has happened in those three weeks, and that has led the manager to leave the company.

As is pointed out above, in the case that the object of discussion is large companies, the web has only the role of commenting on the news shown in the newspapers. Nevertheless, in this case the information was be more authoritative, reliable and easily maneuverable. Indeed, the new way of disseminating opinions and of carrying out online discussions express a tradeoff concerning the quality of information provided.

Taking into account the new role that the web is acquiring, the new communication patterns that are arising, the increasing role played by the citizens in the strategies followed by the public and private sector (Ferro & Molinari, 2009), the public administrations have a big possibility to provide higher quality services. Indeed, thanks to new information sources, the speed through which information can flow and the availability of new tools, especially reputation management, the public administrations play a primary role in the regulation of investment services and activities and possess a higher amount of information to use when conducting their activities and providing advice. As can be seen above, especially in the case of small companies, CONSOB can be more ahead in the provision of information regarding printed media. Through the use of reputation management, CONSOB is able to know in advance questions concerning the market in which companies operate, their performance and the services provided to intermediaries. In this way, CONSOB can alert citizens and companies days before everyone becomes aware of events that are happening in society and that concern their performance.

## 5. Conclusions

The role of the Internet in opinion formulation and the achievement of a high reputation level in public and private institutions seems to be more and more relevant. As a matter of fact, this aspect represents an important factor to take into account in several areas. Indeed the role of the Internet is relevant in the process of policy making, such as policy acceptance and policy evaluation, in the

election campaigns and in activities related to institutional communication. In a society where blogs and social networks are taking over, the public administrations have to look at Internet with a different lens: they have to start to use the Internet efficiently and they have to see this instrument as a powerful communication tool. A survey conducted by Reputation Manager in January 2011 shows that around 450 Italian Mayors (over 5% of the total) - ranging from small villages to big cities such as Rome, Florence and Bari - have an official presence on Facebook. They use the social network to regain a direct communication channel with their constituency without the mediation actions and filters routinely performed by civil servants, journalists and organized stakeholders.

Specifically, in this paper we have analyzed how reputation management is used by public administrations in order to change and sometimes improve their service delivery. Particularly, reputation management is increasingly acquiring importance and its diffusion is rising due to the widespread diffusion of the Internet among citizens and companies, which has now reached a critical mass capable of establishing itself as a media reference. Specifically, reputation management's goal is to search for Web 2.0 content proactively in order to find issues posted by citizens not directly addressed to the person in charge for a given policy, but just commenting and highlighting on generic web sites – e.g. I'm not satisfied of the new road plan of my city and post this on a blog or forum instead of writing my disappointment directly to the town councilor.

The analysis conducted shows how companies are discussed on the Web. It has emerged how small and big companies follow different paths. Web users do not just follow printed press news but anticipate the new discussions. As for the small biopharmaceutical company web users tried to outline potential scenarios in order to understand how stock options are performing in the market. In such a case, the web moves faster than the printed press. Conversely, for large companies, well covered by official printed media, web users usually discuss the news already published, especially when they present bad comments or negative events relating to the brand. Nevertheless, a trade-off has to be evaluated in the Web 2.0 generation: is it preferable to have a huge amount of information, not filtered, not authoritative, not reliable and not easily maneuverable, or is more desirable to have less information, filtered, authoritative, reliable and easily maneuverable? This is the dilemma that is characterizing a period in which information flow is acquiring high speed, and web users are enhancing communication and new communication patterns are evolving.

Concluding, this paper shows how the Internet is impacting more and more on public and private activities. New tools are adopted, such as Reputation Management, which add value to the activities conducted by public agencies, (e.g. CONSOB) allowing them to adapt to changing communication environments.

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## About the Author

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Elisabetta Raguseo graduated in Industrial Engineering and Management in 2009 at Polytechnic of Turin. She started her Ph.D. Industrial Production System Engineering in January 2010 and she also covers an adjunct professor position at the Polytechnic of Turin. At the same time she is currently working at Istituto Superiore Mario Boella (ISMB) in Technology Intelligence Lab (TIL) as a Junior Researcher, where she works in ICT-related issues, such as technology diffusion and policy analysis in enterprises and public administration. Her research activities can be drawn back to the role that Information Technology (IT) has in enabling innovation in enterprises' business models, organizational structures and business processes. She also collaborates on these topics with the Piedmont ICT Observatory.

### *Paolo Mosconi*

For over 15 years Paolo has worked as project manager and business developer manager in multinational consulting organizations leading global and local teams in complex consulting and system integration engagements for Italian and European clients. In 2004, with other partners, Paolo has given birth to ActValue Consulting & Solutions: the advanced technology and services company that has created Reputation Manager. Paolo is ActValue's CEO and is actively pursuing Reputation Manager's international growth. Paolo holds an advanced degree in Engineering from the University of Pavia, Italy.

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Enrico Ferro is the head of the Technology Intelligence Laboratory of the Mario Boella Institute (ISMB), a research team studying the economic, social and policy implications of information and communication technologies. Over the last ten years Dr. Ferro has worked in many projects financed by the European Commission with roles ranging from scientific supervisor to senior expert. Dr. Ferro also covers an adjunct professor position at the Polytechnic of Turin where he regularly lectures on information management and strategies in both the public and the private sector. His research work has produced about twenty-seven

academic publications, one handbook of research and over thirty research reports. Dr. Ferro is actively involved in the organization of a number international academic events dealing with innovation management in the public sector (eGOV, DGO, HICSS).

# **E-Voting**

(peer-reviewed)





# Voting software to support election preparation, counting, and tallying

*Case Study of the Technische Universität Darmstadt*

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**Abstract:** *At the Technische Universität Darmstadt (TU Darmstadt) more than 27,000 voters have the possibility to cast a vote in several annual elections. Currently this is done on paper and the election outcome is counted by hand. The election is very complex due to the number of different departments, groups, and boards resulting in a large number of different races. Consequently this leads to a high administrative effort, and is also a potential for many accidental mistakes. This paper analyses whether, and under which conditions, the software called UniWahl4 in combination with a scanning and counting software called VividForms could be used in elections at the TU Darmstadt in order to simplify the process, reduce mistakes, and ideally reduce the costs. As a result, we identify advantages, missing functionalities, and possible improvements for this particular solution. Based on this, we provide recommendations for future computer assisted elections at the TU Darmstadt. This paper also supports other universities in their decision to use this solution because, currently, neither scientific studies nor field reports are available for UniWahl4 and VividForms.*

**Keywords:** eVoting, computer assisted election preparation, scan based counting

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## 1. Elections at the TU Darmstadt

**C**urrently, there are 23,100 students studying at the Technische Universität Darmstadt (TU Darmstadt). Moreover, 270 professors, 2,150 scientific members, and 1,750 administrative members are working at the TU Darmstadt<sup>1</sup>. Correspondingly, more than 27,000 people are eligible to cast their vote in the annual election. This election<sup>2</sup> spans several races namely for the student parliament, for the council of students association, for the department councils, for the university parliament, and for the boards of directors. Not every voter is eligible to vote in all of these races; some are group-specific, others depend on the department affiliation. Not all of these

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<sup>1</sup> [http://www.tu-darmstadt.de/universitaet/profil\\_1/zahlenundfakten/index.en.jsp](http://www.tu-darmstadt.de/universitaet/profil_1/zahlenundfakten/index.en.jsp), Retrieved Feb 28, 2011.

<sup>2</sup> There are even more small elections; but which are not taken into account for this paper.

elections are held every year and some are not run for all four groups of voters (students, professors, scientific and administrative members). For instance, only students vote in the student parliament race. The university distinguishes between two different types of elections. The election is called a *large election* when all groups are eligible to cast a vote for their representatives in the university parliament and the department councils. Every second year just students vote in these two boards and all scientific and administrative members just vote for their boards of directors. This election is then called a *small election*. Other races like the representatives of the student parliament are held every year.

These different races (depending on the number of different departments, the four different groups of voters, and the different boards) result in a large number of unique ballot sheets which are necessary for each election. For example in 2010 there were 89 (in 2009: 75). Most (55) of the ballot sheets are for the races of the board of directors. Moreover, every voter gets more than one ballot sheet, e.g. the students of the Faculty of Architecture got three and all others got four. The election organization gets even more complex because different legal regulations<sup>3</sup> are in place for different races; for instance, in general the university runs a party-proportional representation and the constitution of the students (StSTUD, 2010) requires the application of the Sainte-Laguë algorithm<sup>4</sup> for the assignment of seats, while the legal foundation of the TU Darmstadt (WOTUD, 2004) requires the application of the largest remainder method (according to Hare-Niemeyer<sup>5</sup>) for all other races. In 2010, sixteen races have been held using the Sainte-Laguë algorithm and 73 using the Hare-Niemeyer algorithm. If only one party exists (which happens quite often) or only one seat will be assigned (boards of directors) the university runs a plurality voting system (WOTUD, 2004). In 2010, 30 races (88.24% of all 34 races with party-proportional representation) nominated only candidates of one party. As the number of free seats varies for each group and for each board, the rules to cast a valid vote are different in each race.

So far, the elections are held in polling stations using traditional paper ballots as well as through postal voting. In 2010 the voter turnout was 23.84% amongst all voters (23.73% amongst students), and 30.51% amongst all voters (29.78 % amongst students) in 2009<sup>6</sup>. In the following, we will explain the processes implemented at the TU Darmstadt for the three phases of an election; namely the pre-election phase, the election phase, and the post-election phase.

**Pre-election phase.** In the pre-election phase all documents like the list of candidates per board and group of voters, ballot sheets, documents for postal voting, counting sheets, tallying tool in Excel, and election result reports are created manually. The election officer first enters the candidate information per race into a document<sup>7</sup> which is then used as basis to compile all other documents. The data is manually copied and pasted from this document to the others (all either templates in Word or Excel). This whole process is very complicated, time-consuming, and obviously error-prone. Ballot sheets are printed on paper with different colours to simplify the delivery of the right ballot sheets for a particular group of voters but also to simplify sorting for the counting phase.

**Election phase.** The polling stations are open for four days from 10.30 am to 2.30 pm. There are two different polling stations at two different locations; both close to or in the canteen. The

<sup>3</sup> The legal foundation of the 'Wahlordnung der Technischen Universität Darmstadt' (WOTUD, 2004) is the 'Hessisches Hochschulgesetz i.V.m' (HHG), the 'Grundordnung der Technischen Universität Darmstadt' and the 'Satzung der Studierendenschaft der TU Darmstadt' (StSTUD) in the respectively valid version.

<sup>4</sup> <http://www.wahlrecht.de/verfahren/stlague.html> (German only), Retrieved Feb 28, 2011.

<sup>5</sup> <http://www.wahlrecht.de/verfahren/hare-niemeyer.html> (German only), Retrieved Feb 28, 2011.

<sup>6</sup> [http://www.intern.tu-darmstadt.de/dez\\_ii/wahlamt\\_1/wahlamt.de.jsp](http://www.intern.tu-darmstadt.de/dez_ii/wahlamt_1/wahlamt.de.jsp) (German only), Retrieved Feb 28, 2011.

<sup>7</sup> Using Word or Excel templates.

voter can decide where to cast his vote because the polling stations are connected with an online voter register over the TU Darmstadt intranet. As it is not an easy task for the poll workers to decide on Election Day which group of voters gets which ballot sheets, every poll worker is in charge of a particular group of voters (students, professors, scientific and administrative members). The voter gets his corresponding ballot sheets and an envelope, casts a vote in the polling booth, puts the ballot sheets in the envelope, and puts this envelope into the ballot box. There are different ballot boxes – one for each group. During the four election days, in 2010, 20 poll workers per day were required.

**Post-election phase.** After having closed the polling station, the ballot boxes are carried to a central place, where all votes including the postal votes are counted. Before starting the counting, the envelopes are opened and the ballot sheets are sorted according to the races. Stacks of 50 ballot sheets per race are built. At every table four people count in pairs of two while in general there is one additional person supervising and observing this process. Votes are counted using counting sheets<sup>8</sup> per race and candidate. In general, one person of the team reads aloud the chosen candidates or mentions that the vote is invalid to the other one in the team, who adds a bar for the corresponding candidate in the counting sheet. After the counting the tallying starts where the seats of the party-proportional representation are assigned using the largest remainder method or Sainte-Laguë. Note that the results of the plurality voting system can be entered directly in the report of results.

In 2010, 40 poll workers counted and tallied the votes. In 2010 they had to count 18,276 votes (bear in mind, there were 89 different types of ballot sheets). It was an even bigger effort in the large election of 2009 where the poll workers had to count 22,565 votes on 75 different ballot sheets<sup>9</sup>. Although neither cumulative voting<sup>10</sup> nor vote splitting<sup>11</sup> is used, the utilisation of a counting sheet frequently leads to errors and due to the high number of voters and different types of ballot sheets and rules to cast a valid vote, the poll workers often have to stay until late at night. As a result it is natural, due to the human factor in elections that the poll workers take a pass on recounting or work inaccurately.

Due to the large number of voters, different groups, different departments, and different boards, and consequently many different types of races and corresponding ballot sheets, the actual election causes a *high administrative effort in particular during the pre- and post- election phase*. Moreover, the whole process is *error-prone* caused by the huge number of *manual steps, different races with different rules for valid votes and different tallying algorithms*. Therefore, we analyse in this paper whether computer assistance for the pre- and post- election phase<sup>12</sup> can improve the situation and thus decrease the administrative effort and increase the accuracy of the election result without changing the vote casting process for voters. In particular, we analyse whether, and under which conditions, the software called UniWahl4 in combination with a scanning and counting software called VividForms can be applied for the above mentioned elections at the TU Darmstadt.

We decided to analyse this particular solution because UniWahl4 was developed primary for elections at universities and it has been used for many years at 55 institutions at least to support

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<sup>8</sup> Next to each candidate's name is a free space where the poll worker can make a bar for every valid vote (for the corresponding candidate).

<sup>9</sup> [http://www.intern.tu-darmstadt.de/dez\\_ii/wahlamt\\_1/wahlamt.de.jsp](http://www.intern.tu-darmstadt.de/dez_ii/wahlamt_1/wahlamt.de.jsp) (German only), Retrieved Feb 28, 2011.

<sup>10</sup> In cumulative voting, voters can cast multiple votes for one candidate (e.g. three for one candidate instead of one for three candidates).

<sup>11</sup> In vote splitting, the voter can cast multiple votes and can cast these for candidates from different parties.

<sup>12</sup> Electronic voting or in particular online voting has for now not been considered for the TU Darmstadt caused by the decision of the Federal Constitution Court 2009. This may be a topic for further research.

the pre-election phase. Further, UniWahl4 provides an interface to VividForms to tally the votes scanned and counted by VividForms which is used for example at the University of Potsdam. Moreover, VividForms is a part of EvaSys Education which is developed by Electric Paper especially for organisations in the education field and thus used by many universities. It is already used by the '*Hochschuldidaktische Arbeitsstelle (HDA)*'<sup>13</sup> of the TU Darmstadt for course evaluations. Correspondingly, the university already has experience with this software and owns the corresponding scanners and licences.

In Section 2, we describe how UniWahl4 supports election preparation and explain scanner based vote counting with VividForms as an extension to UniWahl4. In Section 3, the feasibility analysis of UniWahl4/VividForms for elections at the TU Darmstadt is proposed. Here, the required functionalities are compared with the supported ones in particular related to the ballot sheet layout, supported legal regulations, and precision of the scanner based counting. Before we summarize our results and deduce recommendations for future elections at the TU Darmstadt in Section 5, we analyse in Section 4 other projects introducing electronic voting for lessons learned to take these into account for our recommendations.

## 2. UniWahl4 and VividForms

This section introduces UniWahl4 and its functionalities. In addition, the software called VividForms as a basis component for scanned based counting is introduced and the interaction between these two components is explained.

**History.** In 1998 Prof. Frens Peters and his team from the University of Applied Science in Hannover implemented the UniWahl4 software which is continually improved and extended. So far, 55 universities and universities of applied science have bought the software<sup>14</sup>. The company Electric Paper developed EvaSys Education for the education field to provide computer assistant course evaluation which is used in many universities. In 2005, the developers of UniWahl4 and Electric Paper<sup>15</sup> started a common project with the goal to integrate scanning and automatic counting of votes in UniWahl4. Correspondingly, licences from both companies namely UniWahl4 and Electric Papers are required<sup>16</sup> to use the full functionality<sup>17</sup> for UniWahl4.

**UniWahl4.** The software UniWahl4 assists election authorities in all steps of an election. They can set up different races, defining title, rules to cast a valid vote, and the candidates. The software supports different legal regulations and election types including cumulative voting or belated nomination<sup>18</sup> as well as personalised, bounded and combined lists<sup>19</sup> for party-proportional

<sup>13</sup> The '*Hochschuldidaktische Arbeitsstelle*' is a central scientific institution at the TU Darmstadt which supports the further improvement of teaching by advising, evaluation, projects, studies and education.

<sup>14</sup> <http://www.uniwahl-soft.de/Download/Installationen-Tabelle-kurz.pdf> (German only), Retrieved Feb 28, 2011.

<sup>15</sup> Electric Paper provides data acquisition and data evaluation software for several areas of application. EvaSys Education is especially for organisations in the education field and mainly used to create questionnaires, read them in by a scanner and evaluate the data automatically (<http://www.electricpaper.de/produkte/evasys-education.html>) (German only), Retrieved Mar 2, 2011.

<sup>16</sup> Starting in 2011, the scanning and evaluation software will become part of the UniWahl4 software and the whole solution will be sold by UniWahl4. As further information about this new product is not yet available, we will not take this new development into account for our paper.

<sup>17</sup> Two other options are the application of electronic tallying with EvaSys in the absence of UniWahl4 and the tallying script developed and used at the Otto-von-Guericke University Magdeburg. As the first one has several disadvantages (in particular regarding usability) and as information about the second one is missing, these options are not considered in this paper.

<sup>18</sup> In belated nomination the voter has the possibility (during the casting of votes) to nominate and vote for a further person which is not nominated so far.

representations and plurality voting. The software automatically switches from a party-proportional representation to a plurality voting system when just one party is nominated. It also supports different tallying algorithms namely D'Hondt, Sainte-Laguë, and Hare-Niemeyer and offers the possibility to use a lottery for the assignment of free seats. During the electoral process all necessary documents such as;

- time tables with all dates and deadlines in the electoral process,
- election overviews with all races and number of free seats,
- election announcements as pdf or html
- documents for postal voting,
- ballot sheets
- counting sheets
- election result reports

can be automatically generated by UniWahl4. The election officer defines text outputs and layouts of all these documents. For example it is possible to represent the candidate names on the ballot sheet in a table with multiple columns. According to this a ballot sheet contains a maximum of around 50 candidates. Afterwards they have the possibility to change the ballot layout in Word before printing the ballot sheets. To simplify the input of data for candidates and voters (to generate for example documents for postal voting) a voter register can be integrated in UniWahl4. In the post-election phase the electoral office can enter the results in UniWahl4 by editing the number of valid votes in the field next to the candidate. Further fields exist to enter the number of valid and invalid ballot sheets (Peters, 2010b).

**VividForms.** VividForms is a part of the software EvaSys Education from Electric Paper. The marked ballot checkboxes are detected by their filling degree and the user can set the preferred settings. For example it is possible to specify that a fully filled ballot checkbox is interpreted as a revision and the user can declare from which threshold on a checkbox is identified as marked.

**Combination of UniWahl4 and VividForms.** UniWahl4 provides an interface to the VividForms Reader and VividForms Scanstation to load scanned votes. Further, it provides a new interface called VividForms Creator. This interface was developed by Electric Paper. VividForms Creator adapts the ballot sheets created with UniWahl4 in a way that the other two components are able to properly scan and interpret the scanned image. Every ballot sheet has marked edges so that the scanner can identify the position of the ballot sheet and as a result also the position of the several ballot checkboxes. In addition every ballot sheet contains a barcode which defines the related election in order to associate the filled ballot checkboxes with particular candidates (compare to Figure 1c). Therefore it is not necessary to sort the ballot sheets by races before scanning. VividForms Creator also generates an electronic version of the ballot sheet which is imported to the VividForms Scanstation and an xml-description for the VividForms Reader. With this information, the votes can be scanned, counted and imported to UniWahl4 for the final tallying. Afterwards, it is possible to change the design of the ballot sheets or add comments as long as the position of the ballot checkboxes stays the same. Note, not all UniWahl4 functionality to create races and ballot sheets is available if it is used in combination with VividForms to import the scanned and counted votes. Examples include paper formats other than DinA4 like landscape, DinA5, DinA3 or duplex which are not supported. In addition it is not possible to integrate several

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<sup>19</sup> When a personalised list is used the voter casts several votes for candidates (of several lists). When a bounded list is used the voter casts votes for several lists (but not for the candidates in the lists). When a combined list is used the voter has the possibility to cast votes for several candidates and lists (combined the principle of personalised and bounded lists).

votes on one ballot sheet because every type of vote has its own barcode for identification. The use of a table with multiple columns to present the candidates is supported but the name of each candidate has to fit in one line. Most of the legal regulations are implemented but the use of bounded or combined lists and vote splitting is not supported.

### 3. Feasibility analysis

After having understood the election with all the different races at the TU Darmstadt and the functionality of both UniWahl4 and the VividForms extension, we analysed the feasibility of these solutions for the election at the TU Darmstadt. As a result, we identify advantages, missing functionalities, and possible improvements for this particular solution. Our analysis is divided in two parts: First, we created the 2010 election with the 89 different races in UniWahl4 (which we received free for our research) and then we visited the developers of UniWahl4 at the University of Applied Science in Hannover for a workshop. Here we could ask questions and observe the scanning and counting of votes with VividForms and how the result of the counting is imported to UniWahl4. We scanned a stack of ballot sheets more than one time, folded a couple of ballot sheets, used coloured paper (light yellow, which is currently not used at the TU Darmstadt) and added some invalid ballot sheets. Furthermore we could gather experience in how long electronic tallying takes.

The goals of these two case studies were to analyse;

1. whether the solution as a whole is user-friendly by identifying where we had difficulties to proceed,
2. whether the provided functionality is sufficient for the TU Darmstadt election in 2010 including
3. providing all information on the ballot sheets which are currently provided
4. supporting all different ballot formats and tallying algorithms,
5. In addition we analysed
6. whether and where the election administration process could be simplified with this solution, and
7. whether the election results would be more reliable and accurate as opposed to manual counting.

Our results are categorized according to the different phases of the case studies.

**Installation.** It was easy and straight forward to install UniWahl4 on the local PC. The accessibility of VividForms on the other hand was problematic. At the TU Darmstadt VividForms is installed on a server and can be accessed by a web interface. It was not possible to additionally install it on a local PC nor use the server version. The latter was not possible as it is necessary to replace some of the VividForms files with those delivered with the UniWahl4 software. The problem was that the HDA were evaluating lectures and they were afraid to replace the files of a running system. In addition, it is recommended to install both components on a local PC which is used only for elections. There are two reasons for this: First, other functions of the course evaluation are not disturbed and second, the evaluation cannot interfere (or manipulate) the counting process. This makes sense. However, it means that the TU Darmstadt would need at least one additional VividForms license. Note, the installation will become much easier as soon as VividForms is also integrated in UniWahl4 and as a result just one software package has to be installed. However, the cost will increase.

**Election, races and ballot sheet generation.** It took us a while to get used to the UniWahl4 software although the manual (Peters, 2010b) is very detailed. In particular we had problems identifying which text field and which option in the software causes text at which position on the ballot sheet and causes which layout. The software uses a cloze and fills the blanks with the

appropriate information. It was confusing that some text fields were global ones and thus modify all ballot sheets and others like the name of the board and the name of the voter group modify only single ballot sheets. The cloze is made for an election where all races are related to one board why did we have to generate several UniWahl4 data files to adapt the layout of the TU Darmstadt ballot sheets (one file for every board). The layout of the original TU Darmstadt ballot sheets could not be copied but those designed with UniWahl4 contained all important and necessary information from the original TU Darmstadt ballot sheets (compare to Figure 1c)). However, this does only hold without the application of VividForms. VividForms could not carry over the text layout and some design layouts constructed in UniWahl4. For example the ballot checkboxes next to the candidates to mark a selection on the VividForms ballot sheets become tiny (0.35 cm) and show up on the left side of the candidates' names which looks like an itemization<sup>20</sup>.

It is possible to cover all the different regulations applicable for the election at the TU Darmstadt. The number of seats and thus votes can be defined per race. The software can automatically switch per race from a party-proportional representation to a plurality voting system when just one party is nominated. Nevertheless, if electronic counting with VividForms is used just personalised party-proportional representation is supported. Correspondingly 95,51% of the races in 2010 could be scanned and automatically counted with VividForms. But the two largest races (student parliament and university parliament), where all 23,100 students are eligible to cast a vote, are party-proportional representations with more than one nominated party and still have to be counted manually. UniWahl4 supports both required tallying algorithms: largest remainder method and Saint-Laguë. However, both tallying algorithms cannot be used for one election but after having entered the number of votes per candidate it is possible to switch between the two algorithms for the same election. Correspondingly, one would get a results document both for the whole election and the electoral office and would then have to take the results for each from the proper results document. This solution seems confusing and error prone. If only the DinA4 format is supported, it would be preferable to have the option to have two races on one ballot sheet. Then it would save paper and the scanning process would only take half of the time. However, this is not supported in the current versions (refer to Figure 1).

**Scanning and Counting.** First the user has to define which degree of blackening leads to a marked ballot checkbox. When coloured paper is used, additionally a threshold value for the intensity of the sheet has to be defined. These values are based on experience and are hard to judge at the beginning. However, the manual (Peters, 2010a) gives some proposals which the software also uses as default settings. The required time for scanning and counting depends in a large part on the duration the scanner needs to scan the ballot sheets. In addition the computer has to analyse the ballot sheets and the electoral office needs to check the invalid and not identified votes. Often it is a matter of only a few ballot sheets but this could result in a high administrative effort such as at the TU Darmstadt, when 25,000 votes have to be evaluated. The number of invalid votes in the election 2010 has been around five per cent which leads to more than 1,000 ballot sheets which have to be checked. This effort could be reduced because the poll workers have to sort them anyway and can remove all empty pages and invalid votes at the same time. So far an inconvenient protocol indicates what percentage of colour which ballot

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<sup>20</sup> As soon as the components become one software package they are going to extend the functionality on UniWahl4 in combination with VividForms. Thus, there will be no differences whether an electoral office uses just the election preparation functionality of UniWahl4 or also the VividForms scanning and counting of votes.

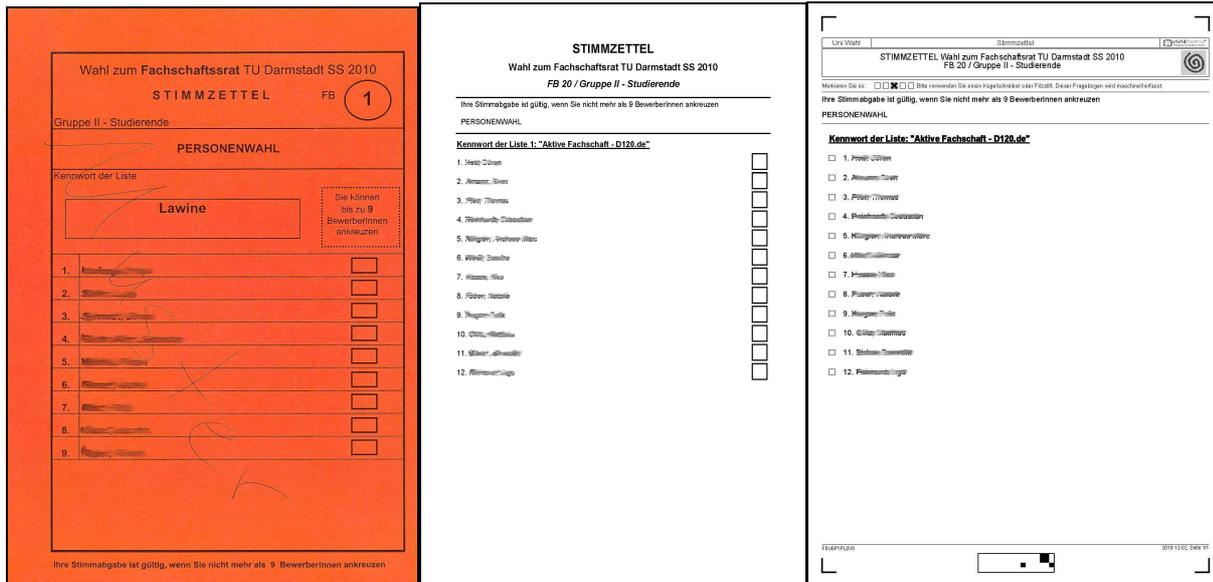


Figure 1: Ballot sheets generated by a) the TUD, b) UniWahl4, and c) VividFormsCreator

checkbox on which ballot sheet contains. On the basis of this information the user has to choose the right picture in a multi-tiff file, check it and where appropriate insert the vote manually. The number of valid and invalid ballot sheets is counted in several edit fields. To insert an individual vote this way seems to be fault-prone and not very user friendly. Furthermore there is no protocol which contains how many votes have been inserted manually and how many by a scanner, and accordingly how many votes candidates got from scan based counting and from manual counting.

**Simplifying the administrative processes.** Even when scan based counting is not used UniWahl4 significantly reduces the administrative effort of the electoral process. So far the electoral office has to copy the data of every race in several templates to create the website, ballot sheets, counting sheets and election result reports. Through the use of UniWahl4 the information has to be inserted just once and all needed documents can therefore be generated automatically. Furthermore when the user wants to set the candidates he has the option to load the voter register (which also contains the data of the candidates) and extract the needed information from there. Also in the post-election phase the electoral office benefits from the software. After the counting it is no longer necessary to tally the votes for the proportional representations with a tool. All counting sheets can be inserted in the software which calculates the results for all races according to their associated legal regulations and generates the reports of election results<sup>21</sup>.

When additional electronic counting is used the administrative process can be simplified even more. So far during the counting the poll worker has to decide whether a ballot sheet is valid or not, by counting the number of marked candidates and checking against associated number of votes. Prior to this the electoral office sorts the ballot sheets by associated board and groups of voters to simplify this step. When electronic counting is used the results of the scanned ballot sheets could be imported directly in UniWahl4 and the decision whether a ballot sheet is valid or not is made by the software. Furthermore when just one UniWahl4 file is used it is no longer necessary to sort the ballot sheets, although it is still recommended for reasons of clarity.

**More reliable and accurate election results.** Afterwards, the precision of the electronic tallying can be analysed. With a plausibility check the distinction whether a vote is valid or not can be taken. But this is bound by the degree of blackening of the ballot checkboxes. Therefore, an invalid vote with drawings or comments on the front or back cannot be recognized and it is necessary to

<sup>21</sup> Some legal regulations are global settings and valid for all races in one election.

sort them out. Like in the evaluation software it is possible to delete a casted vote by completely blackening the ballot checkboxes. Nevertheless this setting is questionable because the right threshold value between a filled ballot checkbox and a thick cross has to be figured out. When the electoral office decides not to allow this feature this should be brought to the voters' attention because students could recognize a similarity with the evaluation system and mistakenly use checkbox filling. To wrinkle the ballot sheets did not cause any problems with the scanner so far. According to the interviewed universities<sup>22</sup> until now nobody reports about paper jam or picking of more than one page at the same time. But some problems occurred with copied pages. Often the anchor points could not be identified or they disappeared during the copying, thus, the votes have to be added manually. It is possible to set which steps the software should calculate. The casting of lots should be deactivated to afford more transparency to the voter. All replicable calculations like the usage of the largest remainder method and Saint-Laguë should be calculated by the program to minimize the administrative effort and the error-proneness. Another disadvantage of the program is that it is not open source, but it is possible to inspect the source code by appointment. Because this assurance has been made by the University of Applied Science in Hannover it is only valid for the components they have built like UniWahl4 and soon also VividForms Creator. Whether VividForms Reader and VividForms Scanstation can be inspected has yet to be decided with Electric Paper.

#### 4. Electronic voting at other universities

Before we summarize our results and deduce recommendations for future elections at the TU Darmstadt, we have analysed other projects introducing electronic voting for any lessons learned. As there are so many projects, we decided to take only those from other German universities into account as well as the large federal Austrian project from 2009.

**University of Osnabrück.** The first legally binding online vote at a German university took place at the University of Osnabrück in February 2000 (Lange, 2002 & Will, 2002). 106 of the 10,000 Students cast their vote using the online voting system *i-Vote*. Quite a few problems and a few vulnerabilities have been identified (Philippsen, 2002 & Lange, 2002). For example many voters received their signature cards too late and others had problems with installing the card reader. In addition, the server was down several times and the tallying software did not tally the stored votes properly.

*Lesson Learned 1:* It is important to run test elections especially when voters need to install new hardware or software to get voters used to it, and further improve the system. Furthermore, besides the technical aspects the concept describing the organisational processes is also very important and needs to be tested in advance.

**University of Applied Science in Hannover.** A few months later the students at the University of Applied Science in Hannover started using online voting as well. The university designed their own online voting system as a student project. The voters received a PIN and a TAN and the communication was secured by SSL. Thus, additional hardware and software were not required. Problems like those in Osnabrück did not occur. However, the project has not been continued because the goal to raise the voter turnout was not achieved<sup>23</sup>. Furthermore, for long-term use the system has to be improved, however this may prove to be too expensive.

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<sup>22</sup> In the course of writing this paper the University of Applied Science in Hannover, University of Potsdam, University of Tübingen, and the Otto-von-Guericke University Magdeburg gave us an interview.

<sup>23</sup> , <http://www.stud.fh-hannover.de/~peters/Internetwahl/bericht.pdf> (German only), Retrieved Feb 28, 2011.

*Lesson Learned 2:* A cost benefit analysis should be applied before the project and election officials should be involved in the development process to make the administration as easy as possible for them.

**Jena University.** In May 2010 the University of Jena decided to test online voting with the Polyas system<sup>24</sup> for the election of the 'Graduierten Akademie'<sup>25</sup> board with 451 voters. Costs, effort, and election turnout were the same as before<sup>26</sup>. Therefore, the university planned to provide online voting for the large election in 2011.

*Lesson Learned 3:* It might be helpful applying electronic voting first to a small election or small group of voters to clarify a lot of questions (regarding administration and costs) and to get familiar with the system. Note that a rerun in small elections or with a small group of voters is not so expensive.

**Austrian Federal Student Parliament Election.** 2009 the 'Bundesministerium für Wissenschaft und Forschung' initiated the first, legally binding online vote in Austria (BMWF, 2010) for the student parliament. This was done without discussing the idea with the students which led to tempered reactions, heated debates, bad press, complaints to the Austrian 'Verfassungsgerichtshof' (Sokolov, 2009), low voter turnout, and people trying to manipulate the system. In addition, in spite of preliminary tests, an error in the electoral register caused irregularities. Some voters could not cast a vote and others voted more than once.

*Lesson Learned 4:* The reaction of the students in Austria shows how important it is to involve the voters in the realisation of a new voting system. In addition, this large project shows that you need to start the project some time in advance to have enough time to test every component.

**Karlsruhe Institute of Technology.** The 'Europäisches Institut für Systemsicherheit' at the Karlsruhe Institute of Technology built a voting machine called Bingo Voting<sup>27</sup>. The goal was to implement a system providing individual and universal verification. In 2008 the system was used in the election for the student parliament and the electoral committee realised extensive benefits. The new system was finalized just one day before the election. Technical problems with the chip card occurred and vote casting took too long. Furthermore, it is unclear whether the developers and administrators had the possibility to break the election secrecy<sup>28</sup> (Wolf, 2008).

*Lesson Learned 5:* This example shows that enough time should be scheduled to develop and analyse new software before using it in an election. In doing so technical errors can be avoided and weak spots detected. Also a test in an election with fewer eligible voters like at the University of Jena would have been useful at this point. The developers could test in advance how user-friendly the new voting system is and how long it takes to cast a vote.

## 5. Summary and recommendation

In this paper we summarize the election regulations, rules, different races, and processes currently implemented at the TU Darmstadt. This description shows that the processes are very complex, require a high administrative effort, and are very error-prone. Specifically the manual generation of ballot sheets and the manual counting of so many votes from different races with different rules to cast a valid vote may lead to a lot of accidental mistakes. This might influence the accuracy of the election result.

<sup>24</sup> <http://www.micromata.de/en/index.jsp> (German only), Retrieved Feb 28, 2011.

<sup>25</sup> The 'Graduierten Akademie' is an umbrella organization for all graduate schools within Jena University.

<sup>26</sup> CAST Seminar "Elektronische Wahlen", Darmstadt, Nov 24, 2010, this information is available on request.

<sup>27</sup> <http://www.bingovoting.de/> (German only), Retrieved Feb 28, 2011.

<sup>28</sup> <http://www.usta.de/sites/www.usta.de/files/protokolle/stupa/080702.pdf> (German only), Retrieved Dec 23, 2010.

We analysed the application of the UniWahl4 software in combination with VividForms. We demonstrated in our first case study that UniWahl4 provides all functionalities to use the software in order to improve the processes in the pre- election phase. It might be required to create more than one election to get a ballot sheet layout similar to the previous ones but this seems to be feasible. From our point of view it might take some time for the first election to create all the different races but afterwards, it is much easier because all the required documents like the list of candidates per board and group of voters, ballot sheets, counting sheets, and report of election results and even the postal vote documents can be generated automatically if the election register is imported into UniWahl4. UniWahl4 without the VividForms extension can also be used for the tallying. We recommend using UniWahl4 only for the tallying but not for the counting as the manual counting (clicking on a candidate for each vote he got) seems to be very error-prone, too. Using the tallying functionality has the advantage that you can use the election result report functionality as well. Note that currently you need to create more than one election to handle the different ballot sheet layouts and the different tallying algorithms (2010 in total five, one for every board) and correspondingly you get several election result reports. Thus, we recommend that UniWahl4 extend the software in a way that the TU Darmstadt could implement all their races in one election and would correspondingly just get one election report for all the races.

The scan based counting with the VividForms extension can only be recommended for the TU Darmstadt to a limited extent. In general, we would recommend a scan based counting but the functionality provided does not cover what is required. Mainly, the large races with around 23,000 eligible voters like the election of the university parliament and the student parliament in 2010 are a bundled list which is currently not possible to be counted electronically. Currently, only the small elections could profit from this electronic voting system. Thus, we recommend that UniWahl4 extends the functionality to enabling automatic counting of these types of ballot sheets.

The ballot checkboxes to mark a candidate are very small and irritating. Thus, we recommend for a future version of UniWahl4 enabling the user to define the size of these boxes. Further, it is discussed in Section 3 that the software does not store information on how many votes a candidate got from the scan based counting and how many from manual counting. Correspondingly, this information is also not provided in the election result report. However, this information helps to detect errors. Thus, we recommend adding this information to the election result report.

To conclude, we can already recommend using UniWahl4 in the current version for the election preparation phase at the TU Darmstadt. We would also like to see the above recommendations implemented in a later version to also be able to recommend the scan based counting and tallying to the TU Darmstadt election authorities. Introducing UniWahl4 will reduce the administrative effort but will produce costs. If the university decides to go for a more computer assisted election preparation with UniWahl4, this should not be a big deal and the lessons learned from the projects mentioned in Section 4 are not relevant. However, before starting an internal project to introduce UniWahl4 with scan based counting, these lessons learned should be taken into account. That is, there should be enough time to get used to the software particularly for the counting and tallying process. Special training might be required but for fewer poll workers.

Another lesson showed that it is important to test a new voting system before using it. Therefore before using UniWahl4 for tallying as well, during the first elections the results of the manual counting and tallying (using of the regular tools) should be compared with the outcomes of the scan based counting and tallying by UniWahl4. In the beginning, as mentioned in *lessons learned 3*, this could be done for just some races to minimize the additional effort.

Moreover, we recommend developing a concrete process description for the post-election phase. For instance, if the scanning software used is not able to identify invalid votes caused by comments, marks or painting on the front or backside of the ballot sheet. Therefore they have to be

sorted out prior to the scan based counting and need to be entered manually afterwards. Furthermore, after having tested the systems, the electoral office might want to manually cast some of the scanned votes and compare the result to convince people that the scan based counting works. However, the description should also deal with the fact that there is a difference between manual counting and scan based counting. In addition, the rules and tasks of the observer should be defined and should describe how to decide about votes that the counting software could not interpret.

We believe that an improved version of UniWahl4 will reduce the administrative effort and increase the accuracy of an election result. Further, we believe that by taking the lessons learned into account and carrying out a proper post-election process such a project would be successful.

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# Selectio Helvetica: A Verifiable Internet Voting System

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**Abstract:** *Few governments have introduced electronic voting so far. They are all facing criticism regarding the trustworthiness of their systems. The project “Selectio Helvetica” aims at developing an Internet voting system that can withstand such doubts more easily. It offers full transparency by publishing all the relevant voting data on a public bulletin board. This enables voters to verify the inclusion of their votes and the correctness of the tallying. The underlying cryptographic protocol differs from other protocols since it involves mixing the voters’ public signature keys, rather than mixing the votes themselves. This paper introduces the Selectio Helvetica project and the cryptographic protocol in a way that is meant to attract an audience that does not necessarily have much technical background; namely representatives from legislation, jurisdiction, governmental chancelleries and, not least, the electorate itself.*

**Keywords:** Electronic Voting, End-to-End Verifiability, Hybrid Voting Systems, Public Key Mix-Nets

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**O**ver the past decade, the Internet has enabled providers across all sectors to profoundly improve their services. In particular, online banking services have enjoyed their breakthrough. Just as e-voting technology must do today, e-banking had to withstand doubts. It seems unlikely that doubters have gained their trust by reading the software manuals of their banks. It was rather positive experience over time that made e-banking appear to them to be sufficiently safe. By observing their balance sheets, even doubters were able to verify that their transactions are booked correctly. In the vast majority of cases, things just did not go wrong.

## 1. Introduction

If e-banking works, why should people distrust e-voting systems? After all, it seems far more tempting for criminals to steal money instead of votes. But is it really? The temptation to commit a crime is generated not only by the pay-off in the case of success. It is also qualified by the probability of the crime actually succeeding. Since banks traditionally provide recurring transaction summaries, customers can always object if they feel their money has been stolen, thus exposing

the crime. Voting providers (governments) are not blessed with any similar mechanism. As a matter of fact, they never needed to convince individual voters that their votes have been considered in the final tally; the voters convinced themselves by observing their ballot slip going into the ballot box while knowing that the box remains under surveillance throughout the rest of the voting procedure. In contrast, a given e-voting system, which requires the electorate to blindly trust in the correct transmission of their ballots, might arouse the temptation of letting some votes disappear. A sophisticated e-voting system will therefore come along with a mechanism that convinces voters that their electronic votes have correctly reached their destination.

Putting an appropriate mechanism in place is unfortunately far from trivial; if it is good at convincing voters that their votes will be counted, it will be good at convincing violent coercers or vote-buyers as well. Furthermore, unlike customers in e-banking, voters do not only consider the destiny of their own ballots. While bank customers pay no attention to their neighbors' transactions, voters will want to be convinced that the final tally properly reflects the electorate's will, or technically speaking, that the ballot box contains ballots cast by eligible voters only, and one at most. An e-voting system that requires the electorate to blindly trust in the content of the ballot box being correct, might invite criminals to add extra votes for their favorite candidate.

The few governments that have introduced e-voting so far are facing criticism regarding the trustworthiness of their systems (Schryen & Rich, 2009). *Selectio Helvetica* (SH) is a project aiming at developing an Internet voting system that can withstand such doubts more easily. In particular, it is designed to solve the hard problems that have been described so far, while maintaining the secrecy of the ballot.

This paper describes the SH system and outlines its security features along with potential pitfalls. Apart from the e-voting research community, it is meant to attract an audience that does not necessarily have much technical background; namely representatives from legislation, jurisdiction, governmental chancelleries, and not least, the electorate itself. We thus hope to integrate potential stakeholders into the assessment of contemporary e-voting techniques in general, and the presented scheme in particular. The objective of such an assessment is an operative e-voting system that fulfills legal requirements, complies with voting traditions, and has well-analyzed security properties, which all stakeholders can understand and declare as sufficient.

SH is currently being developed at the Bern University of Applied Sciences (BFH) in Switzerland. A preliminary version of the SH system has been employed by *Baloti.ch*. This is an Internet voting platform for Swiss migrants provided by the Centre for Democracy Studies (ZDA) in Aarau.

## 2. Electronic Voting and Cryptographic Primitives

For an e-voting system to be secure, it has to function without vulnerabilities in potentially insecure environments such as the Internet. By *insecure environment* we mean that the existence of malicious individuals (or co-operating groups of malicious individuals) is assumed throughout the whole system. For example, it is assumed that network traffic is intercepted, system administrators are corrupt, voters try to cheat, computers are infected by malware, etc. For an e-voting system to work properly even under such unideal circumstances, it has to be implemented according to an intrinsically secure design. As a guideline for designing and implementing such a system, the literature on e-voting technologies offers a whole catalogue of *general security requirements*, which the system should satisfy under all possible scenarios (Cranor & Cytron, 1996, and Nielsen & Andersen & Nielson, 2005). The key instrument for establishing these requirements is cryptography. Below we will informally introduce the most important of these requirements and corresponding cryptographic primitives. Some of these primitives will also be used in the SH system.

## Privacy

An e-voting system is private if no vote cast can be linked to its voter, neither by voting authorities nor anyone else (anonymity), and if no voter can prove that he or she voted in a particular way (receipt-freeness).

As a first measure, privacy is established by encrypting the vote before casting it. The voter's particular candidate choice is thus converted into a *ciphertext* to prevent unauthorized third parties from reading it. The encryption key is the so-called *public key* of the voting authority and is publicly known, while the corresponding *private key* may later be used to decrypt the vote. Note that different encryptions of the same candidate choice should not result in exactly the same ciphertext, since this would obviously spoil the anonymity of the vote. It is thus crucial to employ a *randomised* encryption scheme, which individualizes each encryption with a random value.

To perform the final tallying, votes are decrypted individually before performing the actual tallying. To avoid the possibility that a link to the voter can be established easily after performing the decryption, we may employ a *re-encryption mix-net* to shuffle the encrypted votes. In addition to altering the positions of the votes in the list, shuffling also includes *re-encrypting* them. As a result, no link between the input and output of the mix-net can be established, which finally guarantees the anonymity of the vote. In addition to shuffling and re-encrypting, the mix-net must also provide a cryptographic proof of doing so correctly.

Receipt-freeness is one the most difficult requirements, for which no general cryptographic solution exists. In the context of a *hybrid voting system* (Spycher & Haenni & Dubuis, 2010), however, the problem is solved by exploiting traditional paper-based voting channels.

## Fairness

A system is fair if no intermediate results can be obtained before the voting period ends.

Using an encryption scheme as explained above does not prevent the voting authority, which is in possession of the private decryption key, to perform a decryption before the end of the voting period. This problem can be avoided by splitting up the private key into several *key shares* and by distributing them among several independent tallying authorities. So-called *threshold secret sharing schemes* allow a shared secret (the private key in this case) to be re-constructed by any group of  $t$  (for threshold) or more share owners, but such that no group of fewer than  $t$  share owners can. In a *threshold cryptosystem*, it is even possible for a group of  $t$  or more share owners to decrypt a given ciphertext without actually re-constructing the private key. Under the assumption that fewer than  $t$  tallying authorities are malicious, this obviously asserts the voting system to be fair.

## Democracy

An e-voting system is democratic if only eligible voters can vote (eligibility) and if eligible voters can only vote once (uniqueness).

To exclude unauthorised individuals from voting, most systems assume some sort of *voter credentials*, which are distributed to the electorate during registration. The credential is usually a secret random value with an associated public part; for example, a private and public signature key. To prove eligibility, voters must use the credential to digitally sign the encrypted vote. By verifying digital signatures, one can check if votes cast originate from registered voters and whether they are unique.

### Accuracy

An e-voting system is accurate if votes cast cannot be altered (integrity), valid votes cannot be eliminated from the final tally (completeness), and invalid votes are not counted in the final tally (soundness).

During transmission to the voting server, the integrity can easily be ensured by letting voters digitally sign their votes cast. However, these signatures must be removed (or disguised) at some point to allow the anonymization of the votes. From then on, the vote will no longer be under the voter's control. Nevertheless to establish trust in the accuracy of the tally, voting systems are required to be verifiable.

### Verifiability

An e-voting system is individually verifiable if voters can independently verify that their own votes have been counted correctly in the final tally. A system is universally verifiable, if voters can independently verify that all votes cast are from legitimate voters and that they have been counted correctly in the final tally. Individual and universal verifiability together is sometimes called end-to-end verifiability.

Verifiability is usually achieved by publishing all votes cast (together with corresponding cryptographic proofs) on a public *bulletin board*. Voters can read the content of the board and post new entries (possibly to their own board sections), but nobody can delete or change anything. In this way, voters are able to individually verify the inclusion of their votes and to re-compute the result of the tallying. The general idea is to make the voting system completely transparent by publishing all the relevant voting data. The security of the system is thus fully protected by cryptographic means instead of technical or procedural measures.

## 3. Selectio Helvetica

The Selectio Helvetica (SH) project aims at developing an Internet voting solution that complies with the crucial security properties. Furthermore, it is designed to potentially serve as the electronic channel of a hybrid voting system with regard to the Swiss political context (Spycher & Haenni & Dubuis, 2010). Although it is not planned to be immediately employed for political elections and referendums, SH will provide Internet voting services to non-governmental voting organizers, thus offering a proof of concept. The Baloti project (see Section 4) has already run three referendums using the preliminary version of the SH system. The voter-verifiable implementation discussed here is scheduled for operation in fall 2011.

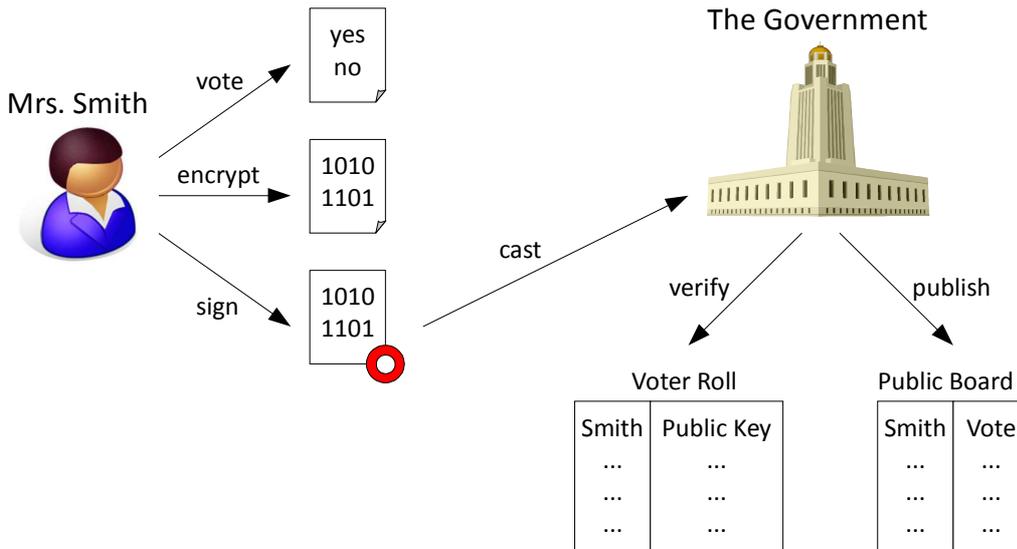
Section 3.1 introduces the cryptographic protocol that underlies SH. It explains the basic security properties under the restriction that voters can receive their personal voting credentials through a privacy-preserving channel that guarantees the voters' authenticity (authenticated channel). This restriction seems reasonable, given that governments will offer an infrastructure for distributing them. In contrast, the budgets of non-governmental voting organizers can be tight. Therefore, SH involves e-mail for distributing credentials. Section 3.2 explains how the SH system works under an extension of the underlying protocol.

### 3.1. The Selectio Helvetica Protocol

The underlying protocol is a modification of the one introduced in (Spycher & Haenni, 2010). Due to space constraints, the present paper leaves the secure vote revocation protocol of the hybrid system undiscussed.

**First Approach**

Digital signatures offer a common way of ensuring the authenticity and integrity of messages. If Mrs. Smith signs a message using her private signature key  $S$ , the receiver Mr. Ryan can convince himself that the sender of the message is not an imposter, who just claims to be Mrs. Smith. To do so, he uses Mrs. Smith's public signature key  $S$  and compares it with the message's signature and the message itself. Given that Mr. Ryan believes that Mrs. Smith keeps her private signature key  $S$  to herself, he is assured about the origin of the message, if the result yields a match.



**Figure 1: Simplified Internet Voting**

The technique of digital signing can be employed in Internet voting as well. Imagine Mrs. Smith is a voter and Mr. Ryan is the government. The government holds the voter roll enlisting all eligible voters, including Mrs. Smith. For the purpose of Internet voting, the voter roll is published on the Internet, showing each of its entries coupled with the voter's public signature key  $S$ , which the government uses to verify the authenticity of messages. When Mrs. Smith wants to cast her vote, she enters her candidate choice in the computer, which encrypts her vote using the government's public key. The result is the message she is about to send to the government. Since only the government can decrypt her message, she does not need to fear that any curious people on the Internet can find out how she voted. To convince the government that her vote should be counted, Mrs. Smith enters her private signature key  $S$  into her computer to generate the signature of her message and sends both to the government. After receiving her message, the government verifies that the sender of the message is Mrs. Smith by comparing the signature with the message using her public key  $S$ . Since she is enlisted in the voter roll, the government will know that it needs to decrypt her vote and count it. However, before decryption, the government should wait until the voting phase is over (fairness). Furthermore, it needs to apply a re-encryption mix-net on the set of all collected votes, in order not to learn how Mrs. Smith voted (privacy).

**Discussion**

The simplified scheme presented holds a number of obvious and maybe not so obvious pitfalls. These are discussed in the following Q&A section.

*Q: How can voters be certain that the government does not secretly decrypt their votes before applying the re-encryption mix-net?*

A: The full protocol requires a majority  $\frac{t}{2}$  of authorities to participate at the decryption (threshold cryptosystem). This implies that one authority alone cannot decrypt any votes. In fact, even no coalition of less than  $\frac{t}{2}$  conspiring authorities has a chance at decrypting Mrs. Smith's message. If it seems reasonable to assume that a majority of the authorities will refrain from being dishonest, the described measures ensure the voters' privacy and prevent premature decryption of votes.

*Q: How can voters verify that all and only legitimate votes are counted?*

A: The authorities' environment publishes the electronic ballot box, which comprises the set of all collected votes (public bulletin board). If Mrs. Smith ever believes that her vote might not have reached the electronic ballot box or that it has been deleted from there, she can always verify that her vote is correctly enlisted by downloading a copy of the electronic ballot box (individual verifiability). By additionally downloading a copy of the electronic voter roll and verifying all signatures of the encrypted votes and the zero-knowledge proofs provided by the mix-net, she verifies that all and only legitimate votes are counted (universal verifiability).

*Q: If voters reveal their identity by signing their encrypted votes, they declare to the public that they have participated at the vote. Furthermore, voters that do not participate are publicly exposed.*

A: In the full protocol, the public keys used for verifying signatures are mixed prior to the voting phase (using a *public key mix-net*, which is similar to a standard re-encryption mix-net). Thus, Mrs. Smith can still sign her message by using the same private signature key  $s$ , while the verification of the signature is done by using her anonymous public key  $\hat{s}$ , called her pseudonym. Since the correctness of the public key mix-net is verifiable by downloading the corresponding zero-knowledge proofs, universal verifiability remains in place.

*Q: If voters can verify that their votes are counted correctly, they can prove to vote-buyers and coercers how they voted. Moreover, voters can even hand out their private signature key  $s$ , although they are supposed to keep it to themselves.*

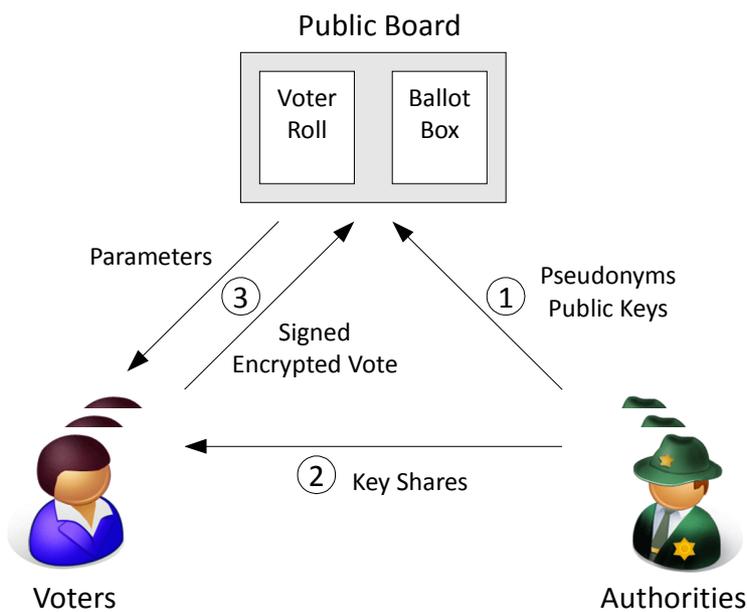
A: This is true if the SH protocol is used as a stand-alone voting channel. However, vote-buying and coercion are mitigated by requiring voters to revoke and overrule their electronic vote at the polling station (hybrid system). In the case that no polling stations are available, the SH scheme is clearly not coercion-resistant. We believe that this is unproblematic as long as SH is used as a proof of concept for non-governmental voting events.

*Q: If the voters' computers run viruses, they might display corrupt information at verification and mislead voters.*

A: This is true. The so-called *trusted platform problem* needs to be addressed independently of the presented protocol. Whether the available counter-measures suffice is a matter of dispute and requires thorough analysis.

### Concise Description

The full protocol assumes two groups of players (*voters* and *authorities*), the existence of a voter roll, an initially empty public bulletin board, an anonymous channel for casting the votes, and a secure authenticated channel between authorities and voters.



**Figure 2: The SH protocol**

The protocol is divided into four phases:

1. *Setup*: The authorities jointly generate a signature key pair  $(s, S)$  for each potential voter, mix the public keys  $S$  into pseudonyms  $\tilde{S}$ , and generate a shared encryption key. All these parameters are published on the public board.
2. *Voter Registration*: A voter is associated to an unused public signature key  $S$ . The authorities send their shares of the corresponding private signature key  $s$  to the voter. The voter reconstructs the private key from the shares.
3. *Vote Casting*: The voter requests the relevant parameters and keys from the public board, encrypts the vote using the public encryption key of the authorities, signs the vote using the private signature key  $s$  and sends it together with the computed pseudonym  $\tilde{S}$  back to the public board.
4. *Tallying*: The authorities use their shared private keys to decrypt the votes, for which the signatures hold against valid pseudonyms. The results are published on the public board.

Since the public board contains all proofs required by the primitives described in Section 2, the public can verify that all and only legitimate votes are counted. By using their private signature keys  $s$  to compute their pseudonyms, voters can verify that their votes have been decrypted as intended.

### 3.2. The Selectio Helvetica System

The outlined protocol is primarily designed to run governmental votes. The SH system is meant to constitute a proof of concept of that protocol by running an Internet voting service for non-governmental vote organisers. Since they tend to operate on lower scale budgets, they do not necessarily run an infrastructure that includes a secure authenticated channel to transmit the shares of voters' private signature keys in a user-friendly way (step 2 of the protocol). Similarly, vote organisers will not usually offer any hardware, such as smart cards for voters to easily store and read their private keys. Further, in contrast to the assumption of the protocol, vote organizers

do not necessarily own a final voter roll prior to the beginning of the voting phase. The SH system is meant to address these restrictions.

Instead of requiring voters to save their very long, unintuitive private signature keys, in the SH system they request their shares from the authorities each time they need it for computations. Whenever voters need their private signature keys, they simply enter a password that they have chosen themselves at registration.

### Extension of the Protocol

The extended protocol underlying the SH system involves two additional players. The vote organizer assesses the voter's right to vote. The voting provider acts as an intermediary among voters and authorities, and writes to the public board.

The registration phase is extended as follows: A voter first asks the vote organizer to sign his e-mail address in order to confirm that he is enlisted in the voter roll. The voter then sends the signed e-mail address to the voting provider. He by return associates the voter's e-mail address with an unused public key  $S$  on the public board and sends the registration credentials back to the voter by e-mail. (Instead of the e-mail address a nickname chosen by the voter could be published.) The voter chooses a password and uses it to compute one designated hash code per authority. These hash codes are sent to the authorities along with the registration credentials. The authorities verify the credentials and map the hash code to their share of the private signature key  $s$  corresponding to the voter's public signature key  $S$ .

Whenever an authority receives a request with a valid hash value, it replies with the share of the private signature key  $s$  mapped to it. Thus, if voters want to cast their vote, they only have to enter their password.

The other phases of the SH system follow directly from the original protocol.

### Employed Technologies

The SH system is implemented using only well-defined, widely used, and standardized technologies. Components communicate through *web services*. Since web services are based on XML, the components can be implemented and operated on any platform, such as Java EE or .NET. Furthermore, communication channels are secured on the transport layer using HTTPS.

The usability and performance features of the components used by the voters are crucial. At the same time, a technology must be used which is available on virtually all potential computers used by voters. This is addressed by letting voters use web browsers running JavaScript and Java accessed through LiveConnect.

The server-side components are implemented using the Java EE platform and operated on a JBoss application server. In addition to the core functionality, each component has been enhanced by a management console, which allows to initialize and monitor the components during operation.

## 4. The Baloti Project

On the Internet platform *Baloti.ch* the migrant population living in Switzerland can cast votes with the help of Selectio Helvetica. A public call for integration projects by the Swiss Federal Commission for Migration Issues allowed an interdisciplinary consortium to design and test a multilingual Internet platform mimicking Swiss referendum politics as a two year pilot starting in 2010. Besides politically neutral information on current referendum votes, the website offers a replica of a ballot vote for all issues at stake on the Swiss national level and thus provides a test-

bed environment for electronic voting. Because of the political nature of the project and the sensitive information (political preferences) that is passed on from the web browser to the electronic urn, it was important to provide a secure Internet voting system. In order to build up trust in the system, we opted against having a user registration and a permanently stored user profile.

In order to understand the motivation behind the project, three points of background information should be taken into account:

- The Swiss political system allows its citizens to vote not only on the occasion of elections but also on concrete issues three to four times a year on all three state levels (national, cantonal, local). A ballot can be triggered automatically in case of constitutional matters or by the collection of a certain amount of signatures. The vote can block legislation (referendum) or suggest new provisions (initiative). These various mechanisms of direct democracy can affect the constitution, international and domestic treaties, laws as well as ordinances and thus touch the people's life in many respects, whether they have Swiss citizenship or not.
- At 22 percent, the population of migrants living in Switzerland is comparatively high. To gain full citizenship and voting rights migrants can start a naturalization procedure after twelve years of residence. In practice, a large part of the population is thus not fully integrated in the political life of the country. Whereas most of the French speaking cantons have given migrants voting rights on the local and/or cantonal level, respective initiatives have mainly been turned down in the Italian and German speaking cantons. However, a few German speaking cantons allow their communes to introduce political rights for migrants at their own will (e.g. Appenzell Ausserrhoden, Grisons).
- The three cantons of Geneva, Neuchâtel, and Zurich are testing Internet voting systems for several years now (Serdült, 2010). However, only 10 percent of the total population is allowed to participate in these Internet voting experiments. That is the reason why in practice Internet voting in the three cantons is restricted to a couple of pilot communes. In addition to the resident citizens, Internet voting is on the way to being made available to all Swiss living abroad by 2015. Henceforth, there is an increased interest and demand for applied research on the topic of secure Internet voting.

The main motivation of Baloti.ch is therefore to grant migrants living in Switzerland the opportunity to familiarize themselves with the Swiss political system in a novel and realistic way. On our platform migrants can practice direct democracy in the eleven most spoken languages in Switzerland (German, French, Italian, English, Spanish, Portuguese, Turkish, Albanian, Serbian, Croatian, and Tamil). With Baloti.ch we therefore contribute to the political integration of migrants. Whereas migrants without voting rights constitute the most important target group, the website can also be useful for the Swiss living abroad, for young Swiss citizens under 18 and for civic education purposes in schools in general.

The goal of the pilot is threefold: Firstly, migrants living in Switzerland without voting rights are granted an opportunity to manifest themselves politically. The results of the vote are displayed almost the same hour when the official vote closes and is further communicated via Facebook and Twitter. Secondly, visitors of the platform can learn how direct democracy works and practice it one to one. Baloti.ch therefore helps to bridge the twelve years until the naturalization process can eventually be started. Thirdly, at least ideally, the political will of the migrant population is made transparent. In the research part behind the project we would like to find out whether the voting behavior of migrants differs significantly from the one of Swiss voters. As a working hypothesis we expect the differences between the two groups to be minimal as soon as a reasonably high number of migrants starts voting on Baloti.ch.

Baloti.ch is activated three weeks before a national referendum vote. This three week period corresponds to the time span Swiss citizens are allowed to cast their vote. During the voting period the electronic ballot box on Baloti.ch is open and information on all national votes is displayed (content of the vote at stake, arguments in favor and against the bill, recommendations by political parties, parliament and the government). All initial text material is provided by one of our partners (Vimentis) in German, slightly adapted and then carefully translated by an external team. The translators are all native speakers, and all translations are subject to the four eye principle.

With the help of press releases, coverage on Swiss TV and radio stations, Facebook and Google Ads, contacting migrant organizations as well as all official competence centers for migration issues throughout the country Baloti.ch was advertised and went online for the first time during the September 2010 vote on a revision of the Swiss Unemployment Insurance Law. Voters had ten days to cast their vote (16<sup>th</sup> to 26<sup>th</sup> of September 2010). During that time span the website had 3'300 single visitors (according to Google analytics). Roughly 10 percent of all visitors cast a vote by first obtaining a voting credentials by e-mail and then deciding whether to be in favor or against the bill. 60 percent of the Baloti voters opposed the bill whereas the official result of the Swiss citizens showed a 53 percent acceptance. For the second Baloti vote in November 2010 the website had 4'500 visitors but fewer votes than in September 2010. Only 240 visitors bothered to cast a vote. The decrease of cast votes could partly be attributed to the complicated nature of the bills and several pending usability problems. During the remaining time of the pilot until the end of 2011 we will address these issues and constantly improve the site.

## 5. Discussion and Conclusion

The SH protocol and system have been presented on an introductory level. Although there are secure solutions to questions like what happens if users forget their passwords or how do voters handle corrupt shares of their private signature key  $s$ , they are out of the scope of this paper. Not letting anyone know how voters have voted, not even letting anyone know whether they have participated, being able to detect fraud, even in the case of all authorities being corrupt, summarize the strong features of this protocol. Mathematically proving the positive security features of SH is left to a more formal paper. Instead, we aim at including a broad audience of stakeholders in the assessment of e-voting technology. In that spirit, we outline some critical issues for discussion.

- **Trusted Platform:** A computer that runs viruses can cast corrupted votes and mislead at verification, or send private information to third parties. Which measures need to be applied to optimally and sufficiently address the problem?
- **Integrity:** In case verification fails, voters can re-submit their vote until they witness a correct encryption of their vote on the public board. Does this comply with the superior legal constraints?
- **Coercion-Resistance:** Within the containing hybrid system, coercion is mitigated by allowing voters to securely revoke (i.e., the correct vote gets excluded while privacy remains in place) and overrule their vote at the polling station. Is this a sufficient measure to address vote-buying and coercion?
- **Dispute:** To avoid disputes, voting providers could declare it the voters' responsibility to verify that their vote has been cast correctly using a trusted platform. In case re-submitting the vote does not help, they are required to revoke and overrule their vote at the polling station. Is this feasible, considering that voters do not participate at every vote?
- **Privacy:** Voters do not necessarily trust the privacy inducing measures of the administration's software and processes. By defining multiple authorities, voters merely need to trust in a majority of the organizations working correctly, which is clearly an improvement. But is it sufficient?

- Privacy: The cryptographic measures that induce privacy on the public board will sooner or later be broken. Is it a problem if the public learns how their ancestors voted 100 years ago?

We see SH as a starting point to debate these open questions in more specific terms.

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# DualVote

*Addressing Usability and Verifiability Issues in Electronic Voting Systems*

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**Abstract:** *Two issues that have significantly impeded the widespread adoption and acceptance of modern e-voting solutions are the lack of an intuitive user interface and the inability to formally verify the results. This paper presents the findings of an extensive analysis of public opinion on usability and verifiability in e-voting. Based on these results it describes a novel e-voting system called DualVote, which couples the strength of electronic voting with the traditional pen and paper user interface (UI). An evaluation of the proposed system is also presented, which demonstrates a high level of usability by comparison to other E-Voting solutions.*

**Keywords:** e-Voting, Usability, User Interface

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**Initially, this paper** examines public perceptions of usability and verifiability in the context of e-voting. Usability is a metric that is commonly used to assess e-voting systems. The challenge of providing an effective and easy-to-use UI has proved to be problematic for many modern e-voting solutions. Verifiability is a topical and contentious issue in e-voting. An intrinsic challenge in e-voting systems is to ensure that: (i) All votes cast are correctly interpreted and recorded and (ii) The result is correctly tabulated. Many e-voting systems have courted controversy because they lack any mechanism for independently verifying the accuracy of the election result.

This paper presents the findings of a survey which was themed on usability and verifiability issues in e-Voting. The survey was administered to a broad section of the electorate. The findings of the survey show that a large majority of voters believe that the result produced by the e-voting system should be verifiable. In addition the results highlight that the people most vulnerable to usability problems (older age categories) believe that current e-Voting solutions do not make the voting process easier and prefer to use a pen and paper interface over alternative electronic methods.

Based on the results of this survey, the authors present a novel e-Voting system called 'Dual Vote'. In the Dual Vote system, a voter's preference is recorded concurrently on both electronic and paper media. The Dual Vote system allows a user to enter a vote using the traditional pen and

paper interface, while simultaneously interpreting and recording the vote electronically. This novel UI addresses the issues of usability and verifiability which, as outlined above, are recognized as being deficiencies in many modern e-voting systems (Goggin et al. (2007), Winckler et al. (2009)). In a recent Finnish election, usability problems were blamed for 232 out of 12,234 voters not completing their voting session during the 2008 Finnish Municipal elections. The decision by the designers to use two different screens, one for first casting the vote and another for validating it, was cited as the cause of the problem by usability experts Whitmore (2008).

In elections where casting a vote on pen and paper has been the traditional method for many years, allowing voters to cast their ballot using this method greatly simplifies the issue of usability as voters are already accustomed to the traditional pen and paper interface. The paper copy of the vote is retained. Hence, the electronic results of the Dual Vote system can be verified by comparing the paper and electronic results.

The usability of the Dual Vote system is subsequently assessed by surveying the voters who participate in a trial election. The system achieves a high usability score that compares very favorably with alternative e-voting systems. Significantly it also shows a high usability across all age categories.

The next section of this paper provides an overview of the interface aspects in e-voting. It then presents the results of the public survey, which was used to assess perceptions to verifiability and usability. The paper subsequently provides a description of the Dual Vote system. A usability evaluation of Dual Vote is then presented and finally conclusions are drawn and future directions of research are identified.

## 1. Related Work

Electronic voting systems present a unique challenge to interface designers as they must be usable by every citizen who has reached voting age. In a given population, the electorate base is highly diverse and their exposure to the voting interface is limited due to the fact there may be months or even years between subsequent elections. Therefore the voting machine interfaces must be immediately intuitive so that a user can accurately cast their vote. Usability of mechanical voting came to mass attention during the 2000 US presidential election with the 'hanging chads' controversy. A chad refers to a perforated square of paper which the voters were required to remove from the ballot paper indicating their intent for a particular candidate. There was much debate concerning what constituted a perforation and election officials were required to visually determine if a voter intended to push the chad all the way through the paper or whether an impression was accidental. As a result of these and related events, the Help America Vote Act (HAVA) was passed to allow for the widespread deployment of Direct Recording Electronic (DRE) e-voting systems. These DRE systems embodied a touch screen user interface on which the voter selected their candidates. Some later voting machines included an optical scanner so that the voter could cast their vote on paper which could then be scanned by the machine. The usability of these machines received little attention after their widespread adoption. A number of studies have highlighted usability issues with DRE's and optical scan systems. For example Bederson et al.(2003) found that 10% of elderly voters had concerns as to the usability of the machines.

Byrne et al. (2007) proposed criteria for assessing the usability of different systems. These criteria are based on the ISO standard 9241-11 and the US National Institute for Standards and Technology (NIST) report on voting system usability (Laskowski 2004). Three metrics for gauging the usability of a system were recommended: effectiveness, efficiency and satisfaction.

Effectiveness is a measure of the accuracy of the system. In terms of electronic voting, accuracy means that the vote cast was correctly recorded for the candidate for whom the voter intended to

vote. Efficiency measures whether the voter's goal was achieved without expending an excessive amount of resources, for example, the time required for the voter to vote. The latter metric, satisfaction is the focus of our study. Satisfaction is a subjective metric measuring a user's subjective response to interacting with the system. In many studies centered on electronic voting usability, voter satisfaction was gauged using a standardized instrument of measurement. The NIST report recommended Likert scale questions, such as the System Usability Scale described by Brook et al (1996), as a means of assessing user satisfaction. The System Usability Scale consists of ten 5 point scale questions which gauge the user's subjective response to the usability of the system.

Using the same three metrics, Conrad et al (2009) conducted a laboratory study using six different commercial electronic voting systems to better understand what particular interface features were related to certain kinds of usability problems. Conrad reported that an over complex user interface would not only reduce voter satisfaction but could potentially alter the result of an election. This could occur particularly if the usability problems stemmed from systematic errors as opposed to errors that occurred randomly. Conrad further suggested that should such errors occur among voters who hold similar political positions, such as may be the case with elderly voters; such a group may not be able to vote for their candidate and may vote in error for the opposition. In the case where the elderly voter does vote for the intended candidate, a frustrating voting experience may cause them to avoid future elections. The study also showed that there was a clear negative relationship between voter effort and voter satisfaction. The voters reported the highest levels of satisfaction with touch screen (without attached printer) and optical scan interfaces. The touch screen interface allowed for a quicker vote while the optical scan required the least amount of actions. Clearly Conrad establishes that usability is a prevalent and ongoing concern for e-voting systems

Verifiability in an e-Voting system refers to the voter's ability to verify by some means that their vote was recorded and counted as intended. Several enhancements for voting systems have been proposed by Chaum et al. (2005) and Winckler (2009) which incorporate paper mechanisms as a means of vote verification. The most prominent method termed Voter Verifiable Paper Audit Trail (VVPAT) proposed by Mercuri (2002), allows the voter to verify their vote behind a transparent screen. Even though VVPAT is present, it is not necessarily foolproof as a VVPAT receipt is also machine produced. Goggin et al (2007) determine through a field study, that significant impracticalities exists in VVPAT in the form of lengthy time delays in processing the paper spool during the tallying stage.

Our Dual Vote interface attempts to address verifiability and usability issues through one combined interface which allows the voter to cast their vote on pen and paper. In this paper we build on previous work reporting on the usability of the Dual Vote interface, MacNamara et al (2010). We are interested in how well the interface performs when assessed using the above-mentioned satisfaction metric across a broad spectrum of voters and whether a uniform level of satisfaction can be achieved across the age demographic.

## 2. Public Survey of E-Voting

The authors conducted a large scale survey in the Republic of Ireland to assess public perceptions on interfaces, usability and verifiability in e-voting. In total 1,015 surveys were administered via person-to-person interviews. Every effort was made to ensure that the age demographic of the respondents were representative of the actual population. We also recorded the gender and economic status of the respondents. Prior studies have reported a potential digital divide with respect to the efficiency metric showing that voters with better education took less time to vote, Byrne (2007) and Everett (2008). Currently, there has been no evidence of gender differences with

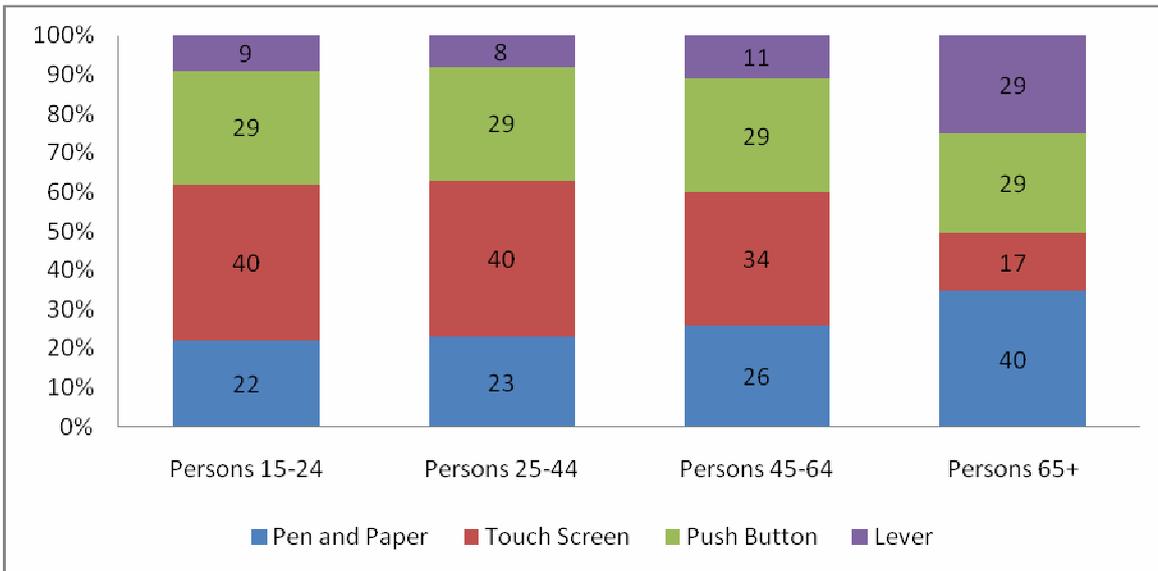
regard to e-voting machine usability. Previous work however has found a decrease in voter turnout among older people when DRE systems were used in elections, Roseman and Stephenson (2005). In this study we are interested only in the age condition and its effect on the interface aspects of the e-voting system. A comparison is made in Table 1 between our demographic data and the actual figures. While every effort was made to mirror each category to the actual population, time and budget constraints were a factor.

**Table 1. Breakdown of Survey Respondents and Population**

Age Group	Survey Respondents (%)	Actual Population (%)
15-24	18.7	16.1
25-44	39.8	42.1
45-64	27.5	32.0
65+	13.8	9.7

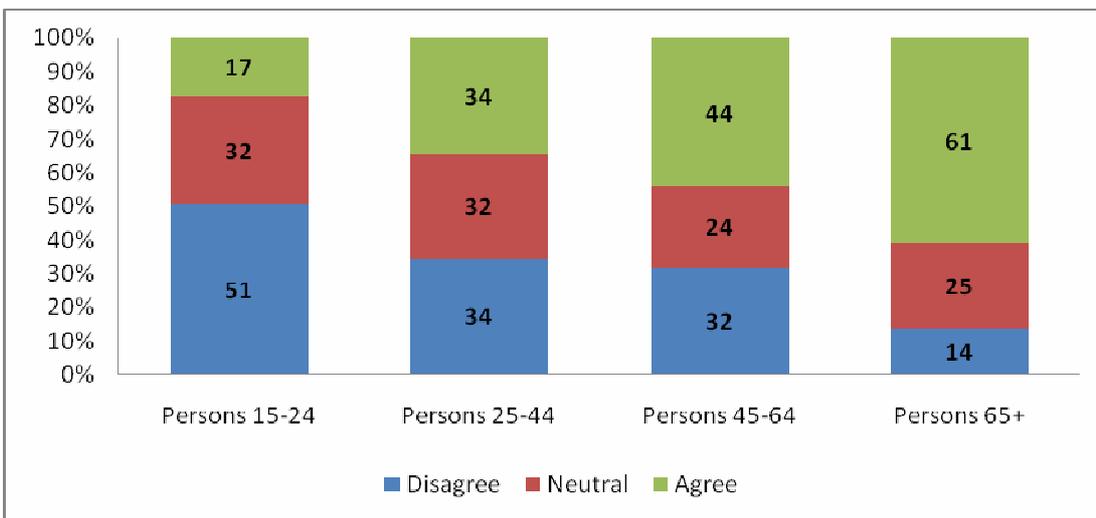
The participants were asked if having a paper audit trail in an electronic voting system was important. A total of 69% agreed that the provision of an audit trail was important. Only 8.8% of respondents disagreed with the statement and the remaining 22.2% neither agreed nor disagreed. The above-mentioned results support our view that a paper trail is an important component of e-voting systems from the public's perspective.

Respondents were also asked if e-voting was best done using: (i) Pen and Paper, (ii) Push Buttons, (iii) Touch Screens or (iv) Levers. Figure 1 depicts a breakdown of the usability results. The results are categorized based on the age of the respondents. A touch screen voting system is the most popular interface for the three younger age categories. A total of 40% of persons aged 15 to 24 and 25 to 44 favored the use of a touch screen. This figure drops to 34% for those aged between 45 and 64. Finally, touch screens make a very significant drop to 17% for those aged 65 and over. The preferred interface for persons ages 65 or over is pen and paper. This is a significant result because the majority of usability issues are encountered by persons in this demographic. Kubeck et al (1996) determined from a broad survey of varying age groups that older individuals performed consistently poorer on computer related tasks than younger adults. In addition, many e-voting usability studies have purposely over sampled elderly voters when assessing interfaces because it is within this demographic where the majority of usability problems tend to arise (Conrad et al. (2009).



**Figure 1: Usability Survey Results**

The respondents were also asked if the traditional paper-based voting is easier than electronic voting. The results are again broken down into four different age categories and are depicted in Figure 2. There is a significant disparity across the age groups with older demographics agreeing that paper-based voting is easier, while the majority of the younger demographic disagree. A total of 61% of those aged 65+ and 44% of those aged 45-64 agreed that paper-based voting was easier. Respondents aged 25-44 were equally divided on the issue (34% both agreed and disagreed). Finally, only 17% of the youngest demographic, respondents aged 15-24, agreed and 51% disagreed. Again this result is significant because it emphasizes that the older age group, which are most susceptible to electronic usability problems, are more comfortable using traditional pen and paper as a voting medium.



**Figure 2: Paper Voting Easier Than Electronic Voting**

### 3. Dual Vote Overview

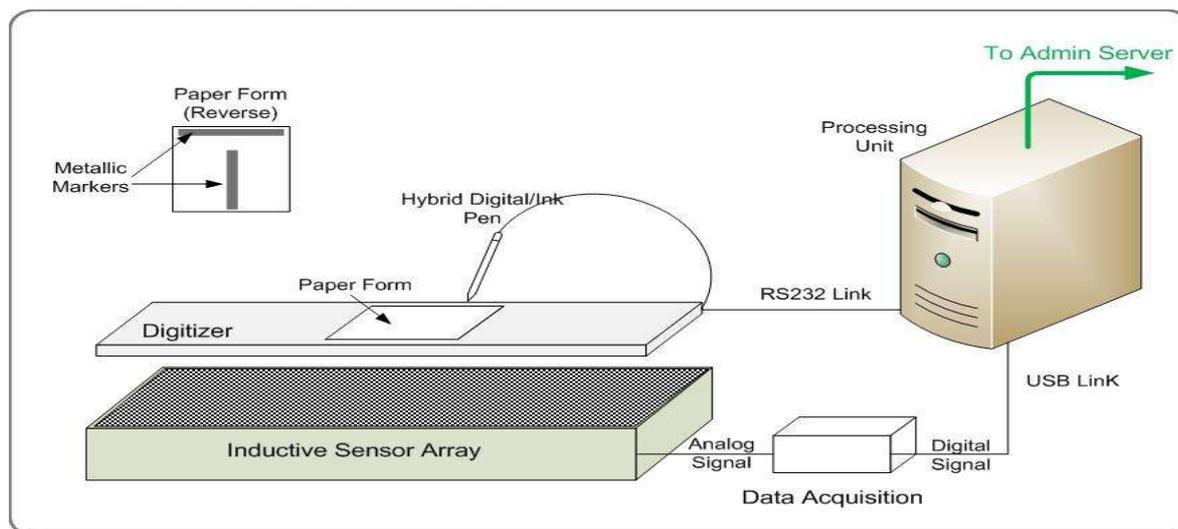
The survey has established that the majority of respondents considered it necessary for an e-voting system to provide verifiability through the provision of an audit trail. It also highlighted that

the older age group, which are more likely to encounter usability problems with electronic systems, prefer voting using traditional pen and paper. In order to address these issues we present a novel e-voting system called Dual Vote. The system is intended for use in both professional and political elections but is at present a prototype. This system enables a voter to cast their ballot on pen and paper, while the system simultaneously interprets and records the vote electronically. Verifiability is facilitated because the voter's ballot paper is retained. Hence, the electronic results can be verified by comparing the electronic and paper results if required.

The Dual Vote interface, which is depicted in Figure 3, consists of an array of inductive sensors (Locator) and a hybrid ink / electronic pen connected to a digitizer (Interpreter). The interface works with a ballot paper which has metallic strips affixed to the underside. The properties of the metallic strips on the ballot paper change the sensor output. This change is then measured and translated to a coordinate value.

When the voter wishes to cast their vote, they place their ballot paper on the writing surface (digitizer) and simply mark their preference with the hybrid ink / electronic pen. Each ballot paper is affixed with an RFID tag: when the voter places the ballot paper into our ballot box, an RFID reader detects the ballot paper and the software ends that voting session. The system records all the pen stroke coordinates and cross references them with the coordinates generated by the Locator. By superimposing both coordinates, the system can determine where the voter has placed their mark on the ballot sheet and hence, for whom the voter has voted.

In a study of commercial e-Voting interfaces, Conrad et al. (2009) measured the activity required to vote on six different voting machines. Paper ballot / optical scan interfaces required the least number of actions. In such interfaces the voter is often required to scan their ballot using an optical scanner. The Dual Vote interface negates the need to optically scan the ballot paper when the voter has completed voting and hence reduces the number of actions required to vote. Additionally, Byrne et al found that paper ballots seem to be the most usable voting method for over the greatest range of users. Byrne found their error rate to be 1.5% which even at this percentage is lower than the comparative electronic interfaces. The interface presents a short and quick method of electronic voting based on the principle of minimizing the voter interaction with technology by adopting a pen and paper interface.



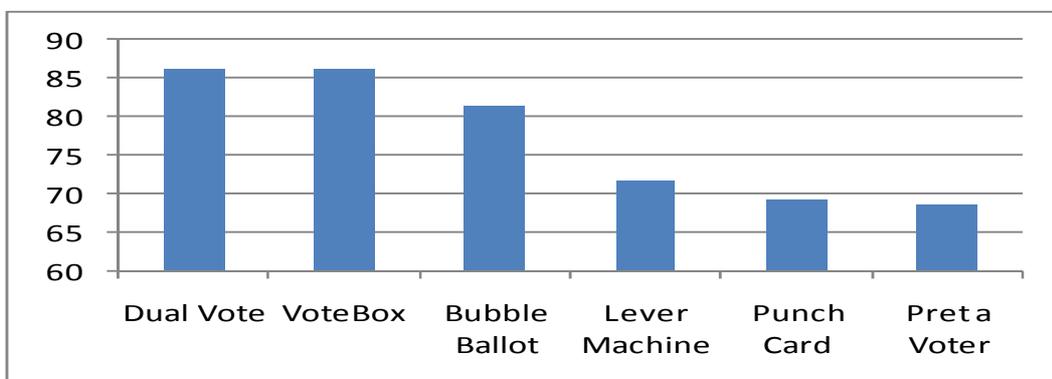
**Figure 3: Overview of Dual Vote System**

#### 4. Dual Vote Usability Analysis

A field study was undertaken in order to evaluate the subjective usability of Dual Vote. In usability studies involving e-Voting interfaces, subjective usability has often been measured using the System Usability Scale (SUS) (Brooke (1996)). The SUS has been in use for many years for global assessment of systems usability and is not unique to e-Voting. SUS uses ten 5-point Likert scales to produce an overall mean usability score. A higher score denotes higher usability. Our study involved 97 respondents who cast a vote for a single candidate by placing an 'X' in a preference box. After voting each respondent completed the SUS survey. Although this was the simplest type of election, forthcoming research will show the results generalize to more complex election types. Regarding gender demographics: 72.2% of respondents were male, 27.8% were female. The age demographic was: 26.8% of respondents were aged 15-24, 50.5% were 25-44, 17.5% were 45-64 and 5.2% were 65+.

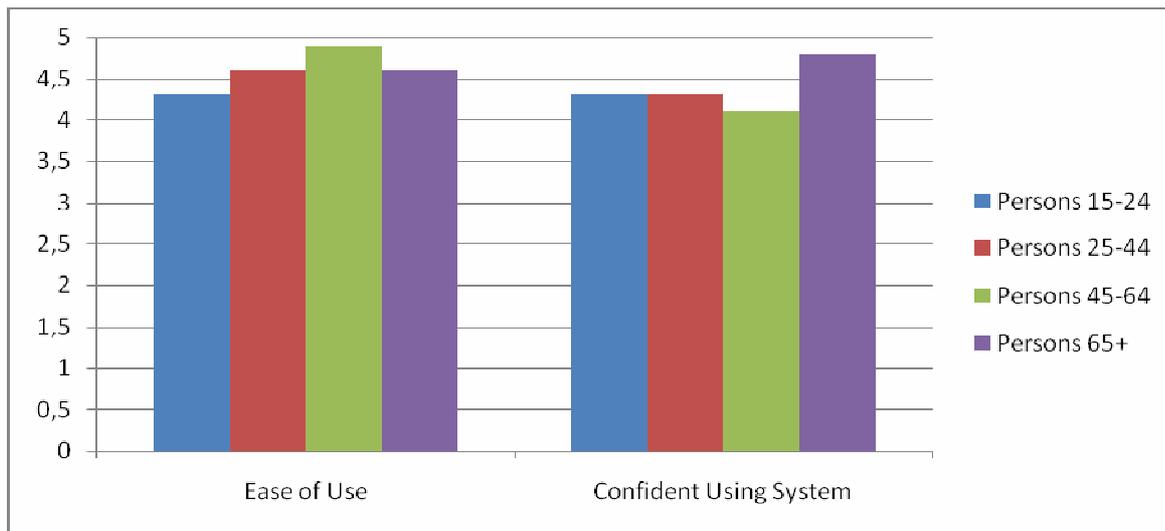
Figure 4 depicts the SUS score attained by the Dual Vote System during the trial election and those of other alternative e-Voting systems. Everett et al (2007) conducted several studies on a non-commercial DRE system called 'VoteBox'. This study compared the usability of VoteBox with paper and mechanical voting methods such as lever and punch card machines. In terms of satisfaction, the 'VoteBox' DRE scored higher than these other methods of voting.

The result of the survey was very encouraging as Dual Vote, using a traditional pen and paper interface, achieved an SUS score of 86.1, which placed it joint highest with the 'VoteBox' DRE when compared to the other traditional interfaces tested by Everret et al. (2008) and the Prêt à Voter system assed by Winkler (2009). According to observations made by Bangor et al (2008), SUS scores above 90 indicate "truly superior products". Using this scale to interpret the Dual Vote interface shows it has an acceptable score.



**Figure 4: SUS Scores for Dual Vote and Alternative Systems**

We focus on two SUS survey questions that were specifically relevant to system usability. The first of these questions asked the voter if they found the system easy to use. The respondents returned a mean result of 4.56 out of 5. The second question asked voters if they felt confident using the system. The mean result returned for this question was 4.37. While in isolation these results are very encouraging, it is important from a usability perspective to examine the experience of the older age groups, which are most sensitive to usability issues



**Figure 5: SUS Survey Analysis**

The results obtained from the SUS questions are subdivided by age group and are presented in Figure 5. An analysis of the responses revealed near uniformity across all age groups regarding the system's ease of use.

## 5. Conclusion

This paper initially described the results of an extensive survey of public opinions on verifiability, interfaces and usability within e-voting. The majority of respondents favored an e-voting system that is both transparent and verifiable through the provision of an audit trail. The older demographic; which traditionally are more susceptible to encountering usability problems showed a clear preference for voting by pen and paper. To address these issues we presented the Dual Vote system, which simultaneously records a voter's preference in paper and electronic form. Because the paper form of the ballot is retained the electronic result can be fully verified. This paper also presented a usability study of Dual Vote, which showed near uniformity among all demographics regarding its subjective ease of use. Future areas of research include increasing the sample size of our SUS survey. It is also planned to supplement the current system with a GUI screen that would provide voting related information or interaction options to the user.

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# Voter trust in the Netherlands between 2006 and 2010

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**Abstract:** *In this paper the trust of Dutch voters in the election process is examined. Since the Parliamentary elections of November 2006, large changes have surrounded the Dutch election process. The widely used voting machines that were introduced in the Netherlands in 1966 were decertified in 2007, causing a return to paper ballot voting. Discussions took place both in the media and in Parliament on election technologies and the trustworthiness of the election process. However, based on survey data of the last two Dutch elections, these discussions so far have not significantly influenced the trust of voters in the election process. Furthermore, more voters still prefer the use of voting machines and feel that these machines are trustworthier than paper ballots. The presence of a 'winner-loser' effect on trust in the election process is not found for the Netherlands. In the meantime, some demographic variables are found that influence the trust in the election process. In the Netherlands, male voters have slightly higher levels of trust than female voters. Young voters are more trusting than older voters. Higher educated voters and voters with a higher personal income level show higher levels of trust. Voters who attend religious services on a regular basis also have higher levels of trust in the election process. However, the influence of these demographic factors is not very large. Further research will be necessary to develop a more accurately prediction model for Dutch voter trust.*

**Keywords:** e-voting, paper ballots, voter trust, the Netherlands

**I**n democracies, the trust of voters in the election process is of great importance. Elections are the link between citizens and their elected officials. If voters have doubts whether their votes are counted correctly and the results that are announced match the voter's intent, then the most fundamental aspect of the democratic system, the direct election of the leaders is in danger (Alvarez, Hall, and Llewellyn 2008; Atkeson and Saunders 2007). The legitimacy of those who are elected weakens when these doubts arise. This could ultimately undermine the strengths of the democratic process and institutions in a country. Most modern democracies have had times where the voters questioned the election process (Lehoucq 2002).

The United States experienced this after the 2000 election where it was unclear for a long period whether George W. Bush or Al Gore had won the election. In the United Kingdom, the introduction of postal voting led to allegations of election fraud among others in Birmingham in 2005. These allegations were proven true in several court cases (Stewart 2006). In the Netherlands, the election process was for a long time seen as functioning very well. However, in the municipal elections of March 2006, a candidate who was also a member of the polling station was subject of suspicion of fraud, since he obtained a very high number of preferential votes in his own polling station, compared to the other polling stations in the municipality. Real issues with voter trust rose during

the summer of 2006, when the Netherlands was preparing for parliamentary elections. A NGO called “we don’t trust voting computers” showed that the voting computers that were used in most of the Dutch polling stations could be hacked, as to alter the final results. Just before the parliamentary elections in November 2006, the voting computers from one company were decertified by the government and could not be used. Twenty-two municipalities voted with paper ballots, 421 municipalities still used voting computers. After the elections, the debate on the trustworthiness of the voting machines continued in Parliament. Ultimately, in 2007, the government decided to abandon the use of voting computers in the election process completely (Loeber 2008). During the 2009 European Parliamentary elections all voters voted through paper ballots.

After the Dutch municipal elections of March 2010, the question whether or not to use electronic voting again became a topic of debate (Hall and Loeber 2010). During these elections, which were held with the use of paper ballots, issues regarding recounts and the amount of time it took to count the ballots arose. Fifteen municipalities, including Rotterdam, the second largest city in the Netherlands, recounted all their votes, which in some cases led to a seat being awarded to a different party. Parties that felt they had been the victim of the problems with the paper ballots did try to raise the issue of trustworthiness of the electoral process. They called for the return of electronic voting.

Other issues that influenced the opinion on the integrity of this election were the large use of proxy votes and violations of vote secrecy due to the fact that in several cases, voters were in the polling booth together while casting their votes.<sup>1</sup> These issues are less connected to the voting technique that is being used, but more to the election process in general. Although the Dutch municipal elections of March 2010 seemed to turn into a politicized debate on the trustworthiness of the election process, this did not lead to a discussion within parliament on a reform of the election process. The decision to return to paper ballot voting after the parliamentary elections of November 2006 did lead to increased attention to poll worker training and procedures that are used by the municipalities in their preparation of the elections (Loeber 2008). In June 2010 parliamentary elections were held. Again, all voters voted by paper ballot. During these elections, fewer problems surfaced with regard to the election process, such as recount issues and problems with proxy voting. On December 9<sup>th</sup> 2010 a debate took place between the Minister of the Interior and the Parliamentary Committee for the Interior on the election process. Only two parties expressed an interest in a return to voting machines. The trust in the election process was not a topic of debate.<sup>2</sup>

Both during the parliamentary elections of November 2006 and June 2010 a Dutch Parliamentary Election Study took place. In this study voters were asked a number of questions with regard to the elections, including questions on the trust these voters had both in the election process in general and in the different types of voting technologies that were or could be used. With the use of this data, I will examine whether the trust of the Dutch voters in the election process has changed between 2006 and 2010. Because of the controversies surrounding the March 2010 municipal elections, which received a lot of media attention, my hypothesis is that the trust of voters in the election process will have declined since 2006. I will also examine which factors influence the trust of Dutch voters in the election process.

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1 <http://www.nd.nl/dossiers/politiek/gemeenteraadsverkiezingen-2010> (in Dutch only, accessed November 20th, 2010).

2 [www.tweedekamer.nl](http://www.tweedekamer.nl) (in Dutch only, accessed last on December 11th 2010).

## 1. Literature review

Voter confidence in elections is a specific part of support for government in a democracy. Trust in government became a focus of political science scholars in the 1950s. Since then, scholars have noted a decline in the confidence levels both in the United States and Europe (Dalton 1999). In theory, the higher the level of government trust, the more stable a democracy will be. Lower levels of trust can lead to destabilization and economic insecurity (Atkeson and Saunders 2007).

Although there has been a great deal of attention to issues of trust in government in general, the study of trust in the election process seems to be neglected until recently (Alvarez and Hall 2006). An important question was how to measure the confidence voters have in the election process. Voter confidence is related to trust in government, but distinct in the way that voter confidence deals with the feelings voters have about the mechanism of choosing who will hold office. Voters can trust the election process and still feel that the person that was elected cannot be trusted and voters can trust the elected officials, but feel the election process lacked integrity (Atkeson, Alvarez and Hall 2010). Most of the work done in this area has focused on the United States. The 2000 presidential elections led to an increase in studies of voting technology and the process of voting in American elections (Hall and Loeber 2010; Stewart 2009). The measure that is used in most of these studies to measure public support for the mechanism of voting is voter confidence. This is defined as the confidence that a voter has that his ballot was counted correctly in the election (Alvarez and Hall 2004; Alvarez and Hall 2008).

The research on voter confidence has provided several factors that could influence the trust a voter has in the election process. Some of these factors are short term, others long term in character. There are social, economic and political factors that influence voter confidence. The first factor that is mentioned is known as the 'winner-loser' effect. For the United States, it has been shown that voters who voted for the candidate that won the election have higher levels of trust in the election process than voters who voted for a candidate that lost (Hall and Loeber 2010). Of course, the United States has a "winner-takes-all" election process that put a premium on winning, more so than is the case in the Netherlands, which has a proportional representation system that allows those who vote for other parties to still "win" if their party is included in the coalition. Moreover, often there is no clear winner because several parties gain some seats and several parties lose some seats compared to the previous election.

The experience a voter has while casting his vote is also an influencing factor on the level of trust of the voter. If a voter has problems casting his vote, does not understand the ballot or feels that poll workers were not trained well, the level of confidence goes down (Hall, Monson and Patterson 2009; Gronke and Hicks 2009). Finally, the method that a voter used to cast his ballot also influences trust. Absentee voters; voters who cast their vote in the United States before the election day, had significantly less voter confidence (Alvarez, Hall and Llewellyn 2008).

In the American context, several demographic factors have been found to influence voter confidence: education (Atkeson and Saunders 2007), race, gender, and age (Alvarez, Hall and Llewellyn 2008). Birch (2008), studying confidence in a transnational context found that socio-economic status and religiosity play a role in shaping confidence. These findings may be more reflective of the Dutch experience.

## 2. Data and Method

The data sets that are used in this study are the 2006 Dutch Parliamentary Election Study<sup>3</sup> (known in Dutch as the NKO 2006) and the 2010 Dutch Parliamentary Election Study (known in Dutch as the NKO 2010).<sup>4</sup> These studies are conducted in two waves before and after elections for Parliament interviewing the same group of persons. For each Study, persons are randomly selected out of the entire Dutch population. This means that it is possible that the same persons participate in different studies, but the chances of this happening are small. Selected persons are interviewed in person twice, a few weeks before the election and directly after the elections. These interviews are conducted at the homes of the participants. After the second interview, the participant is also asked to fill in a short written questionnaire. The Dutch Parliamentary Study contains nearly 700 questions on a wide range of subjects. The Dutch Parliamentary Election Study is conducted at each Parliamentary election in the Netherlands since 1971. During each study certain questions are added or removed, based on current events (Schmeets and Van der Bie 2008). During the 2006 Study a series of questions was added on voter trust, both on the elections in general, as well as on different voting methods. These questions were asked in the post-election wave of the study. The same questions were asked in the 2010 Survey. In 2006, 2806 persons participated in the Survey, in 2010 there were 2621 participants.

One of the questions is comparable to the question on voter confidence that is used in the United States. In the Dutch survey, voters were asked the following question: "How much trust do you have in general in a fair process of the election? The possible responses were: "very much", "much", "much nor little", "little", or "very little".<sup>5</sup> In the coding scheme of the Election Study, very much trust is represented by 1 and very little trust by 5. For this study, this variable was recoded so that a score of 1 means that the respondent has very little trust and a score of 5 that a respondent has very much trust in the election process. In appendix 1 the questions, answer possibilities and coding of the variables that are used in this study are shown.

With regard to the technology that was used in the election, the Dutch Parliamentary Election Study does not provide information on how the voter cast his vote. In the 2006 election, 22 municipalities voted by paper ballot. The other 421 municipalities used a DRE machine build by a company called Nedap. A small group of voters voted from abroad.<sup>6</sup> They could vote via the Internet, by mail, in person in a polling station within the Netherlands and by giving a proxy vote. This means that the majority of the Dutch voters voted with the use of a direct-recording electronic (DRE) voting machine in 2006. However, since there is no data on the technology that a voter used during the 2006 elections, I cannot test whether this technology has an influence on voter confidence. In 2010 the use of voting machines was discontinued, as was the use of Internet voting. This means that all respondents in 2010 voted through paper ballots.

First, the level of trust of all the voters in the election process will be determined for 2006 and 2010. In light of the discussions surrounding the use of different election technologies that were

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3 The questionnaires of the Dutch Parliamentary Election Study 2006 are available on [http://www.dpes.nl/pages/nko\\_2006.php](http://www.dpes.nl/pages/nko_2006.php) (Dutch only). The data is available through <http://easy.dans.knaw.nl>.

4 The questionnaires of the Dutch Parliamentary Election Study 2010 are available on [http://www.dpes.nl/pages/nko\\_2010.php](http://www.dpes.nl/pages/nko_2010.php) (Dutch only). The data has not been made public yet. The data set used in this paper is the original data that is collected by Statistics Netherlands (CBS) and organisation of the Dutch Parliamentary Election Study. Because the data set is not finalized yet, it is possible that the data in the set will undergo some changes in order to rectify mistakes made during the reporting process.

5 This question is slightly different than the question used in the American context but taps the same construct (see Hall and Loeber 2010).

6 Around 30.000 voters voted from abroad, 19.815 voters used the Internet voting option, 8.366 voted through mail.

held between 2006 and 2010 and the problems with the use of paper ballots in the March 2010 municipal elections, I come to the first hypothesis.

Hypothesis 1: The trust of voters in the election process will be higher in the 2006 elections compared to the 2010 elections.

Second, to measure the effect of the debate on the use of voting machines in the Dutch election process, the trust of voters in both voting machines and paper ballots will be determined for 2006 and 2010. Since voters were also asked which method they prefer and in which method they had more trust when comparing the two, the answers to these questions will be compared for 2006 and 2010. The assumption is that voters have more trust in a voting technology they have used before (Stewart, Alvarez and Hall 2010). The fact that in 2006 most voters were not used to voting by paper ballot, whereas the parliamentary election of 2010 was the third election in which only paper ballots were used leads to my second hypothesis.<sup>7</sup>

Hypothesis 2: The trust in voting machines will have decline between the 2006 elections and the 2010 elections and the trust in paper ballots will have remained the same or gone up during this period.

To measure the possible influence of the winner-loser effect, I compare the party choice with the expressed level of confidence. Because the questions on confidence in the election process were asked after the results of the election were made public, a voter knew when answering whether his party had won or lost. In the elections of 2006, the big winners were the Socialist Party (SP), the Christians Union (CU), the Party for Animals (Partij voor de Dieren), and the Freedom party (PVV). Big losers were the Labor Party (PvdA), the Liberals (VVD), the Democrats 66 (D66), and the list of Fortuyn (LPF). In 2010 big winners were the PVV, the VVD and D66, big losers were the Christian Democrats (CDA) and the SP. The levels of trust of voters per party are then compared. Based on the findings in the United States on a winner-loser effect, I can expect:

Hypothesis 3: There will be a “winner’s effect” in the Netherlands; voters who vote for a party that won more seats in the election than it had before will have a higher level of confidence than other voters.

For the demographic variables I include those that in previous research have shown to influence the level of trust. This means that I will include in this study the variables sex, age, education, personal income level, the fact whether a voter considers himself as religious and how often the voter attends a religious service. I recoded two of these variables from the Election study database. For this study, I used these same age categories that were used by Alvarez, Hall and Llewellyn (2008). Age is therefore coded as follows: 1 = 18-29, 2 = 30-39, 3 = 40-49, 4 = 50-65 and 5 = 66 and above. The variable attendance of religious services was also recoded. In the code scheme of the Election study, 1 represents attendance of religious services once a week or more and 5 (almost) never. For this study, this coding scheme is reversed, with 1 meaning (almost) never and 5 meaning once a week or more.<sup>8</sup> Based on the findings by Alvarez et. al. in the United States on the influence of sex and age on the levels of confidence, I expect (Alvarez, Hall and Llewellyn 2008):

Hypothesis 4: Women will have lower levels of confidence than men.

Hypothesis 5: Young voters will have higher levels of confidence than older voters.

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<sup>7</sup> The other two elections were the 2009 European Parliament elections and the March 2010 municipal elections. Turnout in the EP elections is low at 30%, turnout in the municipal elections is usually around 60%, turnout for parliamentary elections is 80% on average. For some voters, the parliamentary elections of 2010 therefore will have been their first elections on paper ballot.

<sup>8</sup> See appendix 1 for the coding of all the variables used.

Factors that have had a constant significant influence on voter confidence are social-economic status and religiosity (Birch 2008). Birch (2008) finds that members of a religious minority in some countries have lower levels of trust in the election process. According to the data on religiosity in 2009, 44% of the Dutch citizens are not religious, 28% are a member of the Roman Catholic Church, 6% belong to the Protestant Church, 9% are Dutch Reformed, 3% are Reformed and 10% belong to other religions.<sup>9</sup> This means that all persons in the Netherlands, who state that they are religious, are members of a religious minority. This leads to the final two hypotheses.

Hypothesis 6: Voters with higher income levels will have a higher level of trust than voters with lower income levels.

Hypothesis 7: Voters with a higher level of education will have a higher level of confidence than voters with lower levels of education.

Hypothesis 8: Dutch voters who are part of a religious minority will be less confident than are voters who are not.

To test the influence of the demographic variables, I use a multiple regression model.

### 3. Results

In 2006 78.9% of the voters expressed having much or very much trust in the election process in general. In 2010 this number was 76.8%. This means that there was almost no change in the trust the voters had in the election process between the 2006 Parliamentary election and the 2010 Parliamentary election. The switch from the use of voting machines to paper ballots apparently did not have a significant effect on voter trust. My first hypothesis therefore is not supported by the data.

However, the results show that the level of trust in voting machines went down between 2006 and 2010. In 2006, 83.6% of the voters expressed much or very much trust in voting machines, to only 69.3% in 2010. Trust in ballot paper became slightly higher in 2010. In 2006, 76.3% of the voters had much or very much trust in paper ballots; in 2010 this number was 79.6%. This data confirms my second hypothesis. It seems that the problems with the paper ballots in the March municipal elections of 2010 did not cause an issue of trustworthiness with paper ballots for the voters in the June 2010 parliamentary elections. Also, the level of trust expressed in paper ballots in 2010 is higher than the level of trust expressed in voting machines, whereas in 2006 this was the other way around. Further research in this area is necessary, but this data supports the assumption that voter trust in a voting technology is affected by the technology that voters actually use during the elections.

What is of interest is that this apparent higher level of trust in paper ballots is not reflected in the preferred voting technology of voters. In 2006 56.1% of the voters preferred a voting machine to a paper ballot and 13.3% preferred the paper ballot to a voting machine. In the 2010 Study 46.7% preferred the voting machine and 24.3% expressed a preference for the use of paper ballots. When it comes to comparative trust between voting machines and paper ballots, the picture becomes even more diffused. In 2006 33.6% of the voters stated that they had higher levels of trust in a voting machine than in paper ballots. 11.4% expressed the reverse; they found paper ballots more trustworthy. In 2010 27.2% of the voters found in a direct comparison the voting machine more trustworthy than paper ballots and 21.6% had higher levels of trust in paper ballots compared to voting machines. There seems to be a contradiction between these numbers and overall levels of trust in voting machines and paper ballots in 2010 as reported above. When asked only to rate a specific voting technology, the voters in the 2010 Dutch Parliamentary Election Study

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<sup>9</sup> Data available through Statistics Netherlands (CBS) to be found on [www.cbs.nl](http://www.cbs.nl).

expressed more trust in paper ballots than in voting machines. However, when asked to compare paper ballots and voting machines, voters find the voting machines more trustworthy. To discover the reason for this contradiction more research would be necessary. In the light of the current discussion in the Netherlands whether or not to reintroduce the use of voting machines, it would be very useful to investigate this issue.

Figure 1 shows the expressed trust of voters for different parties in the election process for the 2006 elections.

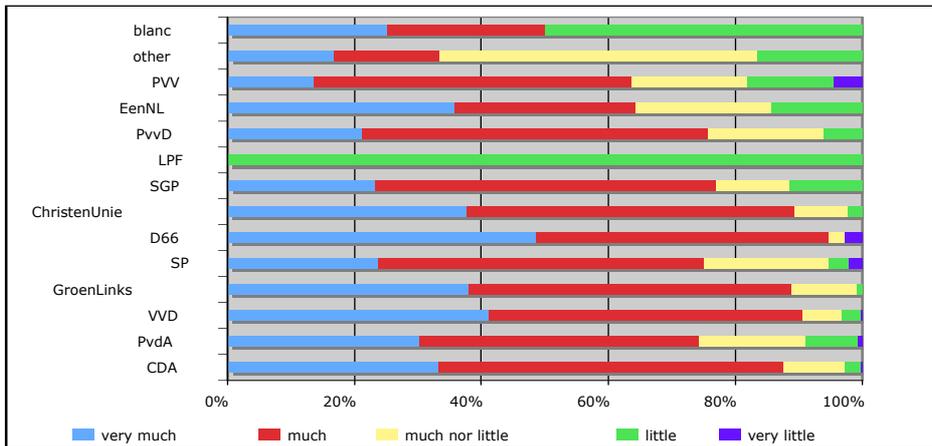


Figure 1: Trust in elections process of voters per party in 2006

Figure 2 shows the same information for the 2010 elections.

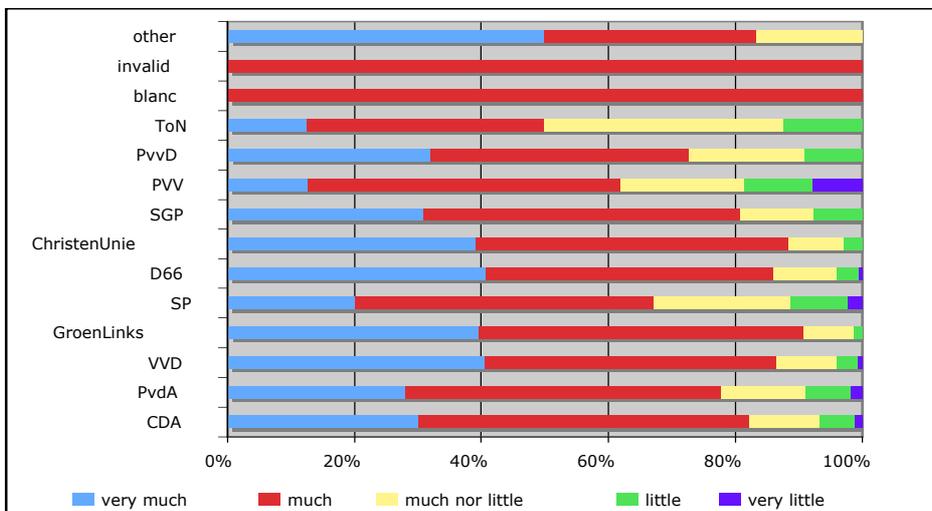


Figure 2: Trust in election process of voters per party in 2010

The figures show that there is no clear ‘winner-loser’ effect on trust in the election process. From the big winners in 2006, the SP and PVV show lower levels of trust than the average voter, the Party for the Animals an average trust level and the ChristenUnie a slightly higher level of trust. The big losers show the same diffuse picture for 2006, the PvdA and LPF do show lower levels of trust, but the VVD and D66 voters express higher levels of trust than the average voter. In 2010 again there is no clear influence of the party voted for and the trust in the election process. Voters who voted for the PVV the biggest winner, show very low levels of trust. Voters for the other two winning parties, the VVD and D66 show higher levels of trust. The voters who voted for the CDA, which lost half its seats, have an average trust level, whereas voters who voted for the SP, the

other losing party have slightly lower levels of trust, compared to the average voter. This means that the data does not support my third hypothesis that voters who voted for a winning party would show higher levels of trust than voters who voted for losing parties.

Finally, I used a multiple regression model to test whether the demographic variables are of influence on voter trust. For 2006 the results are shown in table 1 and for 2010 in table 2.

**Table 1: demographic variables and voter trust in the election process 2006**

	<b>B</b>	<b>SE B</b>	<b>β</b>
Constant	3.412	0.247	
Age	-0.053	0.025	-.079**
Sex	-0.155	0.073	-.086**
Religious	0.005	0.094	.002
Attendance religious services	0.053	0.021	.093**
Highest education completed	0.185	0.030	.249*
Personal income	0.018	0.007	.114**

Note:  $R^2 = .148$  ( $p < .001$ ). \*  $p < .001$  \*\*  $p < .05$ .

**Table 2: demographic variables and voter trust in the election process 2010**

	<b>B</b>	<b>SE B</b>	<b>β</b>
Constant	3.412	0.247	
Age	-0.053	0.025	-.079**
Sex	-0.155	0.073	-.086**
Religious	0.005	0.094	.002
Attendance religious services	0.053	0.021	.093**
Highest education completed	0.185	0.030	.249*
Personal income	0.018	0.007	.114**

Note:  $R^2 = .134$  ( $p < .001$ ). \*  $p < .001$  \*\*  $p < .05$ .

Both in 2006 and 2010  $R^2$  is significant. This means that the demographic independent variables have a significant influence on the dependent variable, the level of trust in the election process. However, this influence is not very large. In 2006 14.8% of the changes in the trust level are explained by the independent variables in the model. In 2010 these variables cause 13.4% of the changes in the dependent variable. Of the independent variables in 2006 the variable 'religious' does not have a significant influence on the level of trust. The 2010 model confirms this finding; again the variable 'religious' is not significant. This means that my eighth hypothesis is not true. However, the frequency of attendance of religious services is a significant variable, both in 2006 and 2010. Both in 2006 and 2010 the direction of this influence is positive; the higher the frequency of visits to religious services, the higher the level of trust in the election process. In 2006 this influence is significant at the  $p < .001$  level, in 2010 at the  $p < .05$  level.

The factor age is not a significant influence in the 2006 model, but in the 2010 model, its influence on the dependent variable is significant at the  $p < .05$  level. The direction is negative; this means that higher age groups have less trust in the election process. This data supports the fifth

hypothesis. The independent variable sex has a significant influence on the dependent variable both in the 2006 election and the 2010 election. For both models, the significance level is at the  $p < .05$ . The direction is negative in both models. Since the variable is coded 1 for male and 2 for female, the negative direction means that female voters have less trust in the election process than male voters, supporting the fourth hypothesis. The variable highest education completed is significant at the  $p < .001$  level for both the 2006 and the 2010 model. The direction of the influence of this variable on the dependent variable is positive, meaning that the voters who have completed a higher level of education have more trust in the election process than voters with a lower level of completed education. The direction of the influence of the variable personal income level after taxes is also positive; voters with a higher personal income express more trust in the election process than voters with a lower level of income. For 2006, this difference is significant at the  $p < .001$  level, in 2010 at the  $p < .05$  level. This finding confirms my sixth and seventh hypotheses.

#### 4. Conclusions

Voter confidence in election results is of the utmost importance for the legitimacy of the chosen legislators. When the trustworthiness of the techniques and methods that are used during the elections become subject of debate, this can have a negative impact on the confidence of voters. Traditionally, the election process in the Netherlands has not been the subject of a lot of attention, not from the media, nor from the public. The introduction of electronic voting in the 1960s went relatively smoothly and in March 2006 99% of the Dutch voters voted with DRE's. In 2004 and 2006 experiments were held with Internet voting for voters from abroad and Parliament was asking for nationwide introduction of Internet voting. However, this broad support for electronic voting in Parliament diminished due to the campaign of the NGO 'we don't trust voting computers'. This NGO actively used the media in their campaign against voting computers and Internet voting. Besides from newspaper articles, they also managed to broadcast their hacking of a voting computer on one of the public television channels. Most voters are in all likelihood exposed to some of the doubt this NGO expressed in the trustworthiness of voting machines. All voters were exposed to the results of the campaign when Parliament decided to abandon the voting machines and the use of Internet voting and return to paper ballot voting (Loeber 2008). For a large number of voters, the June 2010 elections were the first Parliamentary elections in which they had to cast their vote by paper ballot.

However, the change in voting technology, the negative attention in the media and debates in parliament on the election process apparently have not had impact on the trust voters have in the election process. In 2006, 78.9% of the voters expressed to have much or very much trust in the election process. Although this number is lower than levels of trust found in American studies (Alvarez, Hall and Llewellyn 2008), the large majority of the Dutch voters trust the election process. The level of trust also has not significantly declined between 2006 and 2010, since in 2010, 76.8% of the voters had much or very much trust. The debate that was held in Parliament and the media on the trustworthiness of the election process during this period did not lead to lower levels of trust.

The trust that voters have in different voting technologies however did change between 2006 and 2010. Trust in voting machines declined and trust in paper ballots increased a little. Since most voters voted on a voting machine during the 2006 elections and all voters voted on paper ballot during the 2010 election, this might indicate that voters trust a voting technology they know and used. However, the data on the preference of voters and the expressed trust when paper ballots and voting machines are compared show a different picture. In 2006 a clear majority of the voters preferred the voting machine. Even though this majority has declined, even in 2010 more voters prefer a voting machine to the use of paper ballots. Also, more voters feel that voting machines are trustworthier than paper ballots, both in 2006 and 2010. It might be that because of the long history

of the use of voting machines in the Netherlands, voters feel more comfortable with voting machines. It could also be that the problems with the paper ballots during the March 2010 municipal elections caused the feeling that voting machines are better than paper ballots. Based on the existing data, it is not possible to draw an informed conclusion on the contradictions in the answers of voters on the trust in voting machines, paper ballots and the comparison between these technologies. Further research would be necessary to explain this contradiction in the levels of expressed trust in the different technologies and the levels of trust when the technologies are directly compared.

There is no 'winner-loser' effect on voter trust in the Dutch context. An explanation for the absence of this effect might be found in the electoral system of the Netherlands. The Dutch system of proportional representation coupled with coalition government means that even parties that lost seats in the election can become part of the government. Winning or losing in the elections is therefore more relative in the Netherlands than in countries with a 'winner takes all' system such as the United States (Hall and Loeber 2010). Although there are differences in the levels of trust between voters for different parties both in 2006 and 2010, these differences cannot be explained by looking at the 'winner-loser' effect. Further research is necessary to find the causes for these differences.

Finally, although demographic factors explain some of the differences in the trust voters have in the election process, the influence of these demographic variables on the trust level is not very large. Male voters have slightly higher levels of trust than female voters. Young voters are more trusting than older voters. Higher educated voters and voters with a higher personal income level show higher levels of trust. Voters who attend religious services on a regular basis also have higher levels of trust in the election process.

Since the influence of the demographic variables that were included in this study on voter trust is limited, it would be useful to look at other factors that might explain the differences in trust in the election process. Possibly in the Netherlands, there is a correlation between trust in the election process and trust in other governmental and public institutions. In the Dutch Parliamentary Election Study, respondents are asked how much trust they have in different national and international institutions such as the press, the army, judges, the European Union and NATO. In future research, the answers to these questions could be compared to the level of trust in the election process. Another topic of further research could be the relationship between trust in the election process and political and social participation of a voter. This study showed that the regular attendance of religious services increases the trust in the election process. It might be useful to see whether factors such as the membership of a political party, trade union or other types of organizations have a similar impact on trust in the electoral process.

The aim of this paper was to give some insights into the trust of Dutch voters in the election process. The level of trust has not changed significantly between 2006 and 2010. Although some factors were found that influence voter trust, further research will be necessary to develop a more accurate prediction model for Dutch voter trust.

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## Appendix 1: Variables used from the Dutch Parliamentary Election Studies 2006 and 2010

For all the variables, first the label is mentioned as used in the Election Study. Then the name used in 2006 and the name used in 2010 are shown. Finally, the coding used in the Election Study is mentioned.

Trust in elections general: v582, algemeen. Coding: 1 = very much, 2 = much, 3 = much nor little, 4 = little, 5 = very little.

Trust in voting machines: v575, StemComp. Coding: 1 = very much, 2 = much, 3 = much nor little, 4 = little, 5 = very little.

Trust in ballot paper: v576, Papier. Coding: 1 = very much, 2 = much, 3 = much nor little, 4 = little, 5 = very little.

Prefer voting machine or ballot paper: v577, Voorkeu2. Coding: 1 = voting machine, 2 = ballot paper, 3 = no preference.

Trust voting machine compared to ballot paper: v578, Betrouw. Coding: 1 more trustworthy, 2 = less trustworthy, 3 = no difference.

Party voted for in 2006 parliamentary elections: v512, WelkPart. Coding: differs in 2006 and 2010 because of different parties participating. Parties are named, also 'other party', 'blanc' and 'invalid'.

Sex of respondent: v420, M\_V. Coding: 1 = male, 2 = female.

Year of birth respondent: v421, LFTOP\_a. Coding: years from 1900 to 2003.

Respondent is religious: v425, gelovig. Coding: 1 = yes, 2 = no.

Attendance of religious services: v427, Kerkbez. Coding: 1 = once a week or more, 2 = 2 a 3 times a month, 3 = once a month, 4 = several times a year, 5 = (almost) never.

Highest education (completed) of respondent: v430, VLTopLop. Coding: -1 = currently elementary, 1 = elementary, 2 = lower vocational, 3 = secondary, 4 = middle level vocational, higher level secondary, 5 = higher level vocational, university.

Personal income (after taxes): v437, NP2008\_P. Coding: in each study 20 categories are named. In 2006 1 = < 2573 and 20 = > 58270. In 2010 1 = < 3068 and 20 = > 75830.

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Leontine Loeber studied law and has worked as a legislative lawyer at the Ministry of the Interior and Kingdom Relations of the Netherlands. In this capacity she was responsible for drafting changes in the Election Law. After this, she worked at the Dutch Electoral Council, where among other tasks, she was involved with organizing elections. During this period, the Netherlands switched from e-voting to paper ballot voting. Currently Leontine works at the Council of State as a legislative lawyer. She is also finishing a master in Political Science at the University of Leiden. She has published some articles on e-voting in the Netherlands.



# Electronic Decision-Making in the Field of Law with special regard to the European Union

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**Abstract:** *EU primary law requires — to a much larger extent than national constitutions usually do — institutions to state reasons when adopting legal acts of general application; this obligation, in turn, implies to take into consideration all of the relevant factors of the situation. Given the complexity of modern situations — both legal and factual — it is held here that computer science is needed to cope with this obligation. Moreover, recent developments in the field of chess computers seem to indicate that “electronic decision-making in the field of law” is, at least in principle, actually feasible.*

**Keywords:** European integration; deliberative democracy; rule of law; law-making; consideration of all factors; premises; logical operations; conclusions; memory; chess computer

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**A**lready Kant asked: “What is ‘law’?”<sup>1</sup>

In the meanwhile, we have got, on the one hand, the late Kelsen’s well-known positivist answer that every norm is simply the result of a (human) will.<sup>2</sup> This simplicity had been underlined by his famous emphasis of the dichotomy between “Sein” and “Sollen”, that is that from the fact that something “is” does not follow that something “ought” to be.<sup>3</sup>

On the other hand, Article 296 (2) TFEU stipulates that all “legal acts” adopted by institutions of the European Union — therefore not only administrative decisions<sup>4</sup> and judgements, but also “regulations, directives, ... recommendations and opinions” and “decisions” of general nature (Article 288 [1] TFEU) — “shall state reasons on which they are based and shall refer to any proposals, initiatives, recommendations, requests or opinions required by the Treaties”. This means that Union “institutions which have adopted the act in question must be able to show before the Court” (of Justice<sup>5</sup>) “that in adopting the act they actually exercised their discretion, which

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<sup>1</sup> Kant (1797/2009), 229. Cf, however, more recently, also Hart (1994), 1ff.

<sup>2</sup> “Der Akt, dessen Sinn ist, daß etwas geboten ... wird, ist ein **Willensakt**” (Kelsen [1979], 2) or “Mit ‚Norm‘ bezeichnet man: , daß etwas sein oder geschehen ... soll. Das ist der Sinn, den gewisse menschliche Akte haben ... sie ... sind ... **Willensakte**“ (Kelsen [1960]), 4. Cf for this aspect of Kelsen’s doctrine also Jabloner (1988) and Balthasar (2006), 560 (fn 30).

<sup>3</sup> Cf Kelsen (1960), 5f, Kelsen (1979), 2; Balthasar (2007a), 98, 111ff.

<sup>4</sup> Only those are covered by Article 41 (2) (c) EUCFR.

<sup>5</sup> According to Article 19 (1) TEU “the Court of Justice of the European Union” comprises a) the “Court of Justice”, b) the “General Court” and c) “specialised courts”.

presupposes the taking into consideration of all the relevant factors and circumstances of the situation the act was intended to regulate".<sup>6</sup>

The requirement of "taking into consideration of all the relevant factors" before adopting a legal act implies that indeed the already existing "relevant factors" — as part of the "Sein" — have an essential influence on the content of the legal act to be adopted and, thus, on the "Soll".

Under the latter perspective, however, the question arises of how the Union institutions can actually comply with the mentioned requirement, in particular against the background of an unusual complexity stemming from various elements:

- The sheer size of the current Union (of about 500 million inhabitants);
- The "confederal" structure<sup>7</sup> (as laid down in the Treaties, in particular in Articles 4 [2], 5 [2] and [3] TEU, and firmly emphasised by the German Constitutional Court<sup>8</sup>), which favours cooperation among Member States (within a common framework) instead of centralistic solutions;
- The general complexity of the legal framework already at the very top of the legal hierarchy (i.e. the primary law), currently consisting of three principal documents (TEU, TFEU, EUCFR) with a number of overlapping, but not necessarily identical provisions, many additional documents as Annexes, Protocols<sup>9</sup> and even formally not binding Declarations<sup>10</sup>, and, last but not least, a mass of (often) unwritten "general principles"<sup>11</sup>; in addition, at least secondary Union law may also be contested before the Union Courts for lack of compliance with international agreements<sup>12</sup>;
- The particular complexity inherent, *ratione materiae*, to various fields of law, requiring "the assessment of highly complex scientific and technical facts"<sup>13</sup> or involving "political responsibilities"<sup>14</sup>, in, inter alia, matters of environmental policy<sup>15</sup>, in agricultural matters<sup>16</sup> and in matters of economic competition.<sup>17</sup>

Here is suggested that computer science may facilitate dealing with this complexity considerably and thus contribute to keep the process of European integration running. But, of course, such a development bears also the danger that human beings shift from the centre of legislation to its edge, that they mutate from subjects of the process to mere "adjects" — as Samsonov put it in assessing the cultural effect of prayer wheels.<sup>18</sup> So "law-making computers" — if they were ever to exist — should rather be confined to the role of a mere internal assistant of the relevant human decision-makers than to be conferred real external decisive powers.

<sup>6</sup> *Afton*, para 34.

<sup>7</sup> Cf *Balthasar* (2010b), 90ff (in particular fn 13).

<sup>8</sup> *Lissabon*, headnote 1, paras 229ff, 262ff, 277, 322, 340, 346ff.

<sup>9</sup> According to Article 51 TEU "the Protocols and Annexes to the Treaties shall form an integral part thereof".

<sup>10</sup> As it is well-known, even such a *crucial issue* as primacy of EU law is dealt with in a Declaration (No 17).

<sup>11</sup> Their normative existence is, apart from Court of Justice's case-law, to be inferred from Article 6 (3) TEU. As to their content, cf *Arnulf et al*, 235ff, and, as to fundamental rights as general principles, 257ff; cf also *Kadi*, para 283.

<sup>12</sup> Cf *Arnulf et al*, 188ff, 449. See now Article 216 (2) TFEU. As to primary law, however, *Kadi*, para 285ff, stated limitations.

<sup>13</sup> Cit *Afton*, para 28.

<sup>14</sup> *Jippes*, para 80; *Cheminova*, para 195.

<sup>15</sup> *Afton*.

<sup>16</sup> See *Jippes*, *Cheminova*.

<sup>17</sup> See *Alrosa*, para 67.

<sup>18</sup> *Samsonov* (2000), 149.

## 1. The reason to state reasons

For a decision (understood here, in the following, in a large sense, covering all sorts of legal acts within the meaning of Article 288 [1] TFEU) which is based on nothing else than the will of the author no other reason can be indicated as exactly the traditional formula of French monarchs: “Car tel est notre plaisir”.<sup>19</sup>

So an obligation to motivate a decision implies with necessity that exercise of “*liberum arbitrium*” or the fact of “*placitum*” on the side of the decision-maker does not suffice to legitimate the decision, but that, on the very contrary, the decision must be the result of reasonable considerations — of course against the background of the respective legal order constituting the relevant legal reality.<sup>20</sup> The relevant considerations often being rather complex ones, in order to take them all properly into account a wide “margin of appreciation” may be left to the decision-maker<sup>21</sup>, allowing him not only a certain range of factual appraisal but also to balance the weight of conflicting legal interests or “principles”<sup>22</sup> – as it is required, *inter alia*, by the principle of proportionality.<sup>23</sup> Even those processes of appraisal and balancing being, at least to some extent, subject to judicial review means, however, that the “margin” must not be without reasonable limits. In this respect, some years ago the International Criminal Tribunal for the former Yugoslavia (ICTY) stated, with regard to the competences of the UN Security Council, on the basis of the UN Charter:

“It is clear from this text that the Security Council plays a pivotal role and exercises a very wide discretion under this Article. But this does not mean that its powers are unlimited. ... In any case, neither the text nor the spirit of the Charter conceives of the Security Council as *legibus solutus* (unbound by law). ... The Charter ... speaks the language of specific powers, not of absolute fiat.”<sup>24</sup>

And from the standpoint of Union law, the EU Court of Justice held, in its famous *Kadi* judgement, that the basis of EU law, the rule of law, prohibits acknowledgement of unlimited primacy of UN law.<sup>25</sup>

This judicial review — and, therefore, the reason of the underlying obligation to state reasons — may be twofold: on the one hand, the court may only assess whether the decision at issue could be based on legitimate reasons; on the other hand, however, it may also be examined whether the decision-making authority has in fact based its decision on reasonable considerations made prior to the making of the decision.

Whereas at the national Austrian level there is still, as a rule, no obligation to motivate legal acts of general application<sup>26</sup> and even with regard to individual judgements at least court practice shows

<sup>19</sup> See *Demante* (1893). It is very interesting, however, that even those monarchs (*Napoléon I.* included) had often felt the need to *mitigate* this formula by enlarging it to “*car tel est notre bon plaisir*”, which should be understood as equivalent to “*raisonnable*” (see *op cit*, 92f).

<sup>20</sup> *Balthasar* (2011).

<sup>21</sup> See *Jippes*, paras 80, 82; *Cheminova*, para 195; *Kadi*, para 28; *Alrosa*, paras 42, 63, 67.

<sup>22</sup> See, for the implied theory, most recently *Borowski* (2007), 113. Cf also, for the positive EU law, *Bogdandy* (2010).

<sup>23</sup> As it is well-known, this principle has been acknowledged as a general principle of (now) Union law by Court of Justice for decades. It is now also enshrined in Article 52 (1) EUCFR.

<sup>24</sup> *Tadic*, para 28.

<sup>25</sup> Para 281, read in conjunction in particular with paras 303 (no “derogation from the principles of liberty, democracy and respect for human rights and fundamental freedoms”), 304 (no “challenge to the principles that form part of the very foundations of the [Union] legal order, one of which is the protection of fundamental rights, including the review by the [Union] judicature of the lawfulness of [Union] measures as regards their consistency with those fundamental rights”, and 308 (“that primacy” of UN law “would not extend to” EU “primary law, in particular to the general principles of which fundamental rights form part”).

that written motivation often only follows prior oral announcement of the ruling<sup>27</sup>, European Union law (as outlined above) seems to have already developed considerably further<sup>28</sup>; in terms of intellectual history, this means a rapprochement to ancient Greek mentality (where, very unlike to the Latin “voluntas”, even didn’t exist a notion for mere action of will, e.g. “boulestai” or “prohairestai” always meaning “reasonably willing”).<sup>29</sup>

## 2. The nature of reasonable consideration

“Reasonable consideration” usually consists — if need be also of a huge amount of sets of parallel and subsequent — of logical operation(s), starting, as already Aristoteles showed it, by premises and deducing, in a sort of calculating, precise results — their correspondence to external reality, however, being always dependent on the accuracy and completion of the premises.<sup>30</sup>

Whereas the very first premises of a logical world always have to be presupposed<sup>31</sup>, that is not the case with all other premises — which themselves may be construed as the result of prior calculation. That means, however, that in particular with regard to complex “reasonable considerations” the preciseness of the final result may be considerably increased by increasing the preciseness of the lots of premises used in the earlier calculation processes.

On the other hand, every premature break of calculation due to its complexity surpassing human minds or every incompleteness of the starting premises due to the same lack of human capacity will aggravate the impreciseness of the final result.

Of course, preciseness — understood as certainty — is not always available at a given moment when a decision has to be taken. Exactly this insight has led, for example, to the establishment of the “precautionary principle”<sup>32</sup>, allowing, “where it proves to be impossible to determine with certainty the existence or extent of the alleged risk because of the insufficiency ... of the results of the studies conducted” to adopt “restrictive measures” if “the likelihood of real harm to public health persists should the risk materialise”<sup>33</sup> “without having to wait for the reality and the seriousness of those risks to be fully demonstrated.”<sup>34</sup> That approach, however, seems to imply, as far as possible at a given moment, the indication of degrees of probability of specific data used as premises — a fact which allows for the assumption of alternative results with the complementary degree of probability.

Finally, also the famous weighing or balancing of contradictory principles suggests that this process may be, at least to some extent, quantifiable and, therefore, calculable. And here, too,

<sup>26</sup> As to now there are neither provisions nor rulings which would require motivations of laws or (here with rare exceptions) ordinances.

<sup>27</sup> Cf *Balthasar* (2007b), 148f, where the reverse sequence is suggested.

<sup>28</sup> The system of *European democracy* may, therefore, be described as following the paradigm of “**deliberative** participation” (cit *Lissabon*, para 272; cf also *Balthasar* [2010b], 110), the concept of which (though not the notion) is linked in particular with *Dewey* (cf *Westbrook* [2000], 360f).

<sup>29</sup> *Dihle* (1985), 31ff. It may be well suggested that it had been exactly this humanist influence since the renaissance which led, in France, to the frequent mitigation of “plaisir” to “bon plaisir” mentioned above in fn 19.

<sup>30</sup> *Analytica posteriora*, 100b, 13f; cf *Zekl* (1998), Cf.

<sup>31</sup> In that sense *Goedel* has definitely refuted traditional ambitions.

<sup>32</sup> Cf Article 191 (2) TFEU; see in general [1], and *Murphy/O’Cuinn* (2010)613ff (with regard to ECtHR’s case-law).

<sup>33</sup> *Afton*, para 61.

<sup>34</sup> *Afton*, para 62. Cf also *Jippes*, para 84: “... the legality of a Community act *cannot depend on retrospective assessment* of its efficacy. *Where the Community legislature is obliged to assess the future effects of rules to be adopted and those effects cannot be accurately foreseen*, its assessment is open to criticism only if it appears *manifestly incorrect in the light of the information available to it at the time of the adoption* of the rules in question.”

indication of degrees of weight would make the process more transparent and open for alternative results.

Finally, it has to be mentioned that calculation starting from abstract premises is not the earliest form of reasoning: much older seems to be the technique of comparing current concrete situations with past ones, by means of remembrance and thus inducing the main features the two situations might have in common. This technique — by which the general principles already unconsciously underlying the specific behaviour are, step-by-step, “discovered”, that is to say “realised” by one’s ratio — had not only be presented by Platon<sup>35</sup>, but is still typical for case-law based legal systems.<sup>36</sup>

### 3. The model of a chess computer

#### 3.2. The question of comparability and generalizability

The general idea of performing logical calculations by a machine dates back to medieval Raimundus Lullus. But in our times, it was in particular the development of chess computers<sup>37</sup> which demonstrated that, at least in a limited field of human reasoning, machines could indeed match and even surpass human intelligence.<sup>38</sup>

So, for Turing chess had already been an ideal experimental ground for the development of artificial intelligence in general<sup>39</sup>, and still de Groot/Gobet held that “the goal of our research is not to have a model of chessplayers’ memory and perception per se, but to understand human behaviour in a complex task in the hope that it will lead us to a better grasp of human behaviour in general. The model we propose ... should be, mutatis mutandis, generalizable to other domains”.<sup>40</sup> It may well be that this generalization has its limits<sup>41</sup>; but it seems to me that, at least, legal reasoning as such is, in principle, perfectly comparable to what is required by a — human or computer — chess player<sup>42</sup>:

A law-maker (other than a sovereign) as well as a chess player — especially if we consider every (half-)move<sup>43</sup> separately<sup>44</sup> — has to make a decision in a given situation, at a particular time; in principle, the content of the best decision is determined to a large extent, but these determinations

<sup>35</sup> In his dialogue *Menon*, cf *Kutschera* (2002), 220ff.

<sup>36</sup> Cf *Dworkin* (1978), 110ff.

<sup>37</sup> For a historical survey, see *Ehn/Kastner* (2010), 68ff.

<sup>38</sup> In 1997, a computer programme (DEEP BLUE) won for the first time a match against the then world champion, *Kasparov*; whereas then the score was 3,5: 2,5, some years later, in 2005, the programme HYDRA (developed by the Austrian *Christian “Chrilly” Donniger*) defeated grandmaster *Adams* with a score of 5,5: 0,5. Since then, it is evident that “any discussion on competition between human beings and computers” in chess “has come to an end” (cit *Ehn/Kastner* (2010), 74; see also *ib*, 71ff, and *Merö* [2008], 287).

<sup>39</sup> See *Ehn/Kastner* (2010), 68.

<sup>40</sup> *Groot/Gobet* (1996), 213. See also 216 from where the heading of this paragraph was taken.

<sup>41</sup> Cf *Merö* (2008), 291.

<sup>42</sup> Cf also, for legal systems not based on the common law method, *Dworkin* (1978), 111f.

<sup>43</sup> Strictly speaking, in chess one move consists of two half-moves, that is to say, of the first (half-) move of the player of the white pieces and the response of his partner (the player of the black pieces).

<sup>44</sup> This specific focus — in conjunction with the presumption that the partner will choose always the “best” answer, according to “objective” criteria — allows to neglect the particular features inherent to chess as a game, or, perhaps even more precise, as a match with a concrete partner. Instead, one may consider also the specific situation of a chess player as reasoning “against nature”. To the extent to which, on the other hand, a move is selected not according to “objective” criteria, but with special regard to the concrete partner and his psychological particularities (cf, for this tendency in chess competitions, *Munzert* [1998], 18ff), the comparability alleged here diminishes.

(or its implications) are usually not fully considered by the decision-maker at the very point of decision-making, so that it is very likely that, in practice, the best decision is not found (in time) and, therefore, not made (in time). Or, more concrete:

If, in chess, a player, when starting to “sacrifice”<sup>45</sup>, had realised in advance the hidden “leak” in his “combination”<sup>46</sup>, he would have sought for alternative moves.

If, during a law-making process, the law-maker had realised in advance all the relevant matters of fact and law relevant for the specific issue, including effects of interdependence, probably at least some provisions — stating, for example, time-limits or other requirements impossible to comply with or containing contradictions to higher ranking law, leading to subsequent annulment — would have been shaped differently.

Against that common background it might indeed be useful to risk a glance and try to understand how chess players, and, in particular, chess computer work.

### 3.2. The working method of human chess players

For grandmaster Kotow the “three pillars of chess competence” had been the abilities “to combine”<sup>47</sup>, “to calculate”<sup>48</sup> and “strategic understanding”. Scientific research, however, revealed the fact that the most decisive difference between masters and other players is the memory which allows a master to single out much faster and more precisely than others the relevant features of a given position, by comparing the current position with all those he had analysed before.<sup>49</sup> This is, obviously, the method described by Platon which seems, after all, to be more “human” than that of Aristoteles: Merö<sup>50</sup> points out that logical operations are performed by human beings more easily when backed by concrete experiences, and that formal logic tends to be neglected in every days life even when its use would lead to excellent results.

### 3.3. The working method of chess computers

Computers are, by definition, not human beings. So it is not surprising at all that the earlier approach of constructing chess computers which aimed at imitating the human ability to recognise specific features out of a vast mass of memorised patterns and to apply them to similar positions failed; at least in the sense that they could not surpass a certain level much below the level of grandmasters.<sup>51</sup> The stupendous success of DEEP BLUE and HYDRA<sup>52</sup> is, on the very contrary,

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<sup>45</sup> See right below next fn but one.

<sup>46</sup> See right below next fn.

<sup>47</sup> In chess, “combination” means a specific set of moves, where at the beginning the active player seems to give away (“sacrifice”) more of his own pieces than his partner, whereas at the end it turns out that either it is the active player who enjoys material predominance or that he has been able to mate his partner.

<sup>48</sup> This means that a player is able to decide on the one move he is currently obliged to determine not only on the basis of the situation of the play which is visible on the board at that very moment, but also to realise what the result of the play would be after a series of subsequent moves (on the assumption of “best” responses).

<sup>49</sup> Cf *Groot/Gobet* (1996), 2ff, 72ff; *Merö* (2008), 183f, 206f, 290.

<sup>50</sup> *Merö* (2008), 51ff.

<sup>51</sup> The underlying reason seems to be that all those patterns which the computer is intended to memorize have still to be communicated to it by a human being. As we have learned from *Freud* at the latest, however, we are not fully aware of all our motivations; so the most sophisticated patterns within the memory of a chess grandmaster are situated in his *unconscious*, which hinders their communication to the computer. Cf *Merö* (2008), 207, 291, 295.

<sup>52</sup> See above fn 38.

the result of a change of method towards calculating from premises, supported by a so called “assessment function”<sup>53</sup> — thus, so to say, from Platon to Aristoteles.

To be more concrete, a modern chess computer basically performs two functions:

Starting from a given position it builds all possible (“legal”) positions after the next own move, then — after taking into account all possible counter-moves from the opponent — computes all possible moves in the next but one move etc.

Each position is evaluated according to the “assessment function.”

#### 4. The transposition to the field of law-making

If it is true that, on the one hand, law-making has become so complicated that the memory of physical law-makers tends to be overwhelmed by all the premises having to be taken properly into account and, if need be, be weighed against each other, whereas, on the other hand, exactly this task is, in principle, a key competence of a computer which is not only able but — *sit venia anthropomorphismi* — much more “willing”, due to its very “nature”, to calculate soberly, I think that indeed it would be worth considering the possibility of developing a sort of “law-making computer” — by no means in order to replace human decision-making, but as an assistance which could contribute to improve the rational basis for such decisions.

The “assessment function” would then to be determined by the legal and factual issue at hand, examples would include collision-freeness against a given repository of existing legal provisions, feasibility against a certain factual background or an “optimal” solution incorporating some desirable social properties (such as a general preventive effect of a legal measure).

#### 5. The added value for democracy

The improvement mentioned above could contribute to stabilise and even improve the quality of our democratic systems:

On the first hand, the egalitarian principle inherent in democracy has, as its obvious disadvantage, the consequence that democratically elected policy-makers often lack high-level legal skills, and, even worse, they tend also to neglect the importance of these skills when selecting their staff. Against this background, a “law-making computer” could help to narrow the gap between the democratic principle and the principle of “rule of law”.

On the other hand, assistance in the field of legal calculation could relieve legal policy from the more technical issues of deduction from fixed premises and thus help to focus political discussions on the premises themselves. It is, however, exactly political discussion (and decision based on those discussions) among citizens which is the main justification for democracy.<sup>54</sup>

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<sup>53</sup> Cf *Merö* (2008), 284ff, 289f; oral communication of *Donninger* (see above fn 38) to the author (on 27.12.2010).

<sup>54</sup> Cf, from the opposite point of view, *Balthasar* (2010a), 62 (fn 2), where I address the paradox of a democratic system to which nothing is left to decide due to the huge amount of high ranking legal commitments, especially of international law, undertaken in the second part of the 20<sup>th</sup> century – a paradox which, one time, easily could lead to a revolution.

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## **Short Papers**





# The Role of Rights in the Transactional Civilization

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**Abstract:** *Governing a society is the task of managing rights of the society's members. This article focuses on the right as the most elementary entity of any civilized system and analyzes how such a system can be managed transactional using modern (web) technologies in a non-utopic fashion.*

**Keywords:** e-Government, Government as a Platform, Rights (concept)

**T**he “government as a platform” idea, as most prominently advocated by Tim O’Reilly (O’Reilly 2010) envisions the hegemony as a provider of infrastructure on which subjects can conduct their exchange of goods and services in a transactional manner. According to this idea, “*Government 2.0 is not a new kind of government; it is government stripped down to its core, rediscovered and reimagined as if for the first time.*” (ibid)

The rediscovery and re-imagination of government however requires a fundamental understanding of the “what” and the “how” of modern government and the capability of translating those fundamental elements into a form, which is controllable by means of modern technology.

## 1. The right - a piece of information stored in a database

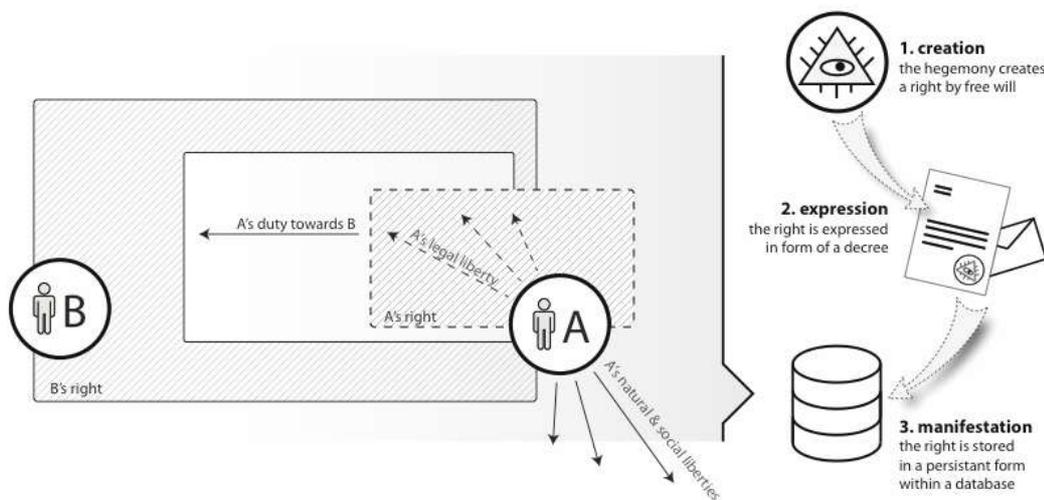
Rights are the fundamental legal relations between subjects and the hegemony within a governed society. Contrary to *natural liberty*, which can be exercised within natural borders (walls, rivers, gravity) and *social liberty*, which is limited with social borders (morals, habits, conventions), *rights* represent artificial liberty, which must be granted by the hegemony in order to exist.

By granting a right, the hegemony creates a virtual space of legal liberty, and promises the grantee *not to interfere* with the subject’s execution of the right. Eventually, the hegemony may promise to defend the right, which it does by establishing a defensive system of subjects who have the right to use repression in order to secure the given right (e.g. a police force, a judicial system, state attorneys, etc.).

Under civilized and peaceful conditions, a governmental system is often perceived as a network of rights, duties and obligations, wherein duties and obligations seem to be clear opposites of rights, making each term describing a separate condition. However, when analyzing the sociopolitical system, it becomes evident that duties and obligations are only virtual constructs that describe the padding, which separates the rights between two hierarchical conditions (Figure 1Figure 1).

For example, let us assume a situation in which a subject – let’s call her Alice – drives her car on a highway. Having fulfilled all legal obligations, she has been granted the *right* of driving a motorized vehicle on public roads – this she can prove any time by showing her driver’s license. Alice’s *right* to drive on a highway is limited by her obligation not to drive under the influence of

alcohol and the duty to drive less than 130 km/h. But Alice ignores her duties and speeds fully drunk at 160, when suddenly a police car appears in front of her and instructs her to stop. Out of the car steps Paul, who is a policeman, as Alice can tell from his uniform and badge, but Paul can prove his status at any time by demonstrating his license. As Paul observed that Alice crossed the borders of her *right*, he may execute his *right* to fine her and his *right* to use force and take her into custody, as she is obviously drunk. But instead Paul decides to take a bribe from Alice, thus crossing the borders of his rights as a public official. Unfortunately, Tom, who is observing traffic cams is not amused and complains to Paul's superior Saul, as he knows that Saul has the *right* to fire Paul. But Saul does not execute his *right* to expel his friend Paul, thus Tom decides to complain to Inez, the inspector...



**Figure 1: Originating from the hegemony or responsible authority, the right must be expressed and manifested to gain validity. The anatomy of a right (left) reveals the role of right as a basic sociopolitical component. When rights are aligned hierarchically, duties emerge along the padding between rights.**

As we see from this example, if obligations are ignored, others may execute their rights, which can be perceived as sanctions. The true nature of rights is revealed when being confronted with a corrupt legal system in which the complaining subject has to undertake multiple actions along the hierarchy of rights in order to reach a (official) subject that is willing to execute his right to impose sanctions.

In order to grant a right, the hegemony (or responsible authority) must undertake a formal action in which it declares that the right is granted – which is done by issuing a decree or similar act. Without being based on a hegemonic act, a right cannot exist and whenever it comes to proving the existence of a right, this formal act is the document from which the right originates. In modern legal systems, which follow the “rule of law”, any right is granted according to a predefined and documented procedure, through which the granted right is inserted in an accessible manner.

Granted rights are at their most basic level simple information about the expressed decision of the person/committee/etc. in charge. This information is stored in a document, which is archived in some sort of database, from which it can be retrieved on demand. The role of databases in managing rights within a civilization is best demonstrated with the legal role of land registration in continental Europe: The land register or cadaster is a (publicly readable) database, which holds information about granted rights over land parcels. Only facts that are listed in the cadaster are legally recognized rights over the particular parcel and whoever trusts those facts may not suffer legal damages from relying on them. A subject, who claims to have contractually acquired rights

over a particular parcel, must demand from the responsible authority to issue a decree that entitles the corresponding change in the database. However, the new right-holder of the estate will gain his right only when the right is published in the cadaster.

## 2. Transactional management of rights

A pitfall of modern e-Government solutions is that they focus on only one single task or only a predefined set of tasks. Consequently citizens have to deal with heterogeneous governmental web sites that offer access to information or services through graphical user interfaces that do quickly become obsolete, are frequently useable through only a limited number of runtime environments (“web browsers”) and offer only a predefined set of services. So-called “one-stop-shops” are no exception in this regard.

Fully transactional e-Gov services are composed of a layered technological stack that encompasses the graphical user interface (GUI) – the web page/form the user interacts with through clicking and layered electronic interfaces (EI; which are the used hardware and software components), which transfer, verify and manipulate the data according to a coded procedure. After traversing multiple EIs the user’s request (which the user created usually by clicking through the GUI) will reach its final destination as a record in an electronic database in form of a piece of information.

Unfortunately modern e-Gov solutions offer their services as sealed “black-box” products that expose only the GUI. Those products prevent citizens from accessing their functionality in an automated manner, which can result in a significant loss of time when the users wants to access larger quantities of data, e.g. when making systematic “freedom-of-information” requests (Paulin, 2010). Besides the limited functionality, the development and maintenance of such systems is extremely costly and when systematic changes are needed (e.g. when laws change) a complete new product must be designed.

Instead of web pages and “one-stop-shops”, the network of rights can be managed at the level where the information is stored – ergo at the database. In a previous article (Paulin, 2011) we demonstrated that existing ICT technologies and standards – namely PKCS#7, SQL and the XML technology stack could be used to establish a secure governmental platform that can be accessed by citizens programmatically through a standardized API. The “Secure SQL Server” (SecSS) as we named that technology is capable of managing read/write access to data stored in relational databases based on complex conditions (e.g. a citizen can change the ownership of his land, however only if is not mortgaged).

Providing flexible APIs would free the taxpayer from the costly burden of maintaining governmental portals and at the same time allow the tech-savvy citizen to release their creative potential and provide new and better “apps” to the public.

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# E-Participation Strategies on Facebook: New Opportunities for Public Involvement in European Elections

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**Abstract:** *This paper explores the E-democracy instruments used during the last European elections in 27 countries in June 2009. It assesses the role that ICTs play in the lives of European citizens and political groups and draws a brief historical and political overview of the European Union in order to better understand the spirit in which the sense of belonging to the European community has changed in recent years. Finally, the paper points some of the major contributions of Facebook in the virtual landscape concerning European elections and the future of European governance.*

**Keywords:** E-Democracy, E-participation, Facebook, Internet, Europe

**P**olitical communication has changed significantly during the 20th century. Two important transformations for political parties and candidates were the decline in voter partisanship accompanied by the increasing dependence on media in communication of campaign messages to the audience. The increase of ICTs and the Internet in particular, has totally transformed the traditional interactions between politicians, voters and media. In the tradition of cultural and political studies, which are exploring in particular the cultural production as a form of political participation, this research aims to analyze the relationship between Internet, online networks and collective mobilisation.

The electoral campaign focuses the expectations and hopes of all publics and reveals the complexity of the political communication that ensures the smooth flow of messages across different media filters. Today, one significant fact is that participation to the European Parliament elections has been decreasing in most EU countries since the first time the Parliament was elected directly in 1979. In the context of economic crisis elsewhere in Europe, for example, only 19,64% of Slovakian and 24,53% of Polish voters went to the voting booths in June 2009. During the last decades, the public at the political periphery is being further distanced from the political centre. In part, this is linked to the lack of transparency and political results and to the following decline in mass media coverage of institutional politics which has been transferred to online platforms. Partly it is also a consequence of the daily ICT uses and practices of those engaged within, or close to, the political centre. The complexities of policy decisions in the European Union and program delivery sometimes motivate public authorities to seek more citizen involvement. Particularly at the local level, citizens often have a special commitment to and knowledge of place, as well as social

networks that can be mobilized for public decisions and actions that will lead to improved public policy outcomes ( Bowles and Gintis 2000 ).

The very determinant role of Web 2.0 has consisted in the increasing of proximity and accessibility of users in political life and has contributed to an expansion of politically significant information, offering what traditional institutions and news media could not. In this context, online social networks have eliminated the traditional barriers between those in power and their audiences, and have introduced new approaches of engagement and political involvement. The rise of communities' cyber networks has opened up new possibilities for public monitoring and engagement by revolutionizing the communication and the way we share with friends, communities, political institutions, and the physical environment. The proliferation of citizen journalism websites and user-generated online forums through the global network has made new media-based organizations increasingly efficient on content creation and propaganda. More generally, there appear to be several aspects of the Internet which may actually block the public sphere ideals of democratic participation and engagement just like the recent uses of Twitter, YouTube, Facebook by political activists around the world and other social networking technologies to stage public protests.

The main objective of this research is to decrypt the challenges and opportunities that Facebook opens for managers and PR's of European campaigns, but also the limits of these new digital practices regarding the European Governance. It aims to analyze, within the framework of the 2009's European elections, the perception of the feeling of belonging, the collective representation of the Self and the Nation, as well as the cultural specific practices. Some of the major contributions of Facebook in the virtual landscape concerning the European elections and the future of the European governance raise the central question of the role Internet plays in imagining and mobilizing new types of citizen's communities, and their participation in the context of globalization and cultural diversity.

Although every candidate is allowed to create an "application", a group or an event, not everyone has the motivation or the training to do so. To be a content creator, it is better for the political actor to be active and knowledgeable. This allows a political and personal candidate identity to spread on Facebook. Politicians who are popular on this site are not necessarily the most interesting or prestigious but those who invest their time intensively online and are skilled in the selection and the use of accessories. As in real face-to-face, some actors have more power or influence than others, but in Facebook's territory, a new hierarchy of criteria appears. This does not mean that everything is radically different from normal life; on the contrary, in a digital world where the landmarks are more and more confusing, Facebook rivals the complexity and nuances of offline life.

Facebook, as the ultimate transnational community site, allowing its members to connect, swap and share 24 hours per day, seven days a week, has become the brand new hub of the latest media election campaign in the United States. Facebook is considered already as a generational transformation of American politics and it's about to transform the way campaigns are run. The Obama's and Clinton's teams have cleverly taken advantage of the many opportunities and facilities offered by Facebook in terms of modern political communication and recruitment of voters online. Barack Obama in particular, has made public participation, transparency, and civic engagement through online initiatives a central approach of his administration's approach to governance.

In this context, European Parliament presence on Internet and the online exposing its strategies of public policies, law-making processes, political institutions and actors, has led to the ongoing building of an original model of governance that could be now assessed and compared with other regional strategies like the US one. The impact of recent European enlargement on member states

and their networked citizens is letting emerge new forms of governance (including political E-participation, E-deliberation, E-delegation, E-decision-making, E-evaluation) and the building of an original World model of governance.

Putting the results of our analysis together, the following conclusions must be put forward. Political Parties in their majority possess their Facebook page or group in which "Wall", citizens and "Fans" are actively participating with critics, advices or just support. On the other hand, citizens have created a large number of various Facebook tools on European Community's issues and in particular related to the June 2009 European vote. Facebook gives the opportunity to bypass the compelling national background and to bring the debate immediately on European level. In the framework of the last European Elections, Facebook offers five significant features.

Firstly Facebook is very modern and 'hot' instrument for E-campaigning. It's somehow trendy to navigate on political applications on Facebook, to discuss there on political topics and to declare that one is going to vote. Thus, Facebook's pages related to Europe attract the not militant citizens only with its "trends" and "vogue" effects.

Furthermore, undoubtedly, Facebook is an easy source of practical information replacing sometimes the information functions of the European commission and Parliament and avoiding to some users to go and check directly the Institutions websites.

Besides, Facebook favors plurality of opinions and critics by providing them a real arena for expression. The example of Facebook confirms the premise that, although the Internet provides a transnational space, it does not lead to the convergence of cultures, but highlights the opportunities for diversification and pluralism of habitudes and social affiliations.

Above all, in a context of economic crisis unparalleled elsewhere in Europe, Facebook allows national and European identity building. Acting like a sphere in which distinct trajectories coexist, Facebook enables users to articulate different stories and meanings and to foster a democratic imaginary about past and future. Facebook encourages Europeans not only to reactivate the generational history and to communicate on dispersed records, but also to produce new initiatives aiming at the revival or the creation of collective memories and common European values. Although some users receive henceforth their national identity, as a mixture of different cultures and are trying to rethink and continuously negotiate their cultural practices, often by displaying contradictory feelings, an unexpectedly large proportion of voters identify with an imagined community and are drawing boundaries between what is "European" and what is not. Unless one enters the cyberspace with an ideological commitment to national-building, the very structure of the web tends to subtly but steadily weaken pre-existing nationalist orientations. (Saunders, 2006)

Finally, Facebook displays some significant limits. The noticeable enthusiasm of European users is not an equivalent of a real voting process; it could stay a virtual involvement without the physical action on the day of the European elections. The potential danger of Facebook, from political but also more global point of view is to mix up cyberspace and reality and to totally disconnect from real life. Henri Lefebvre's theory of spatiality (the conceived, the perceived and the lived spaces) is useful in defining the limits of European identity construction and civic involvement on the internet (Lefebvre, 1991). The conceived and perceived are quite relevant online while "living" there, is, for now, an unrealized goal and the lived experience, like the voting process, is still the exclusive property of real space.

Thus, in a context of low voting participation in Europe, Facebook is acting like a vehicle for reaching voters especially those belonging to the social-network generation. The Facebook's applications are providing the semblance, when not the reality, of personal involvement and a forum for discussion. In order to recruit voters online, institutions, candidates and pressure groups must follow some online rules and appear to engage with potential supporters on a far more

personal level. From the voter's point of view, far from being a one-way broadcast, Facebook as medium allows people to engage with each other, get involved and focus on the issues they care about most. Moreover, Facebook offers an arena where virtual social groups identify their problems, express their demands and formalise their interest on the European community issues. In sum, it's involved in transforming specific concerns into public topics and in including them on the top of the policy agenda. In addition, the online social networks can promote activities that go beyond the single online participation and enrol directly in the register of real social movements and concrete voting process.

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# Extracting a basic use case to let policy makers interact with citizens on Social Networking Sites

*A report on initial results*

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**Abstract:** The following paper describes a basic use case to let policy makers interact with citizens on Social Networking Sites such as Facebook and Twitter. This use case is extracted from the exploration of a couple of more detailed eParticipation scenarios. As result we determined the core actions, extract topics from Social Networking Sites, respond to topics and launch new topics.

**Keywords:** eParticipation, eSociety, political debates, opinion mining, hot topics, behavioral analysis

**Acknowledgement:** The WeGov project has been funded with support from the European Commission under the 7th Framework Programme, Theme: ICT 2009.7.3 ICT for Governance and Policy Modelling. The duration of the project is set for 30 months, between 01/01/2010- 30/06/2012.

**S**ocial Networking Sites like Facebook, Twitter, YouTube and Delicious provides major new opportunities for policy makers (eGovernment) to engage with the community (eSociety). With WeGov the policy maker is presented with a web based application wherein all the diverse social network inputs from citizens are collated, aggregated, analyzed and presented using visualization technologies that make the data more accessible and easier to understand. Functionalities such as hot topic extraction, tag clouds, opinion mining and behavioral analysis will be employed via the applications dashboard in order to enable decision makers to monitor and evaluate in an organized manner, the flow of citizen inputs scattered across Social Networking Sites.

Within the first year of the project a number of use case scenarios were designed; to explore how the application could be integrated into policy making processes and to make sure that the technical development is based on stakeholders needs. Another aim was to examine the use of the WeGov application concerning legal and ethical aspects. While all use cases come from very different social and political domains - with focus on health care, consumer protection and nuclear waste disposal - yet a basic use case could be identified as the underlying core use case scenario. The reason is that all conceivable communication scenarios between policy makers and citizens - how comprehensive they ever may be thought - are rest upon a small number of possible rudimental actions. The following paper is exactly to describe this basic use case.

## 1. Background

Each of the underlying use cases were designed and discussed with stakeholders on the basis of mockups. Three use case partners are in charge of the outcome: Hansard Society<sup>1</sup> in the UK, with a scenario on public healthcare; Gov2u<sup>2</sup> in Greece, with a scenario on consumer protection; and GESIS – Leibniz Institute for the Social Sciences<sup>3</sup> in Germany, with a scenario on nuclear waste disposal. There are existing two projects, which outcome influenced the WeGov project concerning the design process of the two-way dialogue between policy makers and citizens: The health service comment website choices<sup>4</sup>, originally set up in 2006 in the northwest of England, and VoicE<sup>5</sup>, as a trial project for implementing a new model of e-participation within European regions.

## 2. Basic Use Case Scenario

The basic use case scenario, determined within the WeGov project, includes the following actions: (1) Monitoring relevant debates and exploring citizens' opinions; (2) Responding to already existing opinions and interfering with existing online discussions; and (3) Initiating a discussion with a statement as a topic. Figure 1 shows an UML diagram with these three actions inside the left-handed rectangle. This box is representing the WeGov dashboard, the web based application, whereby the policy maker is possible to access these functionalities to get in the two-way dialogue with citizens on Social Networking Sites. The right-handed rectangle is representing Facebook as one Social Networking Site representative. Inside this platform Facebook users discuss any political subject. Technically both systems are connected wire the Facebook API.

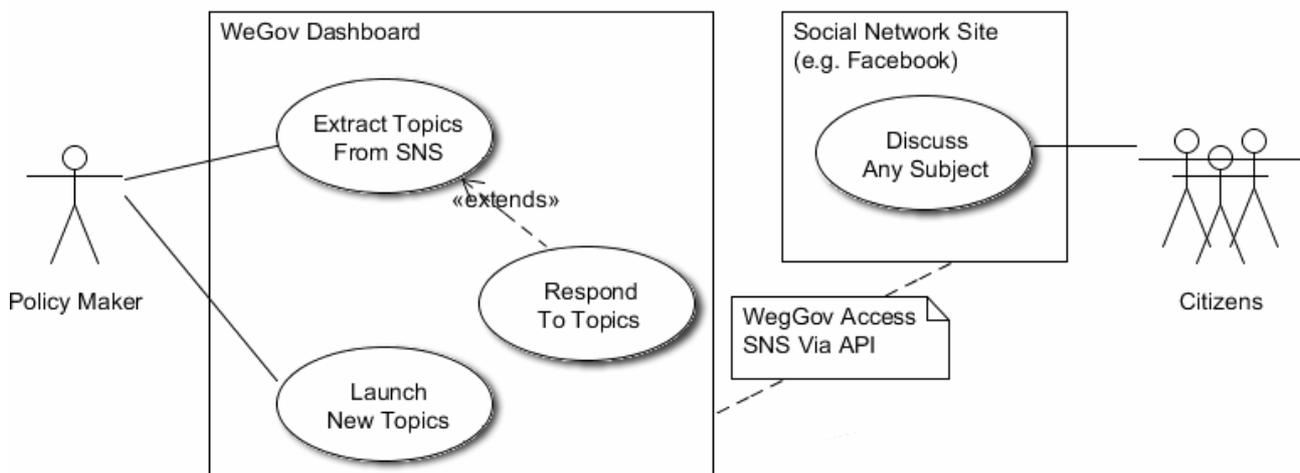


Figure 1: UML diagram covers WeGov basic use case

### 2.1. Extract Topics from SNS

This monitoring functionality supports policy makers with hot topics, 'relevant' debates and opinions on Facebook. For instance, one topic in Germany is nuclear power with the major

<sup>1</sup> URL: <http://www.hansardsociety.org.uk/> (Retrieved February 6, 2011)

<sup>2</sup> URL: <http://www.gov2u.org/> (Retrieved February 6, 2011)

<sup>3</sup> URL: <http://www.gesis.org/> (Retrieved February 6, 2011)

<sup>4</sup> URL: <http://www.nhs.uk/> (Retrieved February 6, 2011)

<sup>5</sup> URL: <http://www.give-your-voice.eu/> (Retrieved February 6, 2011)

problems of nuclear waste disposal; and user opinions differ very strong on that topic; WeGov alerts the stakeholder with those kinds of topics and the 'relevant' user opinions like pros and cons.

## 2.2. Respond to Topics

This action extends 2.1 Extract topics from SNS. After the policy maker picked up an interesting opinion, he responds directly with his own statement into the recommended debate. This stakeholder injection is monitored automatically by the WeGov analyzing tool, to support the policy maker with a short selection of interesting comments on his statements.

## 2.3. Launch new Topics

With the action "launch new topics", the policy maker posts his own statement wherever he wants and is authorized into the Social Networking Site Facebook. The stakeholder might use this action for quickly 'testing' a statement inside a real digital environment and gather the diverse users' feedback, inside a structured selection of opinions. The outcome of users feedback may then go into the political decision making process. For instance, the stakeholder posts a video on Facebook with the statement of stopping nuclear power and closing the debatable nuclear waste disposal. This action could also be seen as a stakeholder's reaction on results of the 2.1 Extract Topics from SNS action.

## 3. Legal & Ethical Issues

All of the designed use cases were checked back with ILAWS – the Institute for Law and the Web at Southampton<sup>6</sup>, against legal and ethical issues. For example the policy maker retains full control on the WeGov dashboard and the policy maker is considered a data controller for the purposes of data protection legislation and must observe and perform the eight data protection principles.

## 4. Prospect

At the time of writing, the dashboard was not yet ready. Concerning the project timetable the initial prototype, which covers the described basic use case, will be ready in 2011 for initial evaluation.

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<sup>6</sup> URL: <http://www.soton.ac.uk/ilaws/> (Retrieved February 6, 2011)

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# Why social news sites matter

*The role of community-based metajournalism in democracy*

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**Abstract:** *This paper provides a brief introduction to social news sites, argues that they, as organs of metajournalism, possess considerable democratic potential; and calls for further research into the subject.*

**Keywords:** social news site, journalism, metajournalism, democracy

**I**nformed by a sense of emergency about the state of contemporary western democracies, a great deal of critique has been directed at the established, mainstream corporate media organizations. At the same time, the spread of developing technology promises to “re-democratize” the media, by facilitating so-called citizen journalism – a loosely defined set of practices and activities whereby every citizen can influence the contents and distribution of mass media messages. In this context, social news sites are in a peculiar position.

## 1. Social news sites as tools of democracy

Social news sites are websites that filter previously published online contents. “Contents” here refer to the output of professional media organizations as well as that of citizen journalists – and everything in between (e.g. contents created by business organizations). Filtering is based on the collective opinion of users: people submit articles they consider good or interesting, others can vote on the submissions, and those articles that receive the most positive feedback end up republished on the site's front page. Examples of such sites include *Digg*, *Reddit* and *Newsvine*.

The editorial process of such sites is meant to be, at least to some extent, democratic; based on the idea that each member of the community has equal rights to have her voice heard – both by submitting articles, and by voting or commenting on others. Thus social news sites are continuously producing a democratically edited compilation of new online content.

## 2. Metajournalism

Goode (2009) describes the activity of social news sites as “metajournalism.” Journalism in its first instance is concerned with disclosing information and presenting points of view in the form of new, original pieces of text. Metajournalism, in contrast, refers to the subsequent treatment of these original pieces of text: to their repackaging, redistribution, reinterpretation, expansion, alteration, correction and putting into context – carried out in order to produce information with new meanings, and/or to reproduce the original.

Arguably, from a pragmatic point of view, metajournalism is part of journalism itself. The twists and turns of the publication process of given texts are of secondary importance for citizens in need of information in order to orient themselves in the world. And, as Goode (*ibid*) notes, essentially every act of news journalism is merely an act of disclosure or mediation of previously existing information.

But at the same time, I argue that it is important to maintain the distinction between first order journalism and metajournalism, because this latter is, by definition, derivative in nature. The relationship between original news producers and metajournalists can be understood both as parasitic (Habermas 2006) and as symbiotic; but in any case, metajournalism *depends* on original news production. This fact assumes great importance in the context of the debate about the “democratization of the public sphere.”

### 3. Democratizing the public sphere

Large-scale political and social organization requires tools and institutions of mass communication – i.e. mass media. Given that other social institutions (as well as citizens as individuals) rely on the mass media, these latter as institutions possess considerable power. Normative theories of democracy (and arguably every theory of democracy has a normative dimension) have various implications on how the power of the media should be exercised. A common concern among various theories is that the power of the media is abused, following particular political or economic interests, as opposed to the general interests of the citizenry (see e.g. Christians et al. 2009). The re-democratization of the public sphere would mean dealing with this concern, preventing such abuses of power from happening, and making sure that the media contribute to the substantial realization of values such as freedom of speech.

One way to achieve this democratization would be through what is traditionally understood as “grassroots” civic journalism: through the activity of politically active and/or socially sensitive citizen reporters; non-professionals who would contribute to, complement, and at least to some extent even substitute professional media organs. This would be possible today because technology empowers individuals to produce and distribute news material in ways that used to be the privilege of mass media. (Bruns 2008, Gillmor 2006.)

What enthusiasts of civic journalism seem to downplay is the importance of resources other than technology involved in the first order production of content. The regular, reliable and high quality production of widely accessible original news material requires human and financial resources too – resources and skills that citizen journalists are likely to lack.

In contrast, *metajournalism* is much less resource intensive. It demands less time, less effort, and less investment from the journalist than original reporting, while at the same time it is likely to produce material that is considerably better and potentially more influential. Metajournalists hijack the resources of established media organizations; and build upon them in the production of their material, thus creating new pieces of information and influencing the news agenda.

This explains the democratic potential of social news sites: they empower their users to become (meta-)journalists without the effort and devotion it takes to produce those first, original instances of news material.

In spite of relying on similar basic principles, particular social news sites differ from each other, and they incorporate the idea of “democratic news filtering” into their structure (or “software code” (Goode 2009)) in a number of different ways.

One of these ways is the uniform treatment or processing of news items, regardless of their source. E.g. in the case of Reddit, the submitted articles are not only internally treated in the same

manner, without the source having a direct influence on how popular a given item will become, but they are also *visually presented* in the exact same manner. Pages of the site look, arguably, quite simple and boring, with every news item consisting merely of a headline of text (with perhaps a small indicative picture attached). There is a general lack of typographical elements highlighting particular articles (and subordinating others). The front pages of Reddit are essentially textual lists of articles, sorted according to their popularity. One headline might contain a link to a *New York Times* article, and another a drawing of a 5-year-old; visually and typographically, the two headlines will look just the same.

Thus, in a very practical manner, Reddit – and other sites that employ a similar scheme of representation – level the playing field between various media organs in their competition for attention. Ideally, this is a very meritocratic organization: what matters is the *content* itself, not where it comes from, or in what fancy ways it is presented. Naturally, this state of things provides alternative media organs (and productive citizen journalists!) an opportunity to compete for attention to a degree that would be unimaginable in real life.

Another factor that strengthens the democratizing potential of social news sites is that they are likely to constitute “strong” public places: such public domains of discussion where participants consider that their participation is meaningful (Janssen & Kies 2005). In addition, social news sites possess further characteristics which render them ideal candidates for taking a meaningful part in the democratization of the public sphere. But whether or not they actually take part is an empirical question. Tentative steps have been taken to answer this question (Halavais 2009, Meraz 2009), but the subject calls for more in-depth research, mindful of competing interpretations of democracy as well as of the structural differences between various social news sites.

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# Gadget-free democracy

*(for those who really need it)*

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**Abstract:** *Current eParticipation initiatives suffer from low public interest. The remedy is typically seen in making eParticipation tools more “user-friendly”, esp. for younger citizens. The author argues against this tendency, claiming that a well-designed and largely scalable online deliberation support system (ODSS) at the core of any eParticipation activity, rather than attracting “lazy participants” with the help of unnecessary “gadgets”, should facilitate thoughtful, purposeful and productive collaborative efforts of those for whom a given subject really matters and who are ready to spend their time and efforts in participation. Participation designed for being serious and laborious will attract many participants exactly because it is serious. Among eParticipation features considered by the author as unnecessary gadgets, three are discussed in this short paper: spontaneous agenda setting, connection to popular social networks, and “rich content”.*

**Keywords:** eDemocracy, eParticipation, online deliberation, scalability, social networks, rich content

**T**oday, eParticipation practitioners often lament for an extremely low public participation in whatever initiatives they organise, and low usage of whatever tools they offer. The remedy is typically seen in making those eParticipation tools more “user-friendly”, by adding several gadgets and facilities largely used mostly by younger people for interpersonal or group communication and for entertainment.

In this short paper we argue against this tendency, which regards citizens’ participation in political/societal affairs as yet another form of entertainment, easy to assume and to take part in. Rather, we advocate a view on political (e-)participation as a noble and demanding activity, one of the virtues and indeed a duty of a citizen. Hence it may request time and effort, and sometimes even preliminary tuition before exercising it.

## 1. Political participation: noble and demanding activity

Why then, in our modern times of mostly private persons (ιδιώται in ancient Greek, a word whose ancient meaning—those who do not participate in any affairs of the City—was pejorative enough, though not as pejorative as its modern meaning), why then such an effort-consuming activity may be expected to gain citizens’ attention and be largely followed, while actually it isn’t, despite every effort to make it amazing and attractive?

We are convinced that it will be exactly as a result of systematically presenting citizens’ participation in public affairs as a serious and purposeful activity, rather than a kind of easy distraction, that this activity will regain citizens’ respect and attention. This, however, will not

happen at once; rather, a long-term educational effort should be deployed, in parallel with R&D and organisational efforts preceded by a better definition of the main concepts of public political participation.

## 2. Going online

The “e” prefix (for “electronic”, or “digital”, or “Internet-enabled”, or simply “online”) stands here not just for a technological enabler, but also, in line with its commonly accepted understanding, for a completely new paradigm of public participation, that still needs to be better understood and defined.

Surely, online political participation is inherently less time- and effort-consuming than “live” participation, because you can do it from home or from any place where you are. Yet, in our view, this is *not* the most important advantage of going online. More important is the fact that a well-organised online participation will offer to *every* citizen a real possibility to exercise their basic democratic right, alienated from them in the representative model of democracy—the right to *propose* their own solutions to societal problems, and to directly participate in a discussion about several alternative proposals.

However, to exercise this right purposefully and productively, citizens will be in turn requested to spend much time and effort, in order to get well-informed, to move only well-prepared proposals, and to deliberate in a sober-minded way.

A well-designed online deliberation support system (ODSS) should specifically address that very kind of citizens, who are ready to spend their time and effort for satisfying their interest in public affairs; not everybody who lazily consents, but those who actively want—*οἱ βουλομένοι* in ancient Greek, “those who want among those who can”. And if the ODSS fulfils this promise, there will be a large number of participants in various instances of online political deliberation. Indeed it will depend on the topic discussed, as there will be always subjects that matter for a restricted circle of citizens only; but there will also be other topics attracting a tremendous number of citizens willing to participate in a discussion. A well-designed ODSS should therefore be scalable up to virtually *any* number of participants.

## 3. Pnyx and Agora

In ancient Athens, the Assembly gathered on Pnyx, a specially appointed area on a hill slope just few hundred meters from Agora (the market place) where Athenians used to spend their leisure time by shopping, chatting and distracting themselves. There were also temples and administrative buildings around there, but mainly Agora was a kind of today’s shopping mall. So, in the 5th century BC, public slaves used a red-painted rope to draw runabouts from this shopping-chatting-distracting place uphill, where their democracy was being exercised; those who got red-stained were fined. Then in the 4<sup>th</sup> century BC a “political pay” was installed for assembly attendance, which made it easier to obtain predefined quorum of 6000. Thus, either compulsion or money was used to make citizens participating in civil affairs; never it was by making participation itself an easy distraction.

Our today’s eParticipation efforts go in an exactly opposite direction: bringing democracy down to the shopping mall, as yet another good to sell; but this way it doesn’t sell well. We would better use compulsion or money to make political participation more massively followed, if claiming it a noble virtue doesn’t work well enough...

Though, Athenians were rather maximalists: calling for a quorum of 6000 in those times when the total number of citizens hardly achieved 10 times that figure, was probably too much. And

many of them, who lived outside the city, had to cross the whole Attica by feet, a one-day travel. What about setting a 10 times lower threshold, say, 60 thousand eParticipants for a 6-million constituency (a mid-size European country or region) when discussing a subject matter of great importance?

#### 4. Spontaneous agenda setting: not a strength but a weakness

One of those unnecessary “facilities” in today’s eParticipation projects is not strictly speaking a “gadget”. Rather, it is often considered as one of the basic requirements of citizens’ political participation, namely: to be able to advance any claim, or to move any proposal, *at any time* whenever you feel it necessary and urgent. As soon as you encounter a problem in your life, you report this problem (or your proposed solution) to the society and the authorities: a “spontaneous agenda-setting”. Sounds great.

In practice, however, spontaneous agenda-setting turns to become a major weakness of an eParticipation activity organised that way, as show several eParticipation experiments that otherwise have been provided from start with an excellent organisation and strong institutional support. The first in time was the Estonian “TOM” project, also known under its English name “TID” (“Today I decide”). It has been launched as early as in 2001, and was supported by a special national law requiring that every citizens’ proposal supported by a majority (among those who voted it on the TOM portal) shall be taken into consideration by appropriate authority. A detailed report, prepared after 7 years of the project operation (TOM Project Survey, 2007), says: *“The ideas are presented by a single person and usually are formulated without requisite attention and the use of external expertise. In addition, idea presenters are neither active in engaging others in the preparation, commenting, and voting phase of the proposal, nor in drawing public attention to the problem through other channels”*. In other words, participants act spontaneously, without proper preparation and with no follow-up; the “I suggest, you decide” approach typically prevails, which expresses the old paradigm of a “citizen alone in front of the Authority”. Any given idea has received an average of 4.6 comments and 12.5 votes; there have been ideas that have passed with a single vote cast. In these terms, participation should be considered as *extremely low*, and most of the proposals haven’t been really discussed and representatively voted.

#### 5. Social networks: not a Pnyx but an Agora

Another “facility” included in many today’s eParticipation projects is “connection to popular social networks”. That is “let’s go to the place where our citizens spend much of their leisure time, e.g. to FaceBook or even to Twitter; let’s offer them a possibility to participate from there”. This means offering rather rudimentary eParticipation tools to those who do not want to leave their Agora, a place of their daily chat and other distractions. This also means counting on groups of “friends” within social networks, to expand participative actions from single activists to their respective support groups. At the end, this means replacing a thoughtful deliberative activity with simple gestures of a kind “I like it” that do not require any reasoning, just a sign of friend’s support. It’s so easy, that a guy having 100 friends will *always* beat with his proposal or opinion another one who has just 80. In our view, this is nothing else than a profanation of political participation.

But what if such a connection to social networks is used not for providing “limited participation”, but just to inform or notify a participant that “something of interest” to them has happened on the main eParticipation site, e.g. their friend has posted a new comment, or their own proposal got commented, etc? At first it looks more agreeable; but in fact, it promotes the same tendency of splitting a large deliberation into several disconnected groups, where members of each group discuss an issue between them, paying little attention to what others are saying.

We, in contrast, believe that a really purposeful eParticipation should draw the participants into a common online deliberation process, where every proposal is considered and discussed according to its own merits; thus, a well-designed ODSS should permanently “shuffle” the whole participative community, providing for homogeneous visibility of all proposals and comments currently on the table. You have your own opinion, indeed; but please, get acquainted with others’ opinions!

## 6. Diversified page content: enrichment or simple distraction?

Yet another “feature” that is present on almost all eParticipation websites is “rich content”. Starting with the home page, every page is presented to you with various banners and links, news, upcoming events, most “popular” comments posted, even some video sequences etc. The page looks like a one from online newspaper. It may even contain some paid advertisements. All these things are in line with some basic idea about eParticipation, namely: we need to promote this activity by making it funny, cool, diversified, and, at the end—a distractive one. Needless to add references, as this is true for most of the current eParticipation sites.

Now, imagine a Parliament meeting hall where several large screens are fixed on the walls; advertisements (not necessarily commercial ones) and news of any kind are displayed on those screens, changing every five minutes. The contents displayed may even be thematically close to the draft law currently under discussion in the Parliament. Joyful MPs are watching the screens during the deliberation instead of quietly nodding and drowsing at their places; now they are engaged, they actively participate!

This image looks grotesque, though it is a simple transposition of a look of most eParticipation websites into the context of a real parliament meeting hall.

We suggest doing right the inverse: let us try to give our online deliberation site a look (and feel) of a real parliament meeting hall, austere and serious. And, as people are not obliged to attend (contrary to MPs who have been elected and are paid for their participation in parliamentary meetings), those who nod and drowse will simply go other places, one click from here!

In contrast, those who are attracted by the very idea of taking part in elaboration of laws and regulations, in advancing and discussing ideas for their future, and at the end, in making up a sufficiently empowered body in a new type of governance—all those people will be inspired by a rather austere look of the place, recalling them that they *are* MPs; these people need not be distracted.

Just one example. In August 2010 the Russian authorities, who are not famous for their open and democratic ruling, suddenly launched an open public discussion of a new draft law (on the state police), on a specially designed site (Official Russian Site, 2010). The look of the site is quite austere and minimalist; nevertheless, in a few days it already counted 16 000 registered participants, who have posted some 24 000 proposals and comments and casted 30 000 votes during forty days of the discussion. From December 2010 till February 2011, the same site has been used for another public consultation (of a new draft law on education structure and standards) having collected approximately 11 000 proposals and comments.

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Cyril Velikanov is a Russian-born French mathematician and ICT engineer with a long professional record including development of complex systems and data communication standards, as well as patented inventions. In the last few years he is mostly active in the field of eDemocracy, and is engaged in defining fundamental principles of mass online public deliberation and in developing a programmed support system implementing those principles. He has made several presentations of his work at International conferences and in online journals. He participates in EC-funded projects in the field.





# Electronic Vote Counting and Transparency: A White Paper

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**Abstract:** *New technology impacts every aspect of society, including the way people vote. Electronic voting and electronic counting are increasingly in use in elections across the UK, in Europe and in the US. To maintain public confidence in the democratic process it is crucial that these automated systems must support the principle of transparency. In this lightning talk we provide an overview of the current issues and concerns in relation to the transparency of electronic counting. We then set out a number of recommendations to increase the transparency of electronic counting software solutions.*

**Keywords:** electronic vote counting, transparency, elections, software, adjudication, technology, democracy, voting

## 1. The Rise of Electronic Voting and Counting

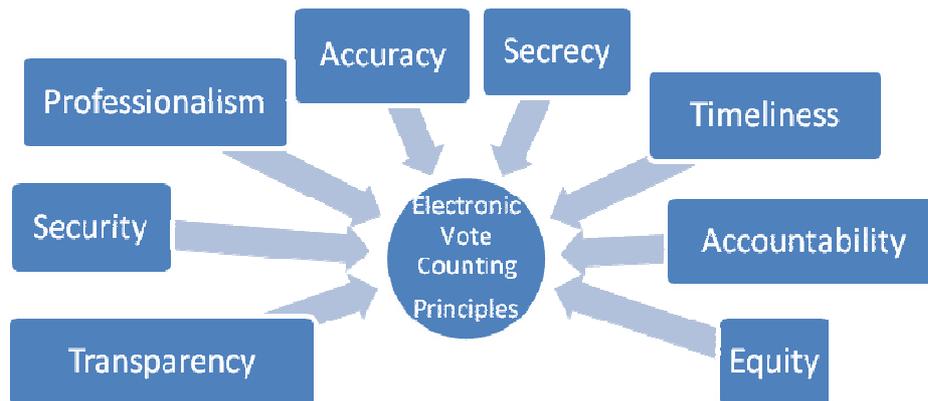
**T**he rapid growth of information and communication technology has changed the environment within which we operate. Electronic devices are becoming an increasing part of our day to day lives. Technology has become cheaper, more powerful and more secure. The utilisation of Smart phones, tablet PC's, notebooks and laptops have led to an unparalleled access to the internet. In addition there is a new generation of citizens for whom ICT is central to their way of life and to whom the notions of participatory networked societies and social and political engagement through new media are highly valued.

Voting using technology is becoming part of day to day life – for example technology is regularly used within the realms of democracy in the form of electoral management systems, security checking systems and voting systems. Technology supports making electoral processes more efficient. Electronic counting refers solely to the vote counting process. The voter goes to the polling station as usual and makes a mark in the appropriate manner on the ballot paper. The completed ballot paper is placed in the ballot box. The ballot papers are then counted by a machine, rather than by hand.

Electronic vote counting is becoming more and more prevalent in today's society. In the UK, the Greater London Authority (GLA) has used electronic vote counting in the last three elections. Scotland introduced electronic vote counting in 2007 and will use electronic vote counting again in 2012. Complex voting calculation algorithms, such as the Weighted Inclusive Gregory method for the Single Transferable Voting methodology, are simplified with the introduction of electronic vote counting.

## 2. Counting of Votes and transparency

The objective of everyone working on counting the votes that have been cast is the same - to make sure that the votes are counted fairly, efficiently and accurately. The ACE Electoral Knowledge Network is an international body focused on promoting fair and credible election processes. The network have stated on their website that to establish and maintain public confidence in the electoral process, vote counting systems and procedures should incorporate the fundamental principles of vote counting in a democratic election. These fundamental principles are detailed in the Figure 1:



**Figure 1: Electronic Vote Counting Principles**

The UK Electoral Commission has indicated its support for the use of e-counting; however it has also recommended that further measures are required to support the roll-out of the technology. One of these further measures was to 'increase the transparency of the solutions adopted to ensure continued stakeholder acceptance of the technology'<sup>1</sup>. This paper therefore focuses on the transparency aspect of electronic counting.

In order to ensure an open and transparent vote counting process, representatives of political parties and candidates should be allowed to witness and/or participate in the process, and be permitted to copy the statement of the results of the counting process<sup>2</sup>.

## 3. Current concerns with the transparency of e-counting

The nature of computers is that their inner workings are non-observable or 'secret'. Since transactions and calculations happen at an electronic level, it is not physically possible for humans to observe exactly what a computer is doing. Once the contents of the cast vote is scanned the voter "loses sight" of it. So if - for whatever reason - the content of the vote is stored incorrectly, there is unlikely to be any indication that something had gone wrong.

## 4. Implementing Transparency

A number of measures exist which may aid transparency in electronic counting of ballot papers. Some of these practical examples are discussed:

<sup>1</sup> Electoral Commission (2007) Electronic counting May 2007 electoral pilot schemes - Summary paper. Electoral Commission, London

<sup>2</sup> ACE Electoral Knowledge Network

#### **4.1. Progress information**

Full statistics of the count should be available throughout the count process, including the rate of progress and number of ballots in the queue. The progress information would provide the candidates, agents and other observers with an overview of what is happening at each stage during the count process.

#### **4.2. Commercial off the shelf scanners**

There is a concern that proprietary scanning equipment is a 'black box' and the observers may suspect that the scanning equipment is in some way affecting the information captured from the ballot paper. The use of proprietary scanning hardware leads to the suspicion that the hardware is altering / changing the votes cast.

The use of Commercial off the Shelf (COTS) scanners provides assurance in the scanning process that document imaging scanning solutions with proven reliability and imaging capabilities are being employed.

#### **4.3. Enhanced Audit Capability**

The Electoral Commission state that 'if counting electronically, then external auditing mechanisms should be applied to ensure transparency<sup>3</sup>. Advanced audit methods should be facilitated. External audit mechanisms include the provision of hand checks or improved audit records. An electronic counting system should maintain audit logs for all actions carried out during the election count process.

#### **4.4. Certification**

Certification can be a powerful tool for software consumers to gauge the reliability of software in different configurations and environments. Certification provides the electronic count software user with quantitative statements about the reliability of their software products. This process involves defining sets of test cases with known results and ensuring the software product achieves identical results.

#### **4.5. Adjudication - Complete Ballot Paper images**

At all stages during the count process only complete or whole ballot paper images should be displayed. This aids the understanding of all those observing the process as the information displayed during adjudication should reflect an actual ballot paper, thereby mirroring what the observers would see during a manual count process.

#### **4.6. Enhanced Count Information**

The system should provide the Returning Officer and his/her staff the ability to view detailed reports on the count results. This should include the ability to view the count results on a contest by contest basis and the ability to view the calculation of the count (including transfer values etc for STV).

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<sup>3</sup> Electoral Commission (2009) Electoral Commission's response to the London Elects Manual Count – vs. – electronic count: a cost benefit exercise. Electoral Commission, London

## 5. Conclusion

This short paper set out to review how the transparency in the electoral process could be protected while benefiting from the efficiency of count automation. A number of independent bodies have cited transparency as a key concern to ensure the credibility of elections using vote counting technology. This paper has provided a number of recommendations on the steps to take in automation technology to increase the transparency and credibility of the electronic vote count process.

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## About the Author

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Siobhan Donaghy is the Chief Technology Officer at OPT2VOTE. Siobhan has over 10 years experience in elections working in the analysis, design, development, testing, training and implementation of ICT solutions. Siobhan is responsible for the implementation of the OPT2VOTE product strategy, guiding the direction of research & development and has an unrivalled track record of driving innovation within the realm of elections. OPT2VOTE is one of the leading suppliers of election services in the UK. OPT2VOTE specialise in providing choices to improve participation in the democratic system by delivering a range of high quality, innovative and effective solutions to address all election requirements.



# eVoting System & Information Modeling Approach

Roumiana Ilieva

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**Abstract:** *The following work presents a proposal for preliminary system analysis for eVoting information modeling. You will find a system analysis of the input and output flows of the procedure, analysis of its steps, of the environment and the behaviour of the processes in the time. This work should be capable to help for the automation of the eVoting procedures.*

**Keywords:** eVoting, system approach, macro-/microanalysis, information modelling, UML/activity diagram

**Acknowledgement:** The author expresses her deep gratitude to her students I. Donev and Y. Andreev for the enthusiasm and creativity in the analyses and modelling activities. The results are obtained in the project "Simulation Modelling of Administrative Services and Processes for e-Serving and e-Management", funded by the grant for research at the Technical University of Sofia (Ilieva, 2010)

**E**lectronic voting (eVoting) is almost certain to become common over the next decade, due to market pressures, such as the demand for easier voting (Weldemariam & Villafiorita, 2010). The objective of the research is to create a concept for development of an internet voting solution which can be integrated in modern eDemocracy, eParticipation and eInclusion context. There are also covered extensive researches on how such solution can affect democracy application and the increase of voting in certain group of citizens such as disabled or young people.

The paper aims at designing an eService which can be used for internet voting i.e. casting electronic votes over the internet. Introducing voting as an electronic service is still not popular enough, because it is considered that unattended voting to be easier to fraud and manipulate the results. However, this paper tries to introduce the methodology and design of a system that is reliable, secure, effective, and flexible and will cover all democratic rights of the voter and the voting process.

## 1. Preliminary System Analysis for eVoting Modeling

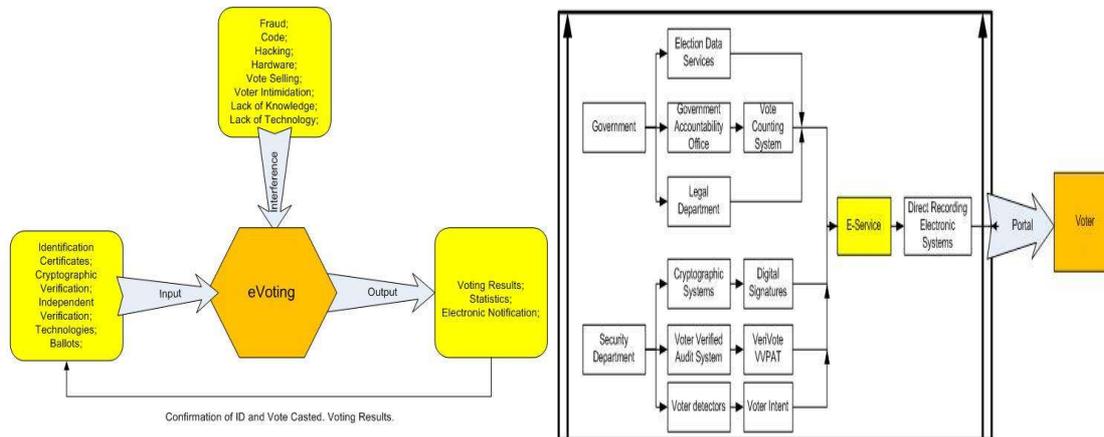
The eVoting preliminary analysis should include elaborate system analysis of the input and output flows, the procedure steps, the environment and the behaviour of the processes in the time. All these are needed, due to presenting the information flow in a clear and explicit manner, so to be easier for the programmers to automate the process (Halpin et al, 2008).

From a systematic point of view, the eVoting has defined relationships with the environment, individual functions, features and specific structure. Its exhaustive analysis is not possible without a holistic coverage and refraction through the prism of its relations with the environment, the interactions between its components and behaviour over time. We will deal with static system

analysis of eVoting which is conducted in a spatial plan. The study of the eVoting in space is possible on two levels: macro- and micro-.

### 1.1. Macroanalysis of the external environmental connections

Macroanalysis proposes study of the effects of the external environment. So eVoting is examined only for the input-output, disturbing and reverse impacts. Thus, we are temporarily put aside from the internal processes to accentuate the analysis only on external factors (Fig.1).



**Figure 1: Macroanalysis and Microanalysis of eVoting process**

### 1.2. Microanalysis of eVoting internal functional structure

Microanalysis proposes disclosure of the internal structure (through decomposition) and functionality of the eVoting service (uncovering the interactions between elements and the direction of information flow) (Fig.1). The functional analysis of the eVoting service examines: competent agent, applicant, normatively established requirements, necessary flows and the inner administrative movement service.

## 2. eVoting Information Modeling

eVoting is conducted as a transaction between voter and the Vote Forwarding Server (VFS). The VFS performs queries from local databases of voter and candidate lists and finally sends the vote to the Vote Storage Server (VSS). The flowchart of the process is depicted through a UML diagram in Fig. 2. The voter application functions in the WWW-environment. In addition to HTML pages, a signed ActiveX applet is loaded into voter's browser that allows encrypting the vote and digitally signing the resulting cryptogram. In addition to this the voter application possesses information about the candidate list and before encrypting the voter's choice and digital signing asks voter to confirm his/her choice (Alkassar & Volkamer, 2007).

The VFS is essentially a web server with its application. The VFS is the only component of the Central System that is directly accessible from the Internet – all the other Central System components are behind an inner firewall and access to them is provided only from the VFS. During the eVoting period the voter list database is dynamic. During the eVoting period the voter list maintainer (The Population Register) sends operative updates to the database using a specified protocol, after the eVoting is closed status of e-voters list is finalized. In comparison with the general architecture now we also have a validity confirmation server which is not part of the Central System. A validity confirmation is needed to prove the validity of ID-card certificates without which the digital signature is invalid.

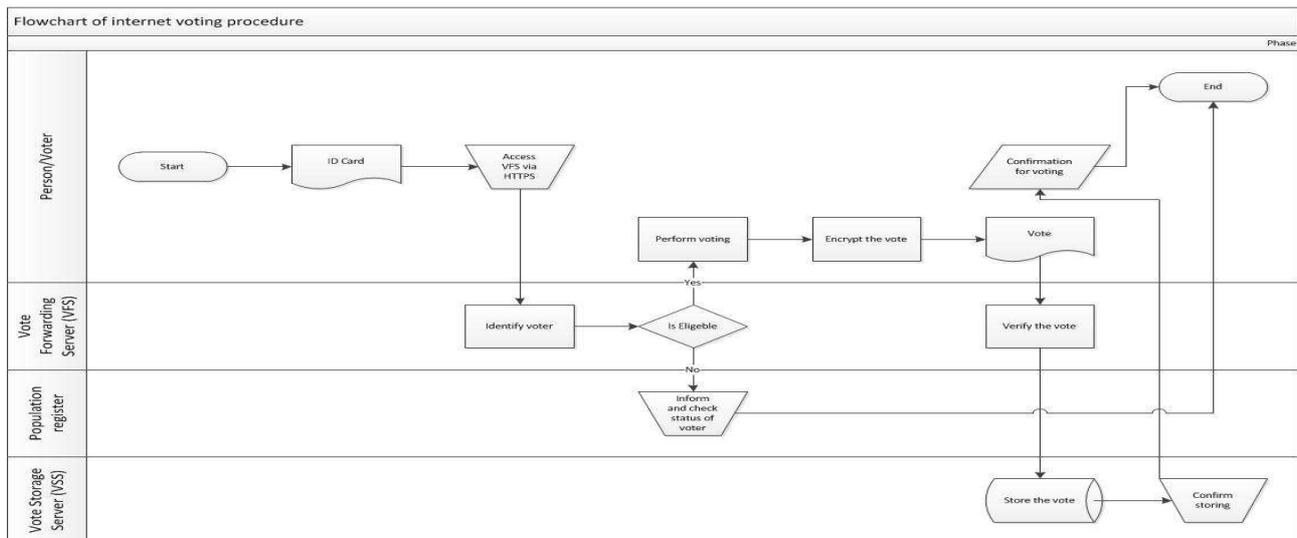


Figure 2: UML Information flow diagram of eVoting process

### 3. Conclusions

Accomplishing the above research requires significant investment in both technical and usability research, including large-scale human subject tests. This system is robust, democratic, incoercible and provides the citizen the necessary transparency, accuracy and vote verifiability. It is part of the ever evolving world of ICT world and only walking in this direction will allow democracy not to be just an old-fashioned word that our parents and grandparents use. Everyone is living dynamic enough life that in most cases the current voting process is colliding with all the engagements and tasks we have to perform on daily basis.

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# Workshops





# “Open Government Data” Practice

Carl-Markus Piswanger

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**Abstract:** *Open Government Data should not be considered as static, on the contrary, it shows huge dynamics, all over the world. It's quite understandable, because an increasing number of interested players from a growing community are part of the game.*

**Keywords:** Open Government Data

## 1. Open Government Data - Status quo

**O**pen Government is well known nowadays, not only among IT-professionals. All the more this is mentionable, because only a short period of time was necessary for the topic's evolution, since Barack Obama heralded his Open Government Directive in December 2009. President Obama went alongside with well known testimonials, who are promoting the topic - for example: Tim O'Reilly and Tim Berners Lee are involved and willing to foster the progress of Open Government.

A remarkable number of nations have already included “Openness” and “Transparency” in strategies or even programs and, moreover, in their daily work. National or local governments within the USA, Canada, England, as well as in Germany and Austria have set high priority on Open Government, with different focuses – some on transparency, others on participation. Specifically for middle Europe: the government of Vienna included Open Government Data explicitly in their governmental declaration, the new government of Nordrhein-Westfalen plans to build up a comprising Open Government program.

Open Government already left first and profound footprints in modern democracies; the road is paved towards a new understanding of what a public space in the 21<sup>st</sup> century could be.

## 2. What are we doing in the workshop

What could we expect from the workshop, or better, what is useful to do? Open Government is already “born”, so it is void of any use to promote the “birth” itself any longer. Consequently, we should share the platform to pronounce the first “practices”, which have been set in this field. The over all aim of this workshop therefore is result-related, to gain an insight into input- and output-factors and at least a vision of particular outcomes. Open Government Data is rather different to traditional eGovernment, a first glance of a “come together” of both dimensions – the public and the private – new rules have to be written, a new understanding could descend – from “top down” (prior) to “eye leveled” (now) to “collaborative” (future).

Thus, we want to get a closer view of the “very best” and cast an eye on first realizations in data publishing, on dynamic and coherent visualizations, meaningful and holistic studies, maybe even on new information generating mashups.

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Government of Nordrhein-Westfalen: Governmental Declaration (2010)

### About the Author

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eGovernment Architect at the Austrian Federal Computing Centre since 2004, beginning from 2005 developer and project leader of several eParticipation-procedures in Austria, 2008/2009 project leader “Operation” of the first legally binding eVoting project in Austria (ÖH-Wahl), currently in charge of Open Government, besides Lecturer, Writer



# OURSPACE (The Virtual Youth Space)

*Closing the Gap: Engaging Young People in EU Affairs*

Fondation EurActiv PoliTech\*, Athens Technology Center\*\*, National Technical University of Athens, Google Ireland Limited, Danube University Krems, 21c Consultancy Limited, Babel International, DUHA, UK Youth Parliament.

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**Abstract:** For many years, the Democratic Deficit, as referred to by the European Union (EU), has haunted our post-modern democracies. This wide spread phenomenon is characterized by the more remote to the citizens their governments are, the wider the democratic gap is felt, especially amongst our young citizens. OurSpace (the Virtual Youth Space) project launched in July 2010 and co-funded by the European Commission under the ICT Policy Support Programme, aims at responding to these challenges face by our modern democracies and the European Institutions. OurSpace is having its first workshop entitled "OURSPACE (The Virtual Youth Space) - Closing the Gap: Engaging Young People in EU Affairs" in partnership with CeDEM 2011 to be held in Krems, Austria. The objective of this workshop is to bring together decision makers, youth organizations involved in national and EU policies as well as eParticipation initiatives and projects involving young people to tackle the issue of closing the democratic gap and engaging young people in EU affairs.

**Keywords:** eParticipation, eDemocracy, European Union, Youth, Policies, EU Affairs

**Acknowledgement:** Ourspace (The Virtual Youth Space – [www.ep-ourspace.eu](http://www.ep-ourspace.eu)) - co-funded by the European Commission under the ICT Policy Support Programme.

**F**or many years, the Democratic Deficit, as referred to by the European Union (EU), has haunted our post-modern democracies. This wide spread phenomenon is characterized by the more remote to the citizens their governments are, the wider the democratic gap is felt, especially amongst young citizens.

The outcome of the latest European Elections has just confirmed the vast gap that exists between the European decision-makers and their citizens. More than two-thirds of voters between 18 and 24 did not vote in the 2009 European elections.

*Are we disengaged by Democracy?*

*Are European Institutions and Governments in phase with citizens' expectations?*

The Revolution 2.0 that has inflamed the other shore of the Mediterranean Sea is demonstrating to the world that Internet and social media has become the ultimate weapon to mobilize, engage and organize change and enhance participatory representative democracy. Digital Natives from non-democratic societies have shown to the world that even the fearless dictatorships are not immune any longer.

From 2007 to 2009, the Council of Europe has worked with e-Democracy experts and Governments to provide the first institutional reference on eDemocracy, which has paved the way to include eParticipation as one of the four priorities for eGovernment in the European Union:

*“Information and communication technology (ICT) is progressively facilitating the dissemination of information about, and discussion of, political issues, wider democratic participation by individuals and groups and greater transparency and accountability in democratic institutions and processes, and is serving citizens in ways that benefit democracy and society.” (Council of Europe, Recommendation CM/Rec(2009)1 of the Committee of Ministers to member states on electronic democracy (e-democracy), 2009).*

However, in 2011 the gap still remains mainly amongst our youth and is continually growing from elections to elections. On the other hand, with the launch of the European Citizens Initiative, the new participatory tool of the Lisbon Treaty to empower European Union Citizens, which is closely followed by Fondation EurActiv PoliTech [www.euractiv.com] together with some key eParticipation projects, co-funded by the European Commission such as eMPower (*Empowering citizens to influence the decision making and policy formulation on environmental issues* [www.ep-empower.eu]) and OurSpace (The Virtual Youth Space), the Internet and Social Media will be at the front line of this new European participatory and petition virtual space.

## OurSpace - The Virtual Youth Space

The OurSpace project launched in July 2010 and co-funded by the European Commission under the ICT Policy Support Programme, aims at responding to the following challenges face by our modern democracies and the European Institutions:

- We are facing a democratic deficit at National and EU level as young people have lost their trust in the existing political and democratic systems and procedures;
- There is no real understanding from the youth side regarding the crucial matters that are daily decided at EU level;
- There is a high recognition from the Commission of the EU concerning the importance of bringing young people into decision making processes whether in the political, social or economic arena.
- Current and future European and National youth policies in Europe will face severe challenges and will need to address true needs of both young people and societies in general.

To respond to these challenges, OurSpace is based on the idea that the active involvement of young people in the process of socio-political decision-making plays a very important role in our societies.

To this end, OurSpace, aims to contribute towards bringing the EU closer to the youth by improving their role within the democratic system of the EU through the use of Information and Communication Technologies. In this context, OurSpace will combine three critical dimensions:

- The thematic interest and lack of information of young people
- Information and Communication Technologies usage
- The fundamental readiness to participate

in order to identify the key parameters that will create the basis for strategic political communication with young people.

In this aspect, the project aims to create a unique online collaboration space designed to actively engage young European citizens in shaping their future democratic society.

Ourspace is build on a pan-european consortium coordinate by Athens Technology Center (Greece) and 8 other partners from academia, research centres, media and national youth organisations, namely:

- National Technical University of Athens (Greece)
- Google Ireland Limited (Ireland – UK)
- Danube University Krems (Austria)
- 21c Consultancy Limited (UK)
- Fondation EurActiv PoliTech (Brussels, Belgium)
- Babel International (France)
- DUHA (Czech Republic)
- UK Youth Parliament (UK)

For more information please visit: [www.ep-ourspace.eu](http://www.ep-ourspace.eu)

### **Conclusion: OurSpace Workshop @ CeDEM11**

OurSpace is having its first workshop entitled “OURSPACE (The Virtual Youth Space) - Closing the Gap: Engaging Young People in EU Affairs” in partnership with CEDEM11 to be held in Krems, Austria.

The objective of this workshop is to bring together decision makers, youth organizations involved in national and EU policies as well as eParticipation initiatives and projects involving young people to tackle the issue of closing the democratic gap and engaging young people in EU affairs.

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