

Experimenting with Electronic Voting Registration: The Case of Belgium

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Abstract: The paper describes the introduction of experimental systems of electronic voting registration in Belgium, one of the first European countries (along with The Netherlands) to venture in this direction. The 1991 introduction of electronic voting registration has still not resulted in any form of electronic distance voting. Examination of criticism of the automatising of voter registration focuses on a perceived lack of attainment of policy objectives of manpower and cost reduction, speed and accuracy; yet despite this criticism, there is no debate on electronic voting registration, unlike in the U.S.

Keywords: Electronic voting, policy, distance voting, law

1. Background

Belgium is, with the Netherlands, one of the front-runners of electronic voting registration. Belgium is also an oddball in Europe and beyond in that it obliges its citizens to vote: fines and jail terms are reserved, and occasionally meted out, to those who refuse or neglect to turn up on voting day. Still, 9.4 percent of the population does not vote (Cybervote, 2003). Belgian election law is detailed, traditional and rigid on voting procedure.

This rigidity in voting procedure has continued with electronic voting registration, as in 1998 it was deemed necessary for experts to survey the use and functioning of automated voting systems to determine and control the reliability of both the machines and the software.

But even with this level of detail and regulation, about one in ten of the population did not vote in the last federal elections (Cybervote, 2003). It was not due to lack of choice, as Belgium has at least 8 coalitions of political parties with candidates in such elections. Although electronic voting registration is now used extensively in Belgium, as discussed below, adding distance voting to the alternatives might get the legally required turnout.

2. Evolution of e-Voting: From experiments to widespread use

Electronic voting was introduced as part of the federal and provincial elections of 24 November 1991, when two *cantons* (districts) were selected for an experiment in electronic voting registration. Through a law of 11 April 1994, this experiment was broadened and institutionalised to 20% of all voting districts (*Moniteur belge*, 1994). This law provided for an expansion through Royal Decree, and since 1999 44% of all voting is registered electronically. The idea is to attain 100% by the 2006 elections. In 1999, an alternative experiment

was introduced only in the districts of Chimay and Zonnebeke, in which voting was optically read.

A law of 11 March 2003 introduced, in order to enhance the credibility of the system with the public, yet another experiment in the districts of Waarschoot and Verlaine, in which the voter had the possibility to "ticket" (an on-screen visualisation that is printable) his/her electronic vote. If the ticket showed other votes than those on the screen, then the voter had to call on the chairman of the voting board to be allowed to vote again (*Moniteur Belge*, 2003). Tickets had to be accounted for by specially appointed members of the voting board and a consolidation had to be undertaken between the electronically registered vote and the tickets. The ticket experiment appears to have been slower than electronic voting without ticket (Sénat belge, 2003). The count in Waarschoot also gave a different result between the tickets and the electronically registered vote. Despite the legislative provision that the printed vote would in such case be considered in priority over the electronic vote, the reverse result was endorsed and a request for a revoting exercise was rejected (Sénat belge, 2003).

3. Objectives for electronic voting registration

Governments need to have arguments for implementation of electronic voting (Schryen, 2004). There are four objectives stated by the Belgian government for the shift to electronic voting:

1. It became increasingly more difficult to find sufficient citizens to manage and control manual voting; such citizens are drafted but as the duty is unpopular, many feign illness or work obligations to escape the duty, or they just go absent without leave (AWOL);

2. Automatisation would enable the government to reduce the costs of acquisition, storage and printing of voting sheets and reduce the cost of payment to be made to the citizens that manage and control the voting process in each municipality;
3. Electronic voting registration would enable the government to announce results earlier; and
4. Electronic voting registration would make the results a bit more accurate: the manual counting of voting sheets was not only time consuming, but also lead to mistakes and recounts.

These were the reasons for passing the subsequent electronic voting registration enabling legislation in record time and with near unanimity (Bourgeaux, 2001).

4. Registration, but not distance voting

The process of voting is similar to the traditional paper-based method. A vote is cast with an optical pen on a computer screen; the vote then is registered on a magnetic card, which the elector puts in an electronic ballot box. The votes are registered and recorded on a floppy disc and then counted electronically. Although innovative, the voting-process doesn't basically change: the voter still casts his vote at a polling station in the secrecy of the voting booth, the vote is registered on a (anonymous) physical (magnetic) card and the vote is not transferred online.

Nevertheless, the system shows similarities with Internet voting, being the legal recognition of an electronic or digital voting system. The experience, both on legal as on practical level is useful for assessing the legal requirements for an Internet voting system.

But Belgium never undertook, and is unlikely to undertake in the near future, any attempt to enable real distance voting. One of the reasons for this may be that the uptake of Internet connections in Belgium is behind in comparison to the rest of Europe. Belgium only has at present approximately one-third of its populace with access to Internet. Hence a proposal to vote by Internet excludes a vast portion of the population and would not be considered.

The main reason, however, appears to be the strict laws on where and how voting is to be accomplished. For example, article 62 of the Belgian Constitution mandates that the election is conducted in the municipality, while article 4 of the voting law provides that the election takes place in the municipality where the voter is registered: the

voter must be seen as coming towards the voting station in his municipality. The vote also must be secret: Internet cannot guarantee this. As discussed previously, Belgium is rather strict and very detailed on voting law as it requires voting from its citizens (Cybervote, 2003). A proposal of 20 April 2000 (Sénat belge, 2000a), aimed at modifying the law to legitimise distance voting, however this proposal was not passed, among others because of the low take-up of Internet within Belgium and the Constitution- founded requirement to physically come to the voting station.

Distance voting is location independent, which would require changes in Belgian voting law, possibly in the Constitution, to be enabled. The take-up of Internet is not an issue when examining Belgians abroad who want to vote, however, the voting law would need to be changed significantly to avoid the massive paperwork currently involved in voting on election day from outside the country, which results in few Belgians – possibly relieved to be free from the duty to vote – from taking up their right to vote.

4.1 Criticism of the electronic voting registration experiments

Parliament has seen certain benefits in automation by electronic voting (Doc. 50 0834/001), such as the end of manual tabulation, the speed of the distribution of the results, the simplification and modernisation of the voting procedure. The main criticism has been the reliability issue, and the lack of transparency with the registration of the magnetic cards being counted not seen by the voter, only by the software. This is a valid issue, as manual counting procedures appear more readily accepted by the low tech populace based on familiarity of historical procedure. This is one reason why local town halls were supposed to demonstrate voting machines prior to the election of June 2004.

Relatively little has been reflected on the experiment that from 1994 has become a policy goal, reaching towards 100% electronic voting registration. Projects have been introduced late, close to the election date, and by the government (Bourgeaux 2001). While the law of 11 April 1994 changed the experimental nature of electronic voting to that of a policy, the 1998 legislation reverted and again presented electronic voting as experimental, and a general debate was deferred. Moreover, whenever the government presented electronic voting to the parliament, it was presented as a *fait accompli*. Members of the parliament were also not provided with the data to evaluate the financial, material and human

implications of electronic voting registration (Bourgeaux, 2001). In other words, there was never any global reflection or a policy debate on the subject of electronic voting and electronic voting registration yet, leading to a partial and fragmentary review of hastily introduced projects. The most recent law of 11 March 2003 (*Moniteur belge*, 2003) also was rapidly discussed and approved.

4.2 Assessment of objectives

The first objective, that of a reduction of the number of citizens drafted to manage and control voting registration, was not reached. Instead of four citizens assisting the chairman, the number was increased to five, and the secretary of the voting board had to be assisted by an additional secretary with knowledge of IT (*Moniteur Belge*, 1998). Moreover, voting places did no longer close at 13:00 as in times of paper votes, but stayed open until 15:00, and in places where IT problems caused delays, closed much later. Those that were so unlucky to be drafted for their civic duty had, thus, to work longer than their predecessors. Counting operations were, however, drastically reduced, but no specific cost reduction figures could be gleaned from government data.

The objective of cost reduction appears not to have been obtained either, although no precise figures have ever been released. The Ministry of the Interior estimated the cost of electronic voting registration to be around 80 eurocent, but this cost assumed an amortisation period of IT hardware over a ten year period – a rather incredible time period – and did perhaps not bring into bearing the cost of technical assistance and repairs. Independent studies therefore concluded that electronic voting registration was likely, and in reality, more costly than the traditional system of manual registration (Bourgeaux, 2001). Ticketing undertaken on 18 May 2003 may have led to further costs.

Electronic voting registration has led to more speedy announcements of voting results, as afternoon and evening counting boards were made superfluous.

Technically, not many complaints are apparent: the College of Experts accounts for a mistake of 4096 priority votes in Schaarbeek which was likely the result of a spontaneous bit-inversion in the RAM of a PC (Bourgeaux, 2001). The results of the ticketing experiment in Waarschoot lead, however, to some doubts about overall accuracy, if one extrapolates the results of that experiment to the whole of electronic voting registration.

The Vrije Universiteit Brussel (VUB) published a study on electronic voting, which reports that the method did not influence the outcome of the elections, but did lower the number of abstentions, as it appears no longer possible to cast an invalid vote.

5. Conclusion and remarks

This last remark leads to a general one: how much control has the citizen over the voting process? The voting board chairman hands a voter a magnetic card. The voter must trust that this card is not tampered with. When the voter confirms the vote on-screen, s/he must trust that his vote will be registered correctly on the card. The 2003 ticketing experiment cannot totally reassure this assumption. Counting no longer takes place: machines decode the diskettes that register the vote on the basis of the card that are inserted. Only the technicians of private contractors, not the chairmen of voting or counting boards, or any other official, are capable of checking the systems, a matter of concern also to the nine experts (that form the Collège d'Experts supervising the whole of the process) (Sénat belge, 1999; 2000b).

Perhaps the single most disturbing fact remains that while experiments continue, there is in Belgium no policy debate over electronic voting registrations objectives and accomplishments. This includes allegations of breaches of voting secrecy, and on the effectiveness of the system in terms of cost as well as in terms of sustainment of the democratic process.

This lack of a policy debate is all the more odd as, after the 2000 elections, the debate on electronic voting registration in the U.S.A. has become heated (Editorial, 2004; Pogue, 2004) and as it has resulted in lawsuits to block or otherwise condemn the lack of transparency of and control over electronic voting registration and the demands for a ticket confirmation (Zeller, 2004; Pogue, 2004) that are so conspicuously absent in Belgium.

In the long run, this lack of debate will hinder future e-voting development and may set Belgium up for a catastrophic happening, such as a massive failure of e-voting registration, and the resulting anger of, and dejection by, the citizenry for the democratic political machinery and its politicians. With one in four in Flanders voting last election for the ultra-right Flemish Nationalist party, the need for secure voting registration is key to sustaining an already struggling balance of democracy.

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Shaping Policy Discourse in the Public Sphere: Evaluating Civil Speech in an Online Consultation

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Abstract: The ability of the Internet to function as a public sphere, where citizens can come to public agreement and make recommendations that affect government decisions, has recently come under question. The aggressive style of discourse so prevalent in online discussion has been cited as a significant barrier to the deliberative and open discussion necessary for an effective public sphere. This paper focuses on web-based discussion in an online policy consultation called the Canadian Foreign Policy Dialogue, and examines specific discourse features to evaluate whether the moderated online policy discussion was civil, and whether that civility promoted meaningful interaction among citizens, and between citizens and government. The study results revealed that citizen participants in the dialogue were successful at developing, maintaining, and enforcing norms of civil discourse, and that these norms helped to promote understanding, tolerance, and consensus building. The study also cautions that civil dialogue alone cannot ensure effective communication between governments and citizens.

Keywords: Electronic government, public sphere, civility, online discussion, and electronic democracy

1. Introduction

This paper analyzes the discussion forums of an online, moderated policy consultation called The Foreign Policy Dialogue (Dialogue) in order to evaluate the civility of online citizen discourse. While the Internet is increasingly being used as a tool for gathering citizen input during the policy-making process, much debate exists among theorists and practitioners about the possibility of democratic deliberation in online fora. While proponents of the Internet's ability to re-engage cynical citizens argue that civil society and the public sphere are being revitalized partly through this new technology (Mitra 2001), critics point to the anarchic nature of much Internet discourse, which tends to be aggressive, fragmented and confrontational (Margolis and Resnick 2000). A central question of this study asks whether participants in an online policy consultation develop, maintain, and enforce civil speech. In contemporary public spheres like online discussion fora, the concept of civility, which encompasses an attitude of respect and understanding towards one's co-discussants (Kingwell 1995), emerges as a useful tool for evaluating discussion. This study also examines the practice of moderating online discussion through a rule-based framework, and asks whether civil, moderated discussion in an online public sphere can yield public opinions that have a meaningful impact on public policy decisions. The Dialogue, which ran from January to April 2002, was one stream in a national consultation process that also included town halls, expert roundtables, a youth forum, and off-line written contributions. The online component that is the subject of this study was a joint effort between the Canadian Department of Foreign Affairs and International Trade, the Canadian Centre for Foreign Policy

Development, and the by Design eLab, a Toronto-based civil society organization.

2. Citizen engagement and public consultation in Canada

Experiments with qualitative consultation methods in general, and with online consultations in particular, have been spurred on by a citizenry that is increasingly knowledgeable about public policy issues, but is uninvolved with traditional political actions such as voting or party membership (Institute on Governance 1998). Canadian citizens are deeply concerned about many policy issues, but are skeptical of politicians and traditional parties (Nevitte 1996). Governments are using public policy consultations in an attempt to engage these cynical citizens with the policymaking process. It is hoped that consultation will not only give legitimacy to the decisions of the government, but will yield more engaged citizens and better policy.

These new tools of consultation and citizen engagement attempt to move beyond traditional advisory boards or opinion polls to more directly engage with and consult a broad range of citizens. However, citizen engagement processes are not without their critics (Institute on Governance 1998). Many politicians and policymakers are concerned about how citizen engagement and consultation may affect their professional roles, and they are also wary of tampering with tried and tested methods of policy development (Canadian Policy Research Network 2000, Institute on Governance 1998). In addition, implementing consultative processes, especially web-based ones, can be challenging for hierarchical government departments that find it difficult to cope with the horizontal, networked structure of

the Internet (Canadian Policy Research Network). Online consultations in Canada remain in an experimental phase, partly because of these issues, and also because not all Canadians have access to the Internet. Currently, online consultations are generally used to compliment face-to-face or print-based consultation processes, and are considered experimental by government departments.

3. The public sphere

The public sphere, defined by Habermas (2002) as “a realm of our social life in which something approaching public opinion can be formed” (p. 202) has proven to be a very productive model through which to study public discussion and democratic decision-making among groups of citizens. Significant criticisms and revisions of Habermas’ bourgeois model (Calhoun 1992, Fraser 1993, Hauser 1999) have focused on the public sphere’s exclusivity and its dependence on a culturally-specific set of discourse practices that made it, although open in theory, an arena for a small, privileged part of the public. These contributions to the understanding of the public sphere are useful in the context of a contemporary Internet-based public sphere where a less homogenous group of citizens debates issues of mutual importance with the goal of producing policy-relevant advice for government decision-makers. Many theorists have, in recent years, examined the Internet’s ability to perform the public sphere’s role as a conduit from a periphery of citizens to central decision-making bodies. An important concern with regards to discussion in the online public sphere is the predominance of aggressive and inflammatory rhetoric. Some have shown how this rhetoric can destroy attempts at purposive and deliberative discussion (Benson 1996, Connery 1997), while others have argued that it is natural and even cathartic (Coate 1997, Millard 1997). Discourse features and norms of online interaction are important factors that affect the Internet’s ability to function as a public sphere. When language is freed from the conventions of face to face conversation in a bourgeois public sphere, the lack of common meanings and practices can destabilize the online public sphere and preclude civil and deliberative discussion (Salter 2003).

4. Civility in online discussion

A number of theorists have found the concept of civility to be useful for evaluating discussion in the public sphere (Hauser 1999, Keane 2003). In an online context, Habermas’ (1996) emphasis on reasoned discussion and decision-making in the public sphere no longer provides a suitable means for evaluating discussion and dialogue in a

pluralistic democracy, where diverse and divergent groups all contribute to the formation of public opinion (Dahl, 1961). Normative standards like reason are less effective in today’s mediated public spheres than communicatively achieved understandings of group norms and common goals (Habermas 1996). The concept of civility used in this study goes beyond mere etiquette; it is an orientation towards understanding and a pragmatic commitment to support the public sphere as an open site for debate among all citizens (Kingwell 1995). Thus, a commitment to civil discourse helps achieve the shared meanings that are essential to deliberative discussions. Civility is not an end-state, it is a behaviour expressed through discourse features. It is constantly being negotiated amongst members of the public sphere as they identify their common interests and goals (Keane 2003). Civility allows people interacting in the public sphere to speak across lines of difference, instead of merely interacting “as if” they were equals (Fraser 1993). It is especially important in an online context where physical bodies are absent, and words become the only communication tools available.

5. Civility and the foreign policy dialogue

The designers of the Foreign Policy Dialogue took two significant steps to promote civil dialogue on the consultation website. First, participants were required to agree to abide by a set of “civil rules.” These rules ask participants to stay on the topic of foreign policy, take responsibility for their utterances, and refrain from posting advertising or spam to the site. The rules binding the site are in line with Canada’s *Charter of Rights and Freedoms*, which allows for the rights of the individual to be curtailed in order to protect the group (Department of Justice Canada 1982). The second step taken to ensure civility was to employ civil society moderators to screen each post to the website. The moderators’ presence is explained in the civil rules, where participants are told that moderators have the right to refuse to accept “any message that may be construed or interpreted as discriminatory, promulgating hatred or obscenity, or defamation of any kind” (Foreign Policy Dialogue 2002).

The fifteen moderators who worked on the Foreign Policy Dialogue project were primarily volunteers, drawn from academic and research communities. Besides screening posts to the site, moderators periodically took an active role in the discussion, either warning participants that their contributions were becoming border-line acceptable or off-topic, or encouraging

participants to provide feedback on a certain issue or topic.

Of the 2,116 posts submitted to the discussion forum portion of the Dialogue, which is the subject of this study, only 60 were rejected. Some of the rejected posts were tests submitted by site administrators or programmers, while others were rejected because they were off-topic, rude or libelous, or were spam mail. The low percentage of rejected posts can be seen to suggest that the civil rules and presence of the moderators were effective in establishing guidelines to maintain civil speech.

6. Methods and sources

The online portion of the Foreign Policy Dialogue has two main components: a set of twelve questions posed by the Minister of Foreign Affairs to Canadians, and a set of discussion forums. Both components address issues raised in a discussion paper compiled by the Ministry of Foreign Affairs, which is available in numerous forms on the Dialogue website (www.foreign-policy-dialogue.ca). The discussion forums, which contain over 2,000 messages, are the focus of this study. I chose to focus on the forums because they allow participants to communicate with one another, and thus provide an opportunity to examine the individual and group behaviours that affect civility. Before posts appeared on the “live” site, they underwent the moderation process described above. As such, the Dialogue was asynchronous: users did not communicate in real time.

There were five discussion forums on the Dialogue site, organized under broad foreign policy-related themes recognized as priorities by the Ministry. The topics of these forums were fixed, but any participant could initiate discussion by creating a new thread on a related sub-topic. The subset of threads chosen as the object of this study contains posts from a minimum of two and a maximum of nine participants, and the majority of threads are dominated by a small group of heavy users. The data set contains 364 posts from 23 discussion threads, and represents a time period beginning on January 22, 2003 and ending on the last day of the consultation, April 29, 2003. The data set was limited to make the analysis task more manageable, and a software program called Qualrus aided with data management and coding.

In this study, civil speech is analyzed through discourse analysis, which examines both the intention of speakers, which can be inferred through speech evidence, and looks at the interaction between participants (Herring 2004).

The goal of this analysis is to identify discourse characteristics that are persistently and demonstrably present in the sample, and to do this, I chose to analyze threads of discussion. A thread can be defined as a series of exchanges between two or more people, all on the same topic. Because my research addresses interpersonal exchanges as well as specific discourse characteristics, I have coded individual messages both for their content and for their contribution to the civility of the discussion. Since the concept of civility is somewhat abstract and context-dependent, I wanted to devise coding structures that were based on phenomena I observed in the data, instead of trying to fit the data into preconceived categories.

The goal of civil speech is to ensure an environment of mutual respect and understanding. Some of the specific speech acts that promoted this goal include providing evidence or personal information in order to substantiate an opinion, quoting other participants to demonstrate one’s attentiveness, using negotiation techniques, and showing restraint. In addition, there were a number of techniques used by site moderators to enforce or encourage civil speech. All of these techniques have been recognized by other theorists as contributing towards a civil space that is responsive to difference and committed to purposive discussion (Coleman and Gøtze 2001, Donath 1999, Rouner 2000). Most of the coding categories employed in this research are semantic phenomena; that is, they are exhibited in speech acts. There are also some structural categories, such as quoting and providing references, which can be identified more or less objectively (Bauer 2000).

7. Discussion and analysis of results

The results of this study show that, in addition to the fact that most posts submitted to the discussion forums satisfied the conditions laid out in the civil rules, the majority of participants worked to develop, enforce, and maintain specific discourse norms that encourage civil dialogue. The discourse characteristics that had the most significant impact on civility lie in three different areas: developing trust and online reputation, negotiation techniques, and interaction with moderators.

7.1 Participant-driven norms that promote civil speech

A central research question to this study asks whether civil speech is established and maintained by site participants. Analysis of the sample indicates that participants do work to develop and enforce civil norms. Participants

developed group norms centering around two main areas: developing trust and an online reputation, and negotiation techniques. Discourse characteristics associated with the first area include providing evidence to back up claims made, quoting other participants to maintain clarity and focus, and providing personal evidence to prove one's expertise on the subject matter at hand. Discourse characteristics associated with the second area include inventing options for mutual gain, simultaneously confirming and disconfirming another's position, and showing restraint.

Establishing a trustworthy online reputation in the context of the Foreign Policy Dialogue involved consistently performing speech acts that added to one's perceived trustworthiness and reliability. In online environments where strangers attempt to discuss important issues without any prior knowledge of each other and without social cues present in face-to-face debate, an online reputation acts as a necessary condition for participants to give each other the benefit of the doubt, and to work through the diversity of evidence, experience, and interactional styles that meet on the Internet. As Dean (2001) states:

The political norms at stake in the information age have less to do with truth ... than with a credibility that is never secured. Such an unstable credibility, moreover, makes alliance particularly problematic: how might opposing constituencies (not to mention the individuals within them) trust one another under these conditions? Clearly, particular subject positions (those attempting to warrant themselves with reference to a specific authority or experience, say) and claims will have to work to earn and retain credibility. (p. 263)

Dialogue participants undertake this "work" of establishing their online identities by providing evidence to substantiate their comments, and quoting other participants. A trustworthy online identity was an important precondition for participants to accept at face value each other's remarks and to debate opinions in a civil way. The evidence that participants provided in order to back up claims made in the forums included links to media and informational websites, quotations from foreign policy experts, and personal experience and expertise. Participants revealed private information about themselves, such as their profession or their political affiliations, in order to provide credence to their professed expertise on a certain issue, or to demonstrate that their personal life choices coincided with their political views. When participants consistently made statements without providing evidence, they

were almost always criticized and discredited by others. However, although backing up claims made on the consultation website garnered respect from one's opponents, it did not always orient the discussion toward agreement or even understanding, for opposing experiences and media perspectives could always be found and pitted against one another.

Quoting was another method that helped participants establish an online reputation as careful readers of one another's posts. In an online environment, this practice of quoting can be seen to stand in for the physical cues that people exhibit when listening to each other: participants quote each other in order to agree or disagree with a particular aspect of a post, or to ask for clarification or evidence (Benson 1996). The use of excessive quoting to "interrupt" another participant in online debate (Herring 1999) was not used in these forums, and participants consistently quoted others' words in context and in full. As one participant wrote to another, "I am just going to quote you here just to keep our thoughts clear, don't take it as being rude or anything like that, that is not my intention at all." Participants used quotations to clarify opinions or to request more information on a certain point, and the technique was helpful in building the common body of knowledge that orients participants in a debate towards understanding and agreement.

These efforts at establishing a stable, trustworthy reputation in an online environment can be seen as surprising, since many theorists have emphasized how the Internet is perfectly suited to encourage identity play and creative misrepresentation, that "on the Internet, individuals construct their identities, doing so in relation to ongoing dialogues, and not as an act of pure consciousness" (Poster 2001). While Dialogue contributors did reveal different parts of their identities with relation to certain thread topics, their online personae were almost always perceived to represent their real life bodies and subject positions. Only one significantly prolific contributor to the forums did exhibit the kind of playfulness that Poster describes. His/her fellow participants roundly ignored this participant, who preferred to submit posts in the form of satirical rhyming poetry, and never gave any hints as to his/her motivations or goals. Perhaps, as Dean (2001) notes, this participant's behaviour threatened the others, who had come to rely on each other's online reputation as the only basis for trust in an online public sphere. In addition, the hesitation among participants to play with different identities may be a factor of the Dialogue's nature as an official, government-sponsored forum. The

site's position as an official venue for citizens to communicate their concerns to a government ministry likely caused people to perceive it very differently from other online political spaces not connected to government, such as the forums connected with news sites.

8. Negotiation techniques

A trustworthy and consistent online presence was not a sufficient condition to ensure civil speech in the Dialogue forums. In addition, participants maintained civil dialogue by employing a number of negotiation techniques, which are commonly employed in all kinds of political discourse, whether online or face-to-face (Barret 1991, Smith 2002). A commitment to negotiation is one of the ways that participants encouraged discussion in a diverse, changing forum populated by participants with disparate opinions and interests. Negotiation demands that participants look beyond their own position and work within a model of public discourse that is created amongst the people involved. It is central to civility because it recognizes that meaning is open to negotiation, and it remains committed to avoiding domination and exclusion, and to respectful listening and additive change. Some of the negotiation techniques employed by Dialogue participants include inventing options for mutual gain, simultaneously confirming and disconfirming an opponent's position, and showing restraint.

Many of the Dialogue's most successful interactions, when success is defined as finding common ground with respect to a mutual problem, occur when participants are able to see beyond what they perceive to be the falsehoods or inconsistencies in another's position, and to combine parts of their own position with that of their opponent's, to create a mutually satisfactory option. Inventing options for mutual gain requires participants to look for the value or substance in what others say, even if it appears that their post contains no significant or agreeable ideas. For example, two participants debating Canada's position on joining the war on Iraq are able to agree on the necessity of fighting terrorists, even though they disagree on the main issue at hand. Identifying this shared belief allows the two discussants to debate the merits of the "war on terror" in a civil way instead of merely bickering over whether Canada should go to war. In this example, one of two discussants was able to create an opportunity for mutual gain, but often, a third viewpoint was required to identify a shared opinion. Having a third person step into an increasingly uncivil debate often served to bring the discussion back to more substantive issues,

and consistently reminded participants to treat each other in a civil manner. As one participant wrote: "our differences need to be used to enrich our solutions. Let's not try to defeat those who differ. Let's see them for what they truly are: an invaluable resource for expanding our own (o so very limited) experiential base."

Another negotiating technique successfully employed by Dialogue participants is the simultaneous confirmation and disconfirmation of an opponent's statement. This technique promotes civil speech because it allows the critical participant to suggest a new option in the discussion, while allowing the criticized participant to save face. Responses that begin with statements like "I understand your position, but I must respond..." or "I agree with your basic argument, although I see faults in some of your examples ..." tended to be much more favorably received in the Dialogue than posts that only attacked and disconfirmed the content of another's statements. This technique demonstrates that quality of restraint, which is associated with civility by many theorists (Kingwell 1995, Smith 2002). Restraint was an important quality that helped maintain the civility of the discussion. When one participant exhibited a lack of restraint, for example by criticizing others' spelling mistakes or malapropisms, then others followed suit, and the discussion would descend into name-calling and *ad hominem* attacks, sometimes so much so that a moderator would have to intervene.

The use of restraint and other negotiation techniques familiar to most political discussions significantly enhanced civil speech in the Foreign Policy Dialogue. A commitment towards understanding requires participants to realize that meanings are open to negotiation, and negotiation techniques become central to discovering common goals and interests in the midst of seemingly opposing opinions. Like the technique of developing an online reputation, using negotiation techniques became one of the norms that participants developed in order to encourage civil speech. These two groups of strategies became the most important participant-driven norms on the Foreign Policy Dialogue, and they were for the most part effective in maintaining civility.

9. Interaction with moderators

The second research question of this study asks whether the moderators and the civil rules have an impact on the civility of online discourse. To answer this question, I coded instances where the moderators entered the dialogue, as well as

occasions where participants made specific reference to the moderators or the civil rules. The aim of the Dialogue's design and administration team was to make the presence of the moderators felt in a clear, yet unimposing and transparent fashion. As previously discussed, participants were required to agree to abide by the civil rules before they could participate in the Dialogue. The civil rules make the presence of the moderators clear, so all participants should know that posts to the Dialogue are read and approved by civil society moderators. The website's Frequently Asked Questions page also explains the moderators' status as civil society members, not government or private sector employees. Participants' recognition of and positive attitude towards the moderators supports the notion that citizens feel comfortable participating in a rule-bound framework of discussion. In fact, the only time that the moderators were criticized by participants was when they were perceived as not enforcing the civil rules rigorously enough. There is a whole thread in the discussion forum protesting that moderators were accepting posts that were either off-topic or not serious.

Because the discussion forums very rarely contained uncivil content, the moderators did not have to reject many posts or intervene in many borderline uncivil discussions. However, when they did engage in the latter act, participants were not resentful of their presence. In fact, participants welcomed the moderators' interventions, and when the consultation closed, many frequent participants logged on to thank the moderators for their hard work and dedication. These thank you messages often made a distinction between the government partners and the civil society partners, indicating that they realized and appreciated the distinction.

Although it is evident that most participants felt the moderator's presence very clearly, it is difficult to prove whether or not the moderators and the civil rules had a major influence on the development of discourse norms in the Foreign Policy Dialogue. The civil rules themselves do not require civil speech that is oriented towards understanding and consensus building; however, they do make some basic provisions for civility and respect. Participants knew that their words would be moderated, and therefore that to attempt to post uncivil comments would be a waste of time. Generally, though, the qualities I have described above, including reputation-building, negotiation techniques, and building trust, emerged amongst the participants themselves, without facilitation from moderators. Whether these qualities would have emerged in a free form, unmoderated forum

is debatable. However, the experience of most e-consultation facilitators suggests that unmoderated forums are very negatively impacted by flame wars, rude comments, and the marginalization of participants who are not comfortable with an aggressive, libertarian discourse style (Benson 1996, Coleman and Gøtze 2001, Docter and Dutton 1998). The presence of the moderators and the civil rules provide feedback, sources of information, and structure around the conversation. These features, while not ensuring civility, do provide an important cultural-democratic function that facilitates the connection between citizens, and between citizens and government. If the Dialogue had not been moderated, norms of civil discourse may have been present, but it is possible that they would be overwhelmed by aggressive and inflammatory discourse.

This study reveals that the majority of posts submitted to the Foreign Policy Dialogue abide by the civil rules. In addition to complying with the civil rules, as they had agreed to do when registering on the site, participants developed additional norms of discourse that did contribute to civil dialogue oriented towards understanding and a respect for difference. Establishing an online reputation through evidence-based discussion, the demonstration of "listening" skills, and disclosing personal details were some of the ways that participants grew to trust and respect each other's opinions, and to accept others' posts at face value. Participants also used negotiation techniques such as inventing options for mutual gain, and showing restraint to avoid inflammatory verbal attacks and enhance cooperation and constructive criticism. Thus, the evidence from this study contradicts the claim that Internet-based discussion is necessarily rude and prone to flame wars. Most threads maintained a civil, although sometimes heated, tone. The dialogue participants placed a great deal of value on being able to engage in democratic debates and on constructing solid and well-thought-out arguments. During the debate, participants often invoked Canadian culture and principles that uphold diversity in discussion, peacekeeping, tolerance, and other democratic ideals. These principles were praised both in relation to foreign policy issues and in relation to the discussion that was underway, showing that the participants saw a link between their own discourse practices and the larger context of Canadian values and policies. While participants obviously found the experience of honing their debating skills, demonstrating their knowledge on political subjects, and interacting with others pleasurable, there was also a sense of "civic duty" expressed by some posts to the Dialogue. Frequent

participants often made reference to the responsibility they had as citizens to provide “intelligent” or “worthwhile” advice to the government, and norms of civil discourse may have emerged because of this feeling of responsibility. This sense of commitment to a larger purpose distinguishes the Foreign Policy Dialogue from other online discussion spaces that are not tied to a government policy exercise, such as UseNet groups or discussion forums associated with online news services. The feeling that their contributions to the Dialogue were part of an important national consultation may have been a factor in the participants' generally civil discourse.

9.1 Civility: Is it enough?

The designers and facilitators of the Foreign Policy Dialogue recognized civility as an important quality to require and promote within the context of an online policy consultation. Participants also worked to maintain civil dialogue through their compliance with the civil rules, and the development and maintenance of their own civil norms. The kind of dialogue exhibited in the Foreign Policy Dialogue does, for the most part, fulfill Habermas' (1996) requirement that within the public sphere, the recognition of “the better argument” rests upon a “lifeworld” of shared meaning developed through discussion. However, the meanings shared by Dialogue participants were developed in public through dialogue: participants did not come to the discussion with lifeworlds that were already shared, as they did in the bourgeois model. The shared meanings that were developed by Dialogue participants included an insistence on evidence-based discussion, a regard for stable identities and trustworthy reputations, and a commitment to negotiation within discussion.

The discourse also followed Kingwell's (1995) more pragmatic definition of civility as a context-dependent orientation towards understanding and a respect for difference. Although the civil rules made some basic provisions for civility, the practices that came to create a more nuanced dialogue framework were developed amongst the people involved, as they negotiated shared meaning and discourse conventions that the majority of participants could accept. Within the Foreign Policy Dialogue, widely divergent views were accepted and integrated into a larger debate when participants adhered to civil rules and norms. In this way, participants were able to address a wide variety of interests and concerns related to Canada's foreign policy, and begin to come up with solutions to mutual problems. Thus, civil speech appears to have allowed a plurality of participants to converse on relatively equal terms

about issues of mutual importance. However, Fraser (1993) points out that no public sphere is culturally neutral, and therefore there is a danger that “expressive norms of one cultural group” (p.17) might be privileged over others when diverse participants attempt to interact in a large public sphere. Although the scope of this paper cannot adequately address this issue, the fact that the Dialogue's registration logs are dominated by men, and the example of the participant who was marginalized because his/her discourse style did not fit the norms of the group, suggest that the goals of civility were not fully attained. Certainly, attention to issues of inclusiveness and plurality must continue to be a priority for online consultation administrators, moderators and participants.

10. Influence on government

The analysis of the results of this study so far has addressed the first two research questions of this study. Civility is enforced and maintained consistently by participants in the Foreign Policy Dialogue's online discussion forums through several different discourse norms. Participants are aware of the presence of the civil rules and the moderators, and although these factors did not have a direct impact on the way that civil norms were developed and enforced, it is plausible that without them, the discourse would have been far less civil. The existence of the civil rules and the reality of moderated discussion seem to have provided an environment where civil speech could flourish. This analysis has shown the ways in which civil norms of discourse promote mutual understanding and constructive discussion between individuals with very different political views. But does this kind of civility provide for another, equally important function of a public sphere, namely its influence on government? Participants in the online Dialogue were not in an easy position to forcefully articulate their public opinions to government. Unlike lobby groups or established community organizations, the participants in the Foreign Policy Dialogue were (or appeared to be) complete strangers at the outset of the consultation. Thus, they had to go through all of the discursive steps of establishing identity, trust, and reputation, as well as finding common understandings through dialogue. This process is very important, but in the context of a time-sensitive policy consultation, is it enough? For democracy to be served, deliberative input must bear some relationship to decisions actually made and policies actually put into place. But if the net result of deliberative discussion in a forum such as the Foreign Policy Dialogue is scattered clusters of priorities and opinions, then it is very difficult for policymakers to effectively integrate

citizen input into the policymaking process. The majority of the discussion forums are concerned with negotiating meaning, developing shared priorities, and identifying common priorities. Hardly any time was spent attempting to summarize and articulate those shared goals. As a result, it was difficult for the civil society analysts, who were charged with the task of reporting the net results of the discussion forums, to simply summarize the public opinion generated on these discussion forums. The "Report to Canadians" paper that was produced by DFAIT to summarize the results of the consultation and to indicate how they would be incorporated into the policy process does mention the online discussion forums, but hardly draws upon them at all in its discussion of the policy advice given to DFAIT from citizens. Thus, it appears that while civil discourse among citizens does increase the likelihood that people will be receptive to each other's views, and will be respectful of different political opinions, civil dialogue alone does not ensure effective communication between citizens and government. In order for an online policy discussion to fulfill the public sphere's goal of a strong influence on government, the weak ties and tenuous positions taken by Dialogue participants must be strengthened and focused. This process might come about naturally over time as participants continue to deliberate, but it might also be facilitated by moderators. Their goal would not be to influence the outcome of citizen deliberation or to ensure that citizen deliberation follows government priorities, but to cultivate a critical, thoughtful deliberative political culture within citizen groups that are able to articulate their goals and priorities to government.

11. Conclusion

This study contradicts the popular belief that most political discussion online is necessarily rude or divisive. The majority of contributions to the Foreign Policy Dialogue followed the civil rules, and in addition, participants developed more nuanced norms of civil conduct that helped maintain respectful and civil discussion oriented towards understanding. They became adept at negotiation, and worked to build trust among the group. Civility became an essential component of the Foreign Policy Dialogue, because it allowed for the creation of shared meaning and understandings while still allowing for the disagreement that is inevitable in pluralistic democracies such as Canada's. These findings support the notion that the Internet can help foster the public sphere's goal to provide an inclusive and respectful site of debate on matters of public policy.

Another objective of this study was to determine whether civil dialogue in an online policy consultation allows citizens and government to interact in a meaningful way. While civil dialogue allowed citizens to communicate effectively amongst themselves, it did not facilitate a purposive and productive exchange between citizens and government. Creating the set of norms and shared understandings that allowed for civil discussion and public opinion-formation took a great deal of participants' time, and they did not focus on forcefully articulating their opinions to government. Civil society moderators are well placed to facilitate this communication process, and help make these deliberative online consultations have a more concrete impact on policymaking. However, their influence must be monitored and studied to assess its impact. Governments, too, will need to adjust the manner in which they interact with citizens in the face of these new forms of consultation. What is the mandate of civil servants, Ministers, and policymakers taking part in Internet consultations? How can coherent policies be put into place when so many people have a say in their development? How can governments effectively report back to citizens so that they know that their input has impact? As further experiments with online consultations are carried out, research into these questions will be essential. Although most citizen feedback on the Foreign Policy Dialogue was very positive, cynical citizens will not be willing to participate in future consultations if they perceive that their efforts have not been heeded.

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The Ethical Problem of Framing e-Government in Terms of e-Commerce

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Abstract: This paper discusses one aspect of the relationship that the use of information and communication technology (ICT) in business has with the use of ICT in government and administration. It argues that democracies rely on their ethical legitimacy and that framing e-Government and e-Democracy in commercial terms can jeopardise this legitimacy. For this purpose the paper distinguishes between e-Government as service delivery and e-Democracy as the more radical use of ICT for democratic deliberation and policy formulation. It argues that the commercial paradigm can support some of the moral values underpinning democracy but it can also have a negative effect on them by equating customers and citizens, by likening the political and the economic system and by promoting hidden agendas and ideologies. The conclusion argues that democratic decision makers need to pay attention to these relationships. Otherwise they not only endanger the success of e-Government and e-Democracy but may even threaten the basis of the moral legitimacy of democratic forms of government.

Keywords: e-Government, e-Democracy, e-Commerce, legitimacy, ethics, morality

1. Introduction

e-Government is a growth industry whose potential has been recognised by most of the big players in the hardware and software market from IBM to Microsoft. While the end of the dot.com boom seems to have taken the glamour out of information and communication technology (ICT), the fundamental advantages it offers to organisations are still the same. Quick communication, better access to information, shrinking transaction costs, or greater flexibility are just some of the more important ones. While many businesses and industries were quick to take on these advantages and move into e-business and e-Commerce, the same is not always true for government and public administration. Nevertheless, most industrialised societies have started down the road of the use of information and communication technology (ICT) in government and some have made considerable progress.

In many respects the development of e-Government seems to follow the example of e-Commerce. High level administrators or political leaders recognise the potential of a certain technology and decide to deploy it in their area of responsibility. Given that the systems as well as the vendors and their personnel are usually experienced in e-Commerce or e-business, similar systems are used in e-Government and similar processes are installed. Furthermore, the rhetoric of e-Government uses arguments and logic which stem from the business world. In many cases this happens deliberately and with the best of intention. The perceived weaknesses of democratic governments and administrations include a high level of bureaucracy, a duplication of efforts in departments that do not communicate

and a general sluggishness and lack of response. Given that businesses increasingly try to overcome these problems, to become agile competitors, the hope is that the use of the paradigm of business in government, which is transported through the medium of e-Government, will alleviate these problems.

This paper will evaluate this development from an ethical perspective. It will ask what the implications of the use of the commercial paradigm on e-Government will be by concentrating on the moral basis of democracy. The paper will start out by discussing the moral foundation of democracy and its links to ethics and a morality. It will then analyse the concept of e-Government and introduce the important distinction between e-Government as the technological delivery of administrative services and e-Democracy as the technological enhancement of primary democratic processes. From there the paper will proceed to take a look at e-Commerce and why it seems to be a suitable paradigm for e-Government. The use of this paradigm will then be analysed and especially the limits of its use will be discussed. The result of the discussion will be that e-Commerce is a legitimate paradigm in some respects because it stands for values such as efficiency gains or better distribution that are common to democracies. At the same time, business ideas can only represent democratic processes within relatively narrow limits. The central problem is that the conceptualisation of humans differs fundamentally between the business world and politics. In business people are most importantly consumers whereas in democracy, people are predominantly citizens. The danger of the commercial paradigm is that it implies that citizens can be reduced to consumers. This change of the conceptualisation

of humans creates a change from e-Democracy to e-Government, it excludes certain members from inclusion, and it generally affects the character of democracy. This, it will be argued, threatens the moral legitimacy of democracy which is the central basis of its acceptability and therefore of its success. The conclusion will therefore be that politicians as well as information systems professionals must make sure that they keep the sometimes fine line between business processes and political processes in mind in order to avoid a failure of the (political as well as technical) system and retain its legitimacy.

2. The ethics of democracy

As it is the purpose of this paper to argue that the commercial paradigm can threaten the moral legitimacy of democracy we will have to clarify first what democracy is and how it is related to ethics. This section will therefore start with a review of some of the defining aspects of democracy in order to then establish its relationship with ethics and morality. It will end by briefly looking at some of the weaknesses of democracy.

2.1 The concept of democracy

A look at the etymology of democracy shows that it literally means "rule of the people". It is the conceptual opposite of forms of government where single persons or minorities rule. While the idea of democracy, of the people governing themselves, may appear almost trivial to many citizens of Western democracies who never experienced another form of government, it is important to note that it is anything but trivial. It contains a number of implications and suppositions that need to be spelled out in order to understand the importance of ethics for democracy and also the conditions under which democracies can function and be stable.

One implication of democratic rule is that the will of the community is created bottom-up, that the individual members of society collaborate to determine what society does. Democracy is a formal process that leaves the outcome of the decision process mostly open. It only determines the external format necessary to make decisions. These decisions refer not only to actions but, more importantly, to intentions. That means that democracy is the process of collective forming of a political will as well as the way of realising this will (cf. Richardson 1999).

This implies that every member of society is recognised as a person, that the rights of all persons are equal, that the individual is protected from the arbitrariness of society. At the same time democracy stands for an attitude by individuals

that implies responsibility for the commonwealth, tolerance, and courage (cf. Söderbaum 2000; Hengsbach 1991). The very heart of democracy is the deliberative process that allows the forming of the political will. This is based on the idea that the members of the democratic society are willing and able to exchange ideas and arguments in such a way as to come to acceptable and legitimate majority decisions (Habermas 1998). Communication can thus be said to be the essence of democracy (Ricoeur 1991).

Another possible approach to democracy is to look at its purpose. The formal and functional description of democracy given above implies purposes but does not spell them out. One can, however, see democracy as a means to an end. The ends that democracy is supposed to realise could then be the safeguarding of internal peace and individual freedom (Hayek 1994).

These few short characterisations of democracy can not claim completeness. What they should be useful for, however, is to point us in the direction of the ethical basis of democracy, to show us why accepted moral rules and their ethical justifications are of central importance to the functioning of democracy.

2.2 The ethical basis of democracy

There are different reasons why democracy is linked to ethics and morality. Maybe the most obvious one is that it is a system that distributes power. Power affects our moral rights and obligations, the way we can and should behave, and it is also of theoretical and reflective importance. The most important aspect of ethics and power in democracies is that democratic processes give power legitimacy. Power as the ability to make others do one's bidding is a necessary part of any community and it can only be held if the affected parties believe it to be justified and legitimate. In a post-metaphysical society the source of legitimacy of power can apparently only come from the assumption that democratic processes, albeit fallible, create the most reasonable results that can be expected (Habermas 1998). Power can always be misused but democracies seem to be better at avoiding or ending misuse than authoritarian forms of government (Küng 1997). Democracies are decentralised and this decentralisation allows reasonable local solutions (Beck 1986). The participation of individuals which is constitutive for democracies allows regulations which are acceptable to all (Kant 1992; Tocqueville 1998). In addition to the provision of a legitimate distribution and execution of power, strength of democracies is that they facilitate the change of power relationships in a peaceful way.

Another link between ethics and democracy can be developed from the underlying anthropological assumptions. Democracy is based on a view of humans that is itself ethically charged. The citizen of democracy is modelled after the enlightenment idea of humans, as free, autonomous and moral agents. Democracy can only exist with this (sometimes counterfactual) view of its members. This anthropological view assumes moral values such as the fundamental equality of all citizens and it esteems the classical liberal individual as the basis of community.

Finally, democracy promises to deliver moral values to society as a whole by forming the autonomous individual through socialisation and education. Democracy requires and disseminates knowledge and it provides the court of public exchange for the creation of knowledge (cf. Rauch 1993). The institutions and members of democracy promise the achievement of progress in material, social, intellectual and many other respects. One important basis of this argument is the close link between democracy as a political framework and capitalism as the corresponding economic framework (Becker 1976; Friedman 1994). Many of the moral arguments supporting democracy can be found in a similar form for capitalism. Democracy and its emphasis on the individual is supposed to give people the skills and the desire to perform well economically and the aggregation of individual performance should lead to an improvement in general welfare. Only on the basis of a functioning economic system can wealth be redistributed to the needy which again strengthens the moral case for democracy (Rorty 1996). The combination of capitalism and democracy should not only increase welfare in individual states but also lead to an equalising effect between countries and, at least for those countries that participate, bring a generally high standard of living (Cohen 1996).

As another moral advantage, democracy is supposed to be peaceful. Since the sovereign is the people itself and the people (as opposed to the elites or aristocrats) suffer the most from a war, democracy is often depicted as intrinsically peaceful. Furthermore, war tends to disrupt commerce. Thus, the business people in democratic states, who have a strong political influence, are supposed to be peaceful (Tocqueville 1999).

2.3 Moral weaknesses of democracy

The last section may have struck the reader as overly optimistic and, in fact, democracy may not always display the moral advantages just

described. From the first start of democracy, there has always been the suspicion that it is nothing but the rule of mob (Aristoteles 1967). It has often been suspected that democracies are intrinsically instable, for different reasons. Rorty (1996) suspects that democracies require a high level of material well-being to function; that they cannot survive real hardship. Maybe even worse is the material emptiness of democracies. Plato (1973) believed that they have to disintegrate because they know no boundaries and until today it is open whether liberal democracies can provide humans with an idea of the "good life" which has always been central to ethical thought (Postman 1992).

There is the problem of theory and practice, the question whether democratic states can really live up to the expectations levelled at them. Experience tells us that the noble idea of free forming of the political will bottom-up may not work in practice. The view of humans that informs democracy will often not be displayed and reflected by democratic institutions. The welfare argument may be weak because experience shows that not everybody participates in the generation and sharing of wealth. Finally, it can even be argued that democracies are not peaceful but that they create perverse incentives which make them intrinsically more belligerent than autocratic regimes (Tocqueville 1999).

While we should thus take the moral advantages of democracy with a grain of salt, we should be aware that they have one central function. They legitimize the democratic form of government. Whether fact or fiction, the moral side of democracy allows us to distribute power and resources, to find collective solutions, to create a shared vision of the good life. All of this is never perfect. It can only work because the vast majority of the affected accept it as morally justified. Arguably, every form of government needs this sort of justification and democracy seems best suited to provide it in the modern world. Admittedly, these are strong assumptions and might lead to a lengthy debate on political theory and practice. I will not be able to dwell on them here and hope that the reader finds them sufficiently plausible to follow the rest of my argument which is based on the assumption that ethics and morality play an essential role in legitimizing democracy.

3. e-Government and e-Democracy

The "e-" in front of a noun usually denotes the use of ICT for the purposes that the noun traditionally stands for. E-commerce uses ICT for commercial purposes, e-learning uses ICT for education etc. Similarly, the term "e-Government" stands for the

use of ICT in the realm of government. Clearly, the area covered by the term "government" is immense and depends on the definition of government. In the widest sense it can stand for all of the activities by municipal, regional, or national governments and administration. It can also include activities of the legislative and judicial power. The word e-Government is often used in such a wide sense which can be problematic. In this paper we will distinguish between e-Government as the administrative use of ICT and e-Democracy as the use of ICT for genuine democratic purposes. This distinction is important because the use of the paradigm of business can hide or imply a shift from e-Democracy to e-Government and thereby threaten the legitimacy of the democratic form of government.

3.1 e-Government and service delivery

E-government understood as the use of ICT for the purposes of the executive branch of government is advancing quickly and covering more and more areas in a geographic as well as thematic sense. For which purposes is ICT used by governments? The answer to this question depends on the type and particularities of government. Generally, there seems to be a trend to include as much as possible into e-Government. One can fundamentally distinguish between internal process of governments and external relationships where the latter can be divided into relationships with citizens or constituents and others, such as other governments or organisations. ICT can thus be used for purposes as different as internal data exchange for the streamlining of workflows or international development (Thompson 2003).

While e-Government could thus theoretically span a wide range of activities, it appears that governments and their bureaucracies have a strong tendency to favour activities that could broadly be described as service delivery. This is arguably the case because bureaucracies have the task of delivering services and because there is an intrinsic affinity between governments and ICT, which can also be called a technology of "command and control" (Postman 1992, 115). It is not possible to prove this point here but disregarding the reasons for the development one can easily find that a large number of publications about the topic of e-Government are concerned with service delivery. (For a plethora of examples cf. Bannister & Remenyi (eds.) 2003.)

Most of us have come across examples of this trend. Municipalities post local information on the Internet, tax returns can be done electronically, drivers licences can be applied for online etc. While this development is beneficial in many

respects it also seems to take away awareness from other applications of ICT, namely those that are directly linked to democratic processes, which we will call e-Democracy (Wastell 2003).

3.2 e-Democracy and the radicalisation of democratic processes

While e-Government as service delivery is arguably the prominent face of the use of ICT in democratic institutions, there is another side, which is more interesting and which has the potential to radically change our understanding of democracy. We will call this side "e-Democracy" and it stands for the use of ICT for the purposes of democratic deliberation and policy formulation. One can often find the idea that ICT and specifically the Internet are inherently democratic technologies. The reasoning is that "(1) Democracy means power in the hands of individuals (the many); (2) information is power; (3) the Internet makes vast quantities of information available to individuals; (4) therefore, the Internet is democratic" (Johnson 2001, 211; cf. Johnson 2000). This democratic promise was one of the main motivators for the investment in Internet technologies by government, most notably the Internet backbones in the USA (Gore 1995). One should note that this inherent democratic character of Internet technology is often used as a moral argument to support its development and implementation (cf. Stichler & Hauptman 1998). On this basis some authors go so far as to develop grand visions of technological utopias where constant interaction leads to an ideal democracy which displays high ethical values (Lévy 1997; Meeks 2000).

Why is this form of democracy so desirable? Collectively it allows for new forms of free and equal deliberation. Everybody can make his or her voice heard on all matters of interest. In fact, systems have been built that allow for public discourse of socially relevant topics which are based explicitly on the (ethical) principles of Habermasian discourse theory (Heng & de Moor 2003). This means that ICT can be used to approximate the ideal speech situation where only the power of the better argument counts. This collective advantage can be translated into the maximisation of knowledge and therefore in an optimal viability of the outcomes of deliberations. At the same time the participation of stakeholders guarantees the moral viability of discussions. Also, the chance to participate in discourses and thereby influence the outcome of democratic decisions is supposed to bring about emancipation and empowerment of the individuals (Blanke 1998; Hirschheim & Klein 1994).

In the context of this discussion one should note that the introduction of this sort of online deliberation and policy formulation could have radical consequences. It leads away from the established representational model of democracy toward a more direct type of democracy. This can be seen as positive for the reasons given above but it can also be problematic. Either way this vision of a more radical technology-mediated democracy is highly ethically charged. It affects the individual's rights and obligations, it is based on our view of human beings and it changes the distribution of power. This radical democracy could thus strengthen the moral legitimacy of democracy but it can also produce problems.

3.3 Problems of e-Government and e-Democracy

Both, e-Government and e-Democracy, run into problems. The problems of e-Government tend to be of a technical nature whereas e-Democracy faces more fundamental obstacles. e-Government faces problems of technical implementation, of user involvement, of cooperation between different administrative departments and the like. These are typical problems of systems design, implementation, and use that we know from the information systems literature. While these problems are not trivial, there are established ways of addressing them.

The problems of e-Democracy are more serious. While the promises that it holds are immense, the criticism is just as impressive. Some authors state that e-Democracy simply does not live up to its promises, that instead of promoting democracy, ICT has undemocratic effects (Breen 1999), that instead of decentralising access, it centralises it (Yoon 1996) that it stabilises power structures instead of changing them (Stallman 1995; Weizenbaum 1976). Another fundamental problem is that of the democratic ideal that seems to be promoted by ICT, namely direct democracy. This may appear attractive for several reasons, but it also threatens to turn into the plebiscite that, since Plato, has been feared as the ugly face of democracy (Ess 1996; Paletz 2000).

Apart from these problems which draw into doubt whether e-Democracy is really desirable at all, there are also numerous practical problems. Among these we find the nature of the Internet which is designed to avoid central control which might make it difficult to regulate it to the extent that it might be suitable for e-democratic purposes (Lessig 2001). Then there is the complex of problems caused by globalisation and the change of the nature of the state. E-democracy offers the vision of a world-wide democracy but at the same

time we do not know how global problems can be addressed. Our political system and our democracies are based on the nation-state, whose future is uncertain (cf. Castells 1997).

4. The commercial paradigm in e-Government and e-Democracy

Thus far it was argued that its ethical qualities are of central importance for the legitimacy of democracy. It was then discussed that within democracies ICT can be used in two fundamentally different ways: as a tool for administration and service delivery or as a means of changing the way democracy is conducted. The former, here called e-Government, is relatively unproblematic as it only changes the modes of delivery of established processes. The latter, e-Democracy, holds radical promises as well as potential pitfalls, both of which are closely linked to its moral foundation. What this paper is interested in is how the use of business as a paradigm influences the discussion, perception, and use of ICT in a democracy. This section will therefore introduce what the concept of a business as a paradigm means before discussion which effect the commercial paradigm has on e-Government and e-Democracy

4.1 The (e-)Commercial paradigm

E-commerce, understood as the use of ICT in business, is as complex a topic as e-Government or e-Democracy. It has been the object of extensive attention by IS researchers. This paper does not aim to reflect this research or to say anything about e-Commerce as such. Instead, it is interested in the use of e-Commerce as a rhetorical tool, in the way perceptions of e-Commerce are used to shape expectations of e-Government and e-Democracy. E-commerce is thus seen as a paradigm in a weakly Kuhnian (1996) sense. Paradigms shape our view of reality, they determine what is important and relevant. In this sense the use of ICT in the economic system can be said to be a paradigm of the use of ICT in the political system.

In order to understand this paradigm we need to briefly discuss which advantageous characteristics e-Commerce has that makes it attractive to people who are interested in political applications of ICT. Arguably the most important reason for the use of the commercial paradigm is the huge success of e-Commerce. While some of the initial enthusiasm has died down when the stocks of the dot.com collapsed, the markets of e-Commerce and e-business is still growing. Technology is now mature enough to offer its advantages at low costs and ICT in business has

by now become so ubiquitous that some authors see it as a commodity (Carr 2003). The advantages of e-Commerce can be divided in those for the individual organisation that adopts it and those for society at large. For the individual organisation, e-Commerce promises cost reduction and market expansion (Shin 2003). The most visible aspect of this is the reduction of transaction costs (Welty & Becerra-Fernandez 2001; Castells 2000). Social advantages of e-Commerce are increased competition (Spinello 2000), the creation of new markets (Schiller 1999) and the aggregate effects of cost reduction, which should result in an increase in overall welfare. Related advantages with moral undertones are liberty and efficiency. Liberty stands for greater consumer choice but also for a more flexible design of economic relationship, as for example in teleworking (McCalman 2003). Efficiency is the cause of welfare increases but it also implies other business virtues such as flexibility, and customer-centeredness.

4.2 Reasons for the use of the commercial paradigm

The reason why e-Commerce may seem like a useful paradigm for the use of ICT in governments is its success. If e-Commerce could be successful, so the argument goes, then e-Government or e-Democracy should copy the approaches and processes and thereby copy the success. Furthermore, business in general is perceived to be able to overcome problems inherent in democratic decision making and administration and the adoption of the commercial paradigm is implied to improve this situation.

Spelt out in more detail, there are several explicit or implicit arguments for the adoption of the commercial paradigm. First, there is the technical one. Many of the commercially available systems have now reached a level of maturity that allows businesses to depend on them and to generate steady profits. Using such established systems (possible systems would include enterprise resource planning or customer relationship management) would allow administrations to avoid the tedious systems development process.

Apart from the technical side, there are organisational issues. Democratic institutions are often perceived to be bureaucratic and slow, to be inflexible and disregard the needs of the citizens. Business in general and e-Commerce in particular are viewed differently. Modern businesses need to be agile, to understand their environment including competitors, suppliers, and customers, and they can focus their efforts when necessary. Translated to governments this would mean that

decisions could be made more quickly while incorporating the important stakeholders. Commercial processes should overcome bureaucracies and allow a focus on the citizen. Last but not least, it should go some way toward addressing the problem of motivation. Civil servants and democratic politicians are often viewed as unsuitable for their jobs and not sufficiently motivated. The business world, allegedly, knows how to deal with this sort of problem through a sophisticated management of incentives and human resources.

Then there are the commercial benefits based on market principles that could be translated in political benefits. Among them we find a greater liberty and more choice for the consumer. In terms of democracy this might translate into competition between jurisdictions or between organisations within jurisdictions. This should lead to more freedom and better services for the citizen.

While these are probably not all of the advantages of the commercial paradigm, they encompass the most important ones. For our argument it is important to see that these contentions are of a moral nature. Whether it is the mere improvement of business processes, the saving of costs, or the general overhaul of administrations, they all translate into moral goods such as freedom, welfare, and distribution of the citizen.

4.3 Problems of the commercial paradigm

While there are good reasons to apply the commercial paradigm to ICT use in government and politics, some of which have a clear moral content, there are also plausible arguments to be made against it. We will briefly look at the limits of the analogy of customer and citizen, at problem of the analogy of business and politics, and finally at genuine political problems.

The first problem of the commercial paradigm is the equation of customers and citizens. This is useful in so far as citizens have the same role as customers, namely as recipients of services and goods. However, it is important to see that there are fundamental differences between customers and citizens. A company caters to the needs of customers but only when and if this is in its own interest. A customer who is overly troublesome, cannot pay, threatens the organisation's integrity, etc. has no right to be catered to. This is different for citizens who remain citizens no matter what. While a customer usually has the choice between suppliers, the same is rarely true for citizens. We cannot choose which country or state we want to live in. Furthermore, the state has a huge amount of power over the citizen, which is not comparable with the firm's power over the customer. Most

importantly, customer and company are fundamentally separate entities, whereas citizen and state depend on one another. Ideally, in a democracy, the government should represent the state, which is a manifestation of the people who are citizens of the state. A government thus has to accept citizens because it is (indirectly) acting on their behalf. Describing citizens as customer thus takes away their input and ownership in state and government and thereby robs the state of its own power basis.

The next group of problems of the commercial paradigm consists of the analogy of political and economic system. Can the state be run like a company or a market and is political leadership like commercial management? There are some reasons to negate this question. First, there is the problem of competition. We have seen that the strength of the commercial paradigm is partly based on competition, which is supposed to create more motivation and better welfare. In politics there is the question whether competition between governments is fundamentally possible and if it is desirable. What should competition in government look like? Should we have to financial authorities and the one with the better tax rate wins? This seems unlikely. Competition is only possible between states and there it is questionable because citizens are not free to choose. Another problem of competition, when applied to citizens, is that, by definition, it produces losers. If citizens were to compete for state services, then some would not get them. This is sometimes possible and legitimate (for example for research grants) but in many cases the nature of state services rules out that some have to lose (e.g. social welfare).

Second, there is the problem of efficiency. Efficiency is supposed to be one of the great strengths of businesses and something that politics and public administration lack. However, a closer look reveals that it is difficult to define efficiency. In economics it is usually held to be Pareto-optimality (Sen 1987), which means that a state is efficient where no more mutually beneficial exchanges are possible. The problem with this definition is that it neglects the question of justice as a state where one person owned everything and nobody else owned anything would be efficient. This definition of efficiency therefore does not seem useful but others are not readily available.

Possibly even more serious than the problems of the comparability between economic and political sphere are the genuine political problems the commercial paradigm creates. Among them there is the question of public goods. While markets

may be good at allocating scarce goods under competition they are notoriously bad at dealing with public goods (such as the environment, public infrastructure, etc.) One of the legitimating aspects of democratic governments is that they are able to use an impartial perspective in the allocation and management of public goods, e.g. network infrastructure (Chapman & Rotenberg 1995). Similarly, it can be argued that the commercial realm is not good at providing other aspects which are vital for the ethical legitimacy of democracies. Among them one finds access, which is often discussed in terms of ICT and the digital divide (Breen 1999), but which extends more generally to access to the political life. Even more important is the question of the distribution of power. Democracies require the fiction that everybody has equal access to power. While this is arguably not always the case, there still is a high degree of theoretical equality between citizens. The capitalist system has no intrinsic interest in equality of access and power (Introna 2001) and its application to politics could thus jeopardise democratic legitimacy.

The most serious issue with regards to the political problems of the commercial paradigm is that it transports a more or less hidden political ideology, namely capitalist liberalism. The very idea that the state can be seen as an economic system implies that it should be left alone and is self-regulating, the way markets are usually described. This is an ideology because it hides vested interests and describes as natural and unchangeable what is in fact man-made and contingent (Hirschheim & Klein 1994). At the same time this economic description of politics finds many proponents because it plays to the libertarian culture of the early Internet (Fagin 2000; Winner 2000). The political culture of e-Democracy as based on e-Commerce is therefore not a neutral construct but carries with it a load of implications that are not necessarily accepted by everyone (Kester 1998). Among these implications there is the suggestion that commercial exchange is the key social interaction which in turn implies a commodification not only of knowledge and information (Yoon 1996) but, at the extreme, of human relationships and political exchange.

5. Conclusion

This paper argued that democracy depends on its ethical legitimacy. The use of ICT in democracies can have positive as well as negative effects on this ethical legitimacy. A considerable part of literature and research on e-Government and e-Democracy is framed in terms of business, particularly e-Commerce. The point of interest in

this paper was which influence this use of commerce as a paradigm has on the foundational legitimacy of democracy. The results of this discussion were somewhat ambiguous. On the one hand the commercial paradigm promotes values such as efficiency, service quality, speed of delivery etc. that can also be valuable for the (moral) legitimacy of democracy. On the other hand it can produce problems due to the confusion of customers and citizens, the dissimilarity of political and economic system and the hidden agenda and ideology it can carry. Finally, there is the danger that the commercial paradigm shifts attention from the possibly radical (and threatening) potential of e-Democracy, with all its moral advantages and disadvantages, to the more manageable realm of e-Government. This shift that Wastell (2003) has analysed may affect the legitimacy of ICT in democracies because it hides the radical potential of e-Democracy and concentrates on those processes in e-Government that are similar to business processes by design.

Why should we care about all of this? If the argument is correct then a shift of attention to the business-like side of administration can jeopardise the viability of democratic structures. Democracy is about the exchange of views and the finding of compromises between different groups and individuals. The more international and globalise our societies become the more important it will be that we manage to include as many of the different voices as possible. The traditional nation state with a more or less homogenous population may have found it easy to determine the people's will. This is becoming more difficult and it is one of the strengths of democracy that it allows the deliberation of diverse participants. This is where ICT could play an important role and where it could strengthen the moral acceptability of democracy by widening and deepening measures of participation.

Thinking about democracy in terms of business can seriously threaten this legitimising potential of ICT. Service delivery is clearly a part of any administration but the concentration on service delivery misses the point of democracy. This is where the argument of this paper should have a clear practical impact. Decision makers who determine the use of ICT in democracies need to be aware of this pitfall. While vendors of information systems often have more experience with commercial systems and naturally try to extend their use in government, politicians and bureaucrats need to be aware that this can lead to a dangerous narrowing of the use of ICT. While framing e-Government and e-Democracy in terms of (e-)commerce is not a bad thing per se, political

decision makers need to be aware that it can produce moral problems that not only jeopardise the success of e-Government and e-Democracy but that can affect the very legitimacy of democratic structures. The commercial paradigm is certainly not the only factor that plays a role here, but it is a good indicator of the view that is held about democracy. Democracy contains certain economic structures and sets their framework. If this relationship is turned around and the economic system starts to dominate the political then its legitimacy is threatened. The commercial paradigm cannot single-handedly lead to such a result. But it can indicate that decision makers are willing to accept such a reversal of roles and it may go some way to promoting it.

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A Prospective View of e-Government in the European Union

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Abstract: Emerging trends in Europe suggest that current thinking on e-Government, focusing on greater quality and efficiency in public services should be reviewed, especially when taking a European and prospective approach. The paper proposes a prospective view, which defines e-Government in the EU as a tool for better government in its broadest sense. It places e-Government at the core of public management modernisation and reform, where technology is used as a strategic tool to modernise structures, processes, regulatory frameworks, human resources and the culture of public administrations to provide better government, and ultimately increased public value. According to this view, e-Government needs to be more knowledge-based, user-centric, distributed, and networked.

Keywords: e-Government, public value, knowledge creation, knowledge use, user-centric government, user participation, public – private partnerships, networked government

1. Introduction: Emerging trends in e-Government

e-Government drivers can be clustered around the modernization and reforms in public administration and the development of the Information Society.

e-Government has become an explicit component of public sector reform, as an instrument to increase efficiency, strengthen competitiveness and enhance modernization. In this context, the present paradigm on the use of IST in e-Government focuses on greater quality and efficiency in public services, mainly by delivering existing services through cheaper ICT-based channels of distribution or by complementing existing services with added e-features.

However, a number of observations and emerging trends in Europe suggest this should be reviewed, especially when taking a European and prospective approach.

Firstly, in the next decade, the EU will go through a number of social and economic transitions (such as increasing cultural and religious diversity, ageing of population and changing living, working and consumption patterns) posing new challenges for the delivery of public services. New public services will be required, as well as innovative ways of delivering existing ones. As a result, the current approach to e-Government implementation, mostly based on the provision of existing services through new delivery channels, will not suffice.

Secondly, technological advances in the miniaturisation and portability of ICTs suggest that, in the future, e-Government will form part of an Ambient Intelligence (Aml) environment

(ISTAG, 2003). In such an environment, technology will surround people and serve them in their roles as citizens, customers and professionals. Citizens' expectations of what government should provide will change. And while e-Government services in such an environment could become truly citizen, customer and business friendly ('anyplace and anywhere'), they will also face fresh challenges such as public concern about surveillance and the increasingly blurring distinction between the public and the private sphere.

Finally, while the main focus of attention in e-Government has been service provision to citizens and businesses, there is scope for more. ICTs are already strengthening the involvement and participation of citizens and businesses in public decision making (OECD, 2003a). However, there is still potential for ICTs to play a stronger role in strengthening democracy (Coleman et al, 2001).

2. e-Government in the EU in the next decade

A prospective view for e-Government in the EU for the next decade defines *e-Government as a tool for better government* in its broadest sense. Current e-Government strategies which focus on delivering greater quality and efficiency of public services needs to be widened. This new vision also encompasses the provision of better public administration, more efficient, transparent, open, and participative governance and the implementation of more democratic political processes.

For this prospective view to become a reality, four issues will need to be addressed by governments, namely:

- The increasing importance of managing knowledge in governance and in democratic processes
- The needs of the citizens and businesses (so far unaddressed)
- The need to incorporate in the delivery chain a growing number of intermediaries, which play an increasing role in both the delivery of public services and in democratic processes
- The importance of networking, co-ordination and collaboration for better government.

In other words, e-Government will need to be more knowledge-based, user-centric, distributed, and networked. The following sections explore these issues in greater detail.

3. e-Government as an enabler for better government

The vision of e-Government in the EU for at least the next decade, defines e-Government as a tool for *better government* in its broadest sense. It places e-Government at the core of public management modernisation and reform, where technology is used as a strategic tool to modernise structures, processes, the regulatory framework, human resources and the culture of public administrations (OECD, 2003c) to provide better government, and ultimately increased *public value*.

The creation of public value¹ is a broad term that encompasses the various democratic, social, economic, environmental and governance roles of governments. Concrete examples of these roles are: the provision of public administration and public services (health, education, and social care); the development, implementation and evaluation of policies and regulations; the management of public finances; the guarantee of democratic political processes, gender equality, social inclusion and personal security; and the management of environmental sustainability and sustainable development.

Providing better government for greater public value depends on government structures, processes, people and culture delivering more (cost) efficiency (cost reduction, greater value for taxpayer's money, better financial management, and simplification of administrative procedures), more effectiveness, better quality of services, more accountability, transparency and openness,

¹ "Public value refers to the value created by governments through the provision of services, the passing of laws and regulations, and other actions" by Gavin Kelly and Stephen Muers, quoted in UN, "World Public Sector Report 2003: e-Government at the Cross-Roads"

greater participative governance and more accessibility.

However, this vision will need to address a number of challenges, some of which have already been identified.

IT has become an essential instrument in the transformation of structures, operations and culture of governments. For example, the crosscutting nature of e-Government promotes the reshaping of existing government structures. It also supports open and accountable government, which helps to prevent corruption. Finally, it acts as a driver in speeding modernisation and organisational change, including the facilitation of greater teamwork and the enhancement of knowledge management practices (OECD, 2003c).

However, the use of IST in e-Government has mostly focused on greater quality and efficiency in public services and e-Government has not necessarily enhanced democratic processes in terms of the citizen's political participation or his participation in policy formulation. Indeed, modern or good governance is not just about delivering services. This notion includes democratic and cooperative policy formulation, citizen and civil society involvement, transparent and participative implementation of policies, as well as continuous independent evaluation of their results, and accountability of public decision makers so as to improve policy making in the future (EIPA, 2003; Coleman et al., 2001). Up until now, the link between e-Government (or use of ICTs) and good or better governance has not necessarily been made.

Furthermore, although ICTs can act as enablers and facilitators for more democratic policy development, implementation and evaluation, more accountability, transparency and openness, and for greater accessibility, *the technology on its own will not suffice to modernise governments*. A strong political commitment, coherent long-term strategies and implementation plans need to drive these changes, which ICTs will then enable and facilitate. Lastly, these changes will need time.

Finally, these varied and ambitious goals might sometimes appear to be in conflict with one another. For example, an emphasis on efficiency alone could lead to ignoring the needs of marginal groups. Potential conflicts within government itself could also appear. Long-term objectives supported by civil servants (for example, increasing efficiency and effectiveness or citizen political participation) may need investment that takes significant time to generate a clear return.

These objectives could be in conflict with the shorter-term objectives of politicians, who need visible results.

3.1 Knowledge-based e-Government: The increasing importance of managing knowledge

The emerging *vision* for e-Government in the EU in a developing knowledge-based society and economy points at a shift in governance. From being control-based, or concerned largely with the efficiency of public administration, it will become more service- and content-based oriented, where the emphasis will be on the creation of public value (Millard et al., 2004). This would be achieved through efficient creation, management and use of knowledge, which implies more participatory processes and a networked government (UN, 2003).²

Emphasising the role of knowledge in government, however, is nothing new. *Knowledge* has been and is still government's most important resource. The presence of highly trained, legally educated and specialized civil servants has been considered as one of the main characteristics of bureaucracy ever since Weber began writing about it. However, the rapid diffusion of ICTs and the unprecedented opportunities they offer for knowledge sharing – in tandem with the development of the knowledge economy – have rekindled the discussion on the role of knowledge in government.

The knowledge economy refers to a structural transformation in which the rapid creation of new knowledge and the improvement of access to knowledge bases increasingly constitute the main resource for greater efficiency, innovation and competitiveness. Over the last two decades, information technologies and the Internet have transformed the way companies do business, the way students learn, the way scientists carry out research and the way in which governments provide services to their citizens. Increasingly knowledgeable citizens also have new expectations regarding the responsiveness of governments to their interests and concerns.

The *management of knowledge*,³ including such concepts as knowledge sharing and the management of tacit knowledge (accumulated experience and expertise), has thus been a common feature in government. Today, knowledge management strategies and practices in government rank high on the management agenda of most national governments across the OECD and involve organisational arrangements, personnel development and management of skills, managerial changes and incentives for staff to share knowledge (OECD, 2003b). There is an increased awareness of the importance of good knowledge management practices for new ways of working, greater teamwork, structural changes and networked government.

However, a wider approach to knowledge management will need to be taken if governments are to have the capacity to evolve towards learning organisations⁴ or towards *learning governments*. This approach encompasses the creation and collection of information, the conversion of information into institutional knowledge, and the governmental decision-making based on that knowledge (OECD, 2003b). The creation and use of such knowledge for democratic governance will also require new public spaces for policy deliberation (Blumler et al., 2001).

The exact shape that government services, public administrations, and the exercise of democracy and governance could take in a knowledge-based society is still to be determined. So is the way in which knowledge will be created and used in government. However, a notion is beginning to emerge of government, which is based on the knowledge of the end user's need for value (the 'user' being a citizen, a business, a government body, a policymaker or a civil society organisation), rather than on data or document handling. It will also be based on efficient management of knowledge, which will allow it to be sufficiently flexible to adapt to changing and diverse environments and needs.

² See an analysis on the creation of public value through the management of information and the creation of knowledge in the UN(2003) report, in chapter II.5.4 Information and knowledge, pp 79-83.

³ Knowledge management could be defined as the strategies and processes that promote a collaborative and integrative approach to the creation, identification, share, capture, organization, storage, access, dissemination and use of information assets, including the tacit, uncaptured knowledge of people, with the purpose of enhancing competitiveness.

⁴ Possible definitions for a Learning Organization could be an organisation that is capable of developing, capturing and applying knowledge, or an organization that makes continual learning a way of organisational life, especially improving the performance of the organisation as a total system.

3.2 User-centric e-Government

3.2.1 Empowering the citizen and addressing his needs

If e-Government is to be an enabler for the creation of public value for the citizen, governments need to better address public *demand*. As services become more complex and expensive, it is increasingly important to assess this demand and incorporate user feedback (OECD, 2003c). However, assessing demand remains a major weakness in OECD countries' e-Government programmes.

One of the reasons for this weakness is that assessing demand for e-Government services is difficult, as it seems to be limited or unclear. Overall, it could be said that the degree of citizens' democratic participation is low in Europe, if measured, for example, by the electorate's voluntary participation. The extent to which citizens interact with public bodies on-line in order to access public services also tends to be low.⁵ Thus there is an argument for focussing on public *needs*, rather than demand.

Several issues regarding *the provision of e-Government services* on the supply-side need to be considered when addressing the needs of the citizen. The interest in, and use of, government on-line public services depends on a number of supply-side factors that include: what is available, the quality and usability of the services, the services' ability to address citizens' true needs, the provision of help with using the services, and the value – in terms of time saving and flexibility – they provide to the user. e-Europe e-Government benchmark studies⁶ report that, in the task of building a citizen-focused government approach, although the sophistication of electronic public services provided is significant, there is still a *need for greater emphasis on the citizen*. Services must be developed where citizens receive value in return for their taxes (i.e. access to public libraries), rather than services, which mostly interest governments (such as tax collection).

Also on the supply side, citizens' *participation in the democratic process requires elements* such as trust in governments and politicians, efficient

access to politically relevant information, capabilities for managing knowledge, commitment and ability of policy makers to take into account citizens' views and to feed-back to the contributors, etc. (Coleman et al., 2001). Furthermore, democratic participation, which is a key element of democratic governance as well as a contributor to knowledge creation and usage (learning), needs public spaces for policy deliberation.

On the demand side, *public needs* will be influenced by the political and socio-economic trends in Europe, which include the need for increased mobility, the changing demography characterised by an increasingly ageing population, the development of a mosaic society, increased immigration and ongoing migration, the emergence of new life styles (24-hours-a-day and 7-days-a-week life styles, individualisation, post-materialist values, well-being and leisure, ecological awareness), the changing communication patterns induced by (new) media such as the Internet and the global trends (such as terrorism, cyber threats, and globalisation).

Currently, there is limited knowledge about what type of public needs will result from the above. However, some basic trends with regard to generic public needs are emerging (see Table1). Furthermore, e-Government should not mean that citizens have to increasingly deal with IST but rather that the use of IST should make time available for valuable personal contact by supporting routine processes, information searches, etc. In many instances, technology will not always be visible to the citizens but will support operations in the back office so that services can be more effective and personalized (EIPA, 2003).

From the point of view of government delivery of public value, there is an observable trend towards the devolution of decision-making and service provision to the lowest administrative level (to be as close as possible to the final user). The relationship between administrations is shifting from hierarchies to networks (in order to realise, as far as possible, a one-stop shop approach). Also, in some countries, regions are emerging as key actors between bottom-up initiatives of local government and top-down initiatives at a national level (Cattaneo, 2004).

Finally, an opportunity to *empower the user* has been identified. That is, an ICT-skilled user would be able to make use of the new technologies, configure the available self-services according to his or her individual needs and, through use, gradually increase demand. He could even play

⁵ See for example Eurostat Statistics in Focus, Theme 4 – 16/2004 on Internet usage by individuals and enterprises, which shows for 2003 in EU15: 50% of Internet usage by individuals, 21% of individuals interacting with public authorities for obtaining information, 10% for obtaining forms, and 6% for returning filled forms.

⁶ Caggemini, "e-Government benchmark study", February 2003 and "Online availability of public services: how is Europe progressing? Web-based survey on electronic public services, Report of the fourth measurement on October 2003", January 2004

an increasingly active role in the definition of new, advanced services. Thus the *user driven configurability* of e-Government services at different levels emerges, which encompasses usage, development and design and deployment (usability).⁷ These advanced services would strongly contribute to increasing efficiency and competitiveness - at the risk, however, of deepening the digital divide. The two complementary approaches (addressing user needs and empowering the citizen) point to a number of challenges, such as the potential conflict between simplification of e-Government services to ensure inclusion, with potentially less efficiency gains, and the skills and complexity required by applications that aim to stimulate active user participation.

Table 1: Some emerging trends in public needs for e-Government services

<p><i>Needs related to service provision</i> Personalised and effective services addressing the different needs of different citizen groups (for example, those deriving from a more mobile life style, those specific for elderly, for professionals, etc.) Government pro-active services (tax declaration) Access to public sector information Services and public spaces facilitating citizens' and NGOs' democratic participation Cross-border services (e-health, education, internal market)</p> <p><i>Needs related to service delivery</i> Quality, reliability and usability (for example, the creation of user interfaces that match the existing skills and cultures) Simplification of procedures and processes One-stop shopping and high level of process and channel integration Possibility for end-user customization Interfaces and usability for all (the most important customers of governments are the least technologically-educated, hence the need to address low functional literacy across the different delivery channels) Security of the data and infrastructure, the protection of personal data as well as transparency</p> <p><i>Needs related to access</i> Provide multi-channel access mix, with a diversity of contact points (i.e. home, mobile, kiosk, citizen office, multi-functional service shops, virtual and physical one-stop shops and the possibility to use letters and fax) Ensure the necessary access infrastructure is available Provide services which are accessible round-the-clock Ensure inclusiveness across a diversity of needs (ensuring access for all social / age / economic / cultural / gender / disabled groups) by providing appropriate skills and education and addressing the digital divide</p>
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⁷ In this model, however, shifting the burden to the citizen should be avoided, and mechanisms to monitor these possible negative trends could be introduced.

3.2.2 Addressing the needs of businesses for cost-reduction and increased competitiveness

Governments need to address business needs, just as they address citizens' needs, when using e-Government to create public value. The current situation in both service provision and service usage is, however, more favourable for businesses.⁸ Indeed, electronic public services for businesses are more sophisticated and available than they are for citizens. As a result, the percentages of enterprises using the Internet for interaction with public administration is more than double the percentage of citizens who use it.

Unlike the limited demand from citizens mentioned above, the demand from businesses is easier to define, as it is related first and foremost to the need to minimise transaction costs generated by the interaction with the public service administration and to increase speed, simplicity and scalability – particularly important for SMEs. The fact that demand from businesses is stronger may explain why they use e-Government services more, and why Internet penetration in business has increased partly motivated by the e-Government services.

Businesses are operating in an increasingly global economic environment, where there is increasing competition and where national economic boundaries are blurring. This generates the need for businesses to *increase competitiveness*. Here too, government may have an important role to play, which might need to be better understood and addressed.

3.3 Distributed e-Government: The increasing role of intermediaries

Intermediary private, social and public partners are increasingly important in the delivery of public services and in the exercise of democratic governance. These intermediaries already play diverse roles as key partners in the provision of government services or democratic processes, but are seen as crucial for the implementation of more dynamic and knowledge-based e-Government in the future:

- Private sector organisations are already playing an important supporting role in the implementation and delivery of e-Government services, such as providing experience and advice (e.g. in the use of technologies in the private sector for work flow automation, process re-engineering, and change

⁸ See same above references to Eurostat (2004) and Capgemini (2003, 2004)

management), skills and education, financial resources, infrastructure access and capacity building, hardware and software products, and integrating provision of government services into private sector channels.

- The private sector is also playing a significant role in the delivery of public services (education, health care, intermediary agents) following the increasing trend for outsourcing and privatisation. This role might even grow under new economic and legal frameworks. Examples of intermediaries in government service delivery in different countries today could point to possible future models of co-operation in the digital space.
- Civil Service Organisations (CSOs) and Non-Government Organisations (NGOs) play a role in defending citizens' interests, in front of local, regional, national and international government organisations. Their role in the development of e-Government could increase to include shaping and communicating citizens' needs as well as supporting the e-Government implementation process with education and guidance. However, if CSOs are to play such a role, there must be better understanding of how their representativeness and accountability will be ensured.
- Civil servants' unions have an important role to play in defending their members' rights in the face of new technologies that contribute to the delivery of public services, as these could have a significant impact on their working conditions (including organisational responsibilities, accountabilities, skills or job content and security).
- Government service providers (or 'street level bureaucrats'), not-for-profit organisations providing services such as housing, education and research, social care, child and youth care, medical care, police, firemen, etc., are key players in the overall provision of public value. Their particular needs for e-Government services (potentially stronger than citizens' needs) as well as their current and future role in the context of e-Government development needs to be better understood and taken into account.
- It is also expected that new players, both virtual (e-agents or e-brokers) and physical (social actors, trainers, or citizens themselves) will emerge as new technologies and e-Government applications are developed, to address cognitive overload and functional or procedural complexity. Even if usability is improved, it is expected that not everyone will have access to electronic public services – intermediaries will be needed, i.e. people who provide access to others, particularly in rural

areas. The potential role and needs of these new players in the delivery of e-Government services needs to be better understood.

This vision raises the importance of *developing stronger, more innovative and longer-term collaborative models and partnerships* between the public sector and diverse new intermediaries, sharing risks and rewards, which could help governments respond to changing technologies and opportunities (OECD, 2003a). Furthermore, it raises the need to better understand and consider the needs of these intermediaries as both users and actors of e-Government.

3.4 Networked e-Government: The key importance of networking, co-ordination and collaboration

The increasing number of public, private and social actors and intermediaries at EU, national, regional and local levels in the implementation of the e-Government vision, indicates the need for a *networked e-Government* with strong co-ordination and collaboration among actors as a key requisite for knowledge creation, sharing and dissemination, for the delivery of public services and for the creation of public value.

Other trends also drive this need for networked e-Government. Firstly, modern governance is multilevel and polycentric by nature. In this respect, most EU Member States are traditional federal states or former unitary states that have entered into a process of federalisation, quasi-federalisation or large scale regionalisation and decentralisation – a phenomenon sometimes referred to as "new federalism" (EIPA, 2003). In this kind of socio-political context, co-ordination and collaboration (collaborative governance) within and among agencies and government levels are essential to ensure interoperability, to avoid duplication, to ensure coherent action in a range of crucial areas such as security and privacy, and to provide a framework and capacity for seamless services. e-Government initiatives are thus refocusing attention on how to collaborate more effectively across agencies (OECD, 2003a, 2003c).

Secondly, it has become apparent recently that governments could create a considerable amount of public value just by reproducing themselves as networks. The use of ICTs by governments would be instrumental in transforming the hierarchical structures of public administrations into networked structures. This would be a complex undertaking, however - it would need political will, popular support, and skills and persistence, as well as ICT. It would be pointless to assume that technology alone can change the way in which

governments work by affecting organizational practices and structures (UN, 2003).

Thirdly, other trends point at new public service production and delivery models, based on an architecture, which distinguishes *front offices* from *back offices*. This new architecture is paving the way for a one-stop shop model comparable to the retail trade. Further more, while Internet-enabled online citizens have enabled this new delivery mode, it is expected that online access will not remain the only modern way of delivering public services. Physical neighbourhood one-stop shops, providing assistance services, will profit from e-Government potential. Thus, front offices may materialise as Internet portals, call centres, or physical one-stop shops, all enabled and assisted by ICTs. Typically, several back offices will be accessed from the different front offices. Front offices are coming closer to citizens and enterprises, while back offices can be located anywhere. Service production and service delivery centres will be on different locations, and their interconnection, collaboration and co-ordination will become more crucial than ever (EIPA, 2003).

This new service production and delivery model provides an opportunity for down-sizing and integrating back offices and developing high quality services with more relational approaches in the front offices. This will make administration more efficient and streamlined and government more user centric (Millard et al., 2004). This integration would, however, bring new challenges that would need to be addressed. From a political perspective, organisational boundaries play an important role – they are functional and have normative consequences. They have been created because they mark, or demarcate, jurisdictions, protect against misuses of power, provide checks and balances, and assign accountability and responsibility. Therefore, while it is important that boundaries between services begin to blur if they are to integrate successfully, it is also important that the necessary checks and balances remain in place.

Finally, another challenging question to be addressed is who has the power in a networked e-Government. It is therefore important to examine “who wins” and “who loses” in this concept of networked government, and to decide which values should be protected. In any event, burden (responsibility, cost, effort) should not be shifted to the end user.

4. Conclusions

Better public services and better governance are being demanded of European governments in

tandem with the changes generated by a host of political, economic, social, demographic and technological trends. Thus, e-Government in the EU emerges as a tool for better government in the next decade, and, ultimately, for increasing public value. To respond to the challenges posed by these trends, e-Government will need to be more knowledge-based, user-centric, distributed and networked.

In a developing knowledge-based society, more efficient creation, management and use of knowledge will be needed in order to create public value. Processes will need to be more participatory, and governments more networked. The efficient management of knowledge should allow governments to be more flexible to adapt to changing and diverse environments and needs.

In order to create public value for the citizen, governments must better understand and address the citizen’s needs and understand to what degree they should empower users of e-Government. Governments must also take account of business needs, such as the need to minimise the costs of interacting with public administration, and the need for increased competitiveness in an increasingly global economic environment.

The vision of e-Government highlights the increasing importance of intermediaries – i.e. private, social and public partners, in the delivery of public services and in the exercise of democratic governance. Governments will need to better understand the potential of these actors, in order to develop stronger, more innovative and longer term collaborative models and partnerships with them, and finally, to increasingly consider their needs as users of e-Government services.

Finally, there are several trends in public administration in Europe towards the development of a networked e-Government, which will require strong co-ordination and collaboration among actors. Networked e-Government is crucial for knowledge creation, sharing and dissemination, and for the creation of public value. However, it also raises new governance challenges that need to be addressed.

By acknowledging the importance of these issues, governments can move beyond the mere delivery of improved government services through ICTs. Rather, they can capitalise on the benefits of e-Government, address the fresh challenges imposed by new social, economic, technological, political and demographic trends, and strive to increase *public value* for all Europeans.

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Using Business Process Re-engineering (BPR) for the Effective Administration of Electronic Voting

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Abstract: This paper proposes the use of Business Process Re-engineering (BPR) methods and analysis tools to address the issues arising in the implementation of electronic voting. We consider the electoral process as one which has to be re-designed in order to effectively accommodate e-Voting technology. We identify the key areas of e-Voting where the use of BPR can provide beneficial results.

Keywords: e-Voting, e-Democracy, e-Government, elections, procedural security, responsibility.

1. Introduction

The purpose of this paper is to identify the electronic voting issues, which can be addressed through the use of BPR based methods and analysis tools. Within the democratic form of governance elections take place repetitively. In short, democracy fosters the electoral process. Electronic voting through its different applications aims to e-enable the existing electoral process. UK Government policy aims at an e-enabled general election some time after 2006 (HM Government, 2002), therefore defining it a medium term target. To ensure a smooth transition from paper-based voting to e-Voting a number of e-Voting trials have taken place. Sixteen e-Voting pilot schemes were carried out on the 2nd May 2002 Local Authority Elections. These were funded by the DTLR (Department of Transport Local Government Regions) and approved by the Electoral Commission (Electoral Commission, 2002). All 16 local authorities used electronic counting schemes – 7 of which were combined with traditional paper ballots only, 6 provided e-Voting in the form of touch-screen voting kiosks, 5 provided internet voting, 3 provided phone (touch tone) voting and 2 SMS text message voting (Pratchett, 2002). In the local elections held on the 1st May 2003, 20 e-electoral pilot projects were approved. In total 8 Local Councils piloted e-counting of paper ballots, 8 offered kiosk voting either at polling stations or in public spaces, 14 provided internet voting, 12 piloted phone voting, 4 SMS voting and 3 digital television voting, the latter being tested for the first time in the UK (Electoral Commission, 2003).

The 2002 pilots aimed at evaluating the e-Voting methods piloted on the basis of five strategic goals such as increase in voter turnout, ease of use, the possibility of electoral offences, cost savings, and the general success of the pilots in terms of facilitating voters to make informed

decisions, facilitating voting and counting of ballots (Electoral Commission, 2002). Considering all cases of the 2002 e-Voting pilots, the traditional electoral process was either complemented or substituted by a multiplicity of electronic voting processes. Voters were provided with different voting processes all resulting in the same outcome, the casting and counting of their vote, all governed by the same set rules.

2. The need for BPR

One can identify the need to redesign the electoral process into a full-scale e-electoral process, delivered through simultaneous multiple technological channels, all-contributing to the formation of a unique election result. As such, the electoral process can be considered as a "business process". Subsequently, many of the business management functions can be applied to it in order to manage, control and re-engineer it. This paper considers in specific the application of Business Process Re-engineering (BPR) to the electoral process.

In the case of BPR, existing business processes are re-designed in the context of existing business rules. The aim is to provide the same result in a more effective and efficient way, efficiency and effectiveness themselves being set and measured on the basis of strategic business goals, making best use of existing technological solutions provided by the application of ICTs (Information and Communication Technologies) (Glykas, 1994). In the case of e-Voting existing electoral processes need to be re-designed in the context of both new and existing legislation. The aim is once again to provide the same end-result but in a more effective way. This is measured against a number of government, political and citizen inter-related goals, making this a much more complex operation.

Elections are rule-governed events (Ballinger and Coleman, 2001) and electronic elections are governed by the same set of rules applying to traditional elections.

Elections are also government owned and initiated processes. Therefore the activities involved in their undertaking are public administration related. It is therefore evident that in order to properly re-organise elections one should bear in mind other cases of public administration processes that were redesigned due to the application of new technology with the aim of increased effectiveness and efficiency.

The use of BPR in the Public sector has been theoretically investigated mainly by Lenk (1997), Pratchett (1997), Zuurmond and Snellen (Zuurmond and Snellen, 1997). Lenk has discussed the enabling role of ICT in relation to the risks and opportunities involved stating the need for continuity of structures of accountability. Pratchett focuses on the use of BPR at the local authority level referring to the level of radical re-engineering, the suitability of processes to undergo re-engineering and the level of dependence on ICT. Zurmond and Snellen on the other hand take a more managerial approach discussing organisational structures and informational architectures within the bureaucratic paradigm. Klischewski and Lenk (2002) have recently extended the value of modelling administrative processes to provide better understanding of the process.

Table 1: Issues involved in the implementation of electronic voting.

LEGAL	SOCIAL	TECHNICAL	POLITICAL	ADMINISTRATIVE-FINANCIAL
Commercial contract disputes Accessibility provisions Vote trading Voter identification Voter eligibility One ballot per vote Free to cast a ballot Unlawful influence Secrecy Tampering with election material-data Personation Verifiable count Openness to audit Accuracy Campaign law	Trust Transparency Social acceptance of the process and the result The voter's choice of preferred way to vote Voter education Privacy Usability Measures to avoid voter exclusion due to the introduction of e-Voting Increasing voter convenience	Security Openness to scrutiny Compliance to legal constrains System flexibility to fit local needs Reliability Availability Compliance to EML standards	Political support Voter turnout Voting data ownership Prolonged campaigns New methods of voting being more private Increase of information provided to the voter Loosing voters who would have voted if not prevented by malfunctions in the e-enabled electoral process	Cost analysis Data management Risk management Staff training Verifiability of the process-result Procedural security Efficiency in counting Scalability Interoperability Flexibility

3. Issues involved in the implementation of electronic voting

In order to identify the specific e-Voting issues, which can be addressed through the use of BPR, we have primarily initiated a study of all issues arising in the implementation of electronic voting. Our main research material has been the evaluation data provided by the UK 2002 local authority e-Voting pilots (Electoral Commission, 2002) and existing e-Voting literature. The issues concerning the implementation of electronic voting are spread across five main areas closely related to the conduct of elections. We have therefore categorised the identified issues under legal, social, technical, political and administrative-financial. The first four categories are formally acknowledged as defining factors of the UK Government strategic vision on e-Voting (ODPM, 2002). To those we have added the administrative and financial category as we have found many issues which fall under this category, given that e-Voting serves the electoral process in a multiplicity of new ways, which in turn have to be cost effectively managed. A table of the issues involved in e-Voting is provided hereafter in order to establish their relevance to the use of BPR methods and analysis tools. Administrative and financial issues are however discussed in detail so as to further complement our argument.

4. Administrative and financial issues

The matter of cost is discussed as a defining factor in the implementation of e-Voting in major e-Voting literature related to the UK context (Coleman et al, 2002), (Pratchett, 2002), (Fairweather and Rogerson, 2002). According to the Electoral Commission, one of the main reasons for piloting e-Voting is to establish whether cost efficiencies can be established. However the Commission considers e-counting as having already established its related cost efficiencies (Electoral Commission, 2002).

The documentation on experience gained to date in the area of e-Voting costs needs to be addressed. Although detailed reports have been produced with regard to technical/security, legal and accessibility issues, to date no detailed study has been published with regard to e-Voting costs. We therefore suggest that the task of producing a cost accounting methodology is assigned to an expert organization of this kind in collaboration with the Electoral Commission. There is an apparent need to define specific cost metrics so that when we refer to the cost of e-Voting we use an agreed terminology. To date, criticism of e-Voting costs is fostered by the absence of specific cost metrics. We also suggest that any cost methodology should not only cover the e-Voting channels but also the combination of the e-channels with non-e-channels (postal and polling station voting). If a process stage approach is adopted between all the different channels then common costs can be identified and economies of scale can be calculated for different combinations of multiple channel elections.

Further e-Voting pilot schemes can provide an excellent opportunity for such a study, providing that precise cost estimates and final costs are kept during the pre-electoral period in a concise, pre-defined format.

A further administrative issue related to e-Voting is data management. There are six main sets of data involved:

- The data of all eligible voters in the form of an e- electoral register.
- The creation and distribution of authentication data for each eligible voter
- The management of unused authentication data
- The storage and count of e-ballots cast
- The data of voters who used their vote (for verification purposes- who did vote)

Each set of data if stored separately, potentially, poses no threat to the secrecy and security of the

process. However the combination of two or more under the same data owner is not in the interest of procedural integrity.

The identification of risks, which could jeopardize the outcome, or the integrity of the process is covered as an official requirement for the 2003 pilots. In some of the 2002 pilots risk analysis did take place. In the case of Liverpool (Electoral Commission, 2002a), BT, being the main contracted vendor, originally provided a risk register of 13 known risks later to be followed by a detailed investigation of risks for each voting channel piloted with recommendations provided in a threat/recommendation matrix form on each voting channel. However, Sheffield Council developed its own risk table to enable contingency planning despite the fact that BT was also contracted for the Sheffield pilot as well (Electoral Commission, 2002b).

Further research is needed involving Returning Officers, election services staff and commercial suppliers implicated in the delivery of e-Voting pilots, focusing on two main issues:

1. Which problems and risks were encountered, which could jeopardize the election's successful completion?
2. Which existing problems/risks were exacerbated due to the introduction of any e-element?

Such a research effort would document the acquired knowledge and experience gained. Its results could provide a framework, which would identify, predict and manage risks, thereby drawing lessons learned from the implementation of e-Voting solutions.

The training of administrative staff is also an issue to be considered. By the term administration staff we mean the Returning Officers, polling clerks, counting staff paid by the local authorities and in general all local authority personnel involved in any stage of conducting the pilots. In all cases where any kind of technological equipment was used, which administrative staff had to operate (like counting equipment of paper ballots) or where they had to instruct voters on how to use equipment, the technology providers provided some training. In Westminster a counting centre handbook was produced and in Chester a manual was provided to assist polling staff in the use and processes of operating the touch screen kiosk (Electoral Commission, 2002c, 2002b).

In all evaluation reports surveyed there is no mention of any kind of knowledge gathering from the administrative staff other than anecdotal data. In this case there is an obvious lack of a system to

record any experience gained by the staff who operated the voting technology and so benefit from lessons learned. This in turn prolongs the dependence of local authorities on technology providers and deprives staff training exercises from colleague experience based learning (Xenakis & Macintosh, 2003).

Verifiability of the system and the result produced has to be administratively achieved, whether that is system testing prior to use (IPI, 2001), or verifying the count by securing the option for a recount. This is also related to the technology used. The touch-screen kiosk used in Chester and Newham (Electoral Commission, 2002d, 2002e) produced a paper audit, which increased the possibility of verification. In cases where no such option is provided the possibility of a recount loses all value as automated recount of e-ballots re-produces instantly the exact same result.

Procedural security although related to the technology used and the level of technical security applied, is mainly an administrative concern. It is the combination of technical security, specific security processes to be followed and physical security measures. In attempting to define the concept:

"We consider the term procedural security to include all security measures related to the conduct of e-enabled elections, which involve the redesign of an electoral procedural activity, or the introduction of a supplementary process activity or mechanism, aiming at upgrading the security level of the e-Voting process, given the technical limitations on security" (Xenakis & Macintosh, 2004)

There were several cases of procedural security misconducts in the 2002 pilots. For example in Broxbourne (Electoral Commission, 2002f) access to the counted votes was allowed to two officials who theoretically could alter the votes with their actions being nevertheless logged. However this process was never instantiated and all operators of the system used the same user ID not allowing traceability of their actions. Accordingly there are cases of good practice. In the case of Newham (Electoral Commission, 2002e) three administrators had access rights and another three had "super-user" access rights but the system required two of them being present simultaneously for any changes to be made.

As a general rule the technical characteristics of an e-Voting application should be in full compliance to the existing legal requirements. For the 2003 pilots a comprehensive set of technical requirements determined standards for technology reliability, system availability, compliance to EML (Election Markup Language),

system accuracy, efficiency in counting, future scalability and interoperability of the system and the overall speed of the process and production of results (ODPM, 2002). The requirements also called for the possibility of customisation of an e-Voting solution to fit local needs. In more general terms an e-Voting system application should provide technical flexibility (IPI, 2001) to allow adjustment to specific needs or requirements.

In parallel we have identified the main areas where process re-engineering has proven its value.

5. BPR benefits in a business context

In order to identify the e-Voting issues which can be addressed through the use of business process re-engineering analysis tools and methods, one can refer to the benefits deriving from their use in a business context. Although the points made hereafter are based on the application of different BPR methodologies, process re-engineering has proven its value, when used in an enterprise environment, in managing risk (Glykas, 1994). Although BPR does not claim to be a risk management methodology, some aspects of risk have been successfully encountered through its application. Managing economic risk is an issue for accounting influenced methodologies while personal risk has also been handled in cases of manufacturing process re-design. BPR has also contributed to the better understanding of the organisational environment and its constant change (Hammer, 1993). Glykas has extended the importance of providing support for and a contractual view of the process. The notion of process management is supplemented by concepts such as the process owner. By focusing on the obligations of different process owners towards others a better understanding of all the different roles within the organisation can be achieved. A similar benefit can, potentially, be expected by the modelling of roles of the agents involved in the delivery of electronic voting.

As stated above, BPR has contributed to the provision of techniques for continuous improvement (Hammer, 1993; Davenport, 1993). Since technology is constantly advancing, and the business environment is constantly changing, processes and the systems supporting them are in need of methods to facilitate and guide their parallel improvement. This in turn enables businesses to focus on the customer and adapt to the customer's changing requirements (Hammer, 1993; Harrington, 1991). In a business environment, where the customers' needs are the driving force, BPR has provided business

organisations with the opportunity to adjust dynamically to customer demands. In the e-Voting context this relates to need for flexibility of e-Voting systems to adjust to special needs and circumstances presented by the emergence of e-Government and citizen-centred public services.

Better control of the process (Hammer, 1993; Butler-Cox, 1991; Davenport, 1993; Harrington, 1991) is mainly achieved by dividing the process into much smaller processes for which monitoring is decentralised. In simple terms, more people taking care of a small part of a large process, provides a more complete control of the process as a whole. BPR has provided solutions either for re-allocation of existing resources, or for combination of existing resources to newly acquired ones, creating, in turn, cost savings. By providing a step-by-step approach to each process enables the identification of repetition and non-value adding steps which can be omitted in order to simplify operations. Therefore elimination of unnecessary work and bureaucracy through the introduction of ICT can be achieved (Butler-Cox, 1991; Davenport, 1993; Harrington, 1991). The focus here is on inter-organisation communication channels and the actual form that information exchanges have during the process. In electronic voting the exchange of information is not limited to voting data but also to the dissemination of information prior to the election event and inter-agent co-ordination during the election event. Therefore e-Voting could similarly benefit from the application of BPR.

Cost reduction is a central issue to the operation of any business. Allocating cost to different stages of a process enables the better understanding of cost sources and allows estimates of any differences in costing according to prospective changes in each process stage (Butler-Cox, 1991; Davenport, 1993; Harrington, 1991). In part, this is achieved by the identification of the actual hardware and software to provide better, faster and automated processes (Glykas, 1994). In view of the possible multiplicity of technological solutions, the need for determining the right technology for each process stage and for the organisation as a whole results in the re-design of processes, bearing in mind the introduction of new technologies. The growing number of technologies to enable the electoral process indicates the need for continuous procedural re-design, particularly with the prospect of scalable electronic voting.

Transparent allocation of responsibility has however provided far greater efficiency gains (Hammer, 1993; Butler-Cox, 1991; Davenport, 1993; Harrington, 1991). Defining responsibility in

a very simple form, which is understood by everyone within the organisation, is one of the most commonly referred BPR benefits. By describing roles, within rule defined processes, in the context of contractual relationships between agents, the responsibilities of each agent in regard to each process are explicitly stated. Finally, based on the contribution of IS influenced methodologies, managing data either necessary for or produced during the process, is another issue addressed by BPR methodologies. This is related not only to the elimination of unnecessary bureaucracy, but also to the capture of business knowledge (Glykas, 1994). The allocation of responsibility between e-Voting agents has up to now been managed on a project-to-project basis and no consistent methodology to provide standards for e-Voting management has been identified in the literature.

In conclusion the benefits of applying BPR in a business context, and the similarities identified in the needs of e-Voting management, provide a sound justification for exploring the possibility of taking these benefits across to the e-Voting context.

6. e-Voting issues which can be addressed through the use of BPR

From the combination of known BPR benefits from the business environment and the general review of the issues concerning electronic voting we can define seven areas of mutual ground.

Cost: Based on the experience gained in the business world, BPR based tools could be researched to manage the economic risk of investing in voting technology and make a return on this investment. Cost reductions could potentially be achieved by cost allocation to different stages, agents and objects involved in the process. The modelling of the e-Voting process could also prove beneficial in the best allocation of resources, using tools such as mission non-mission activities analysis (Glykas, 1994) according to the different options of allocating resources in different process stages of different parallel processes.

Data: Issues such as data ownership and data management could be served by data flow mapping and data lifecycles in the form of object lifecycles (Glykas, 1994). This line of research would support the legal and administrative issues concerning data management as well as the technical requirements concerning information flows (ODPM, 2002).

Procedural risk: Procedural risks such as physical security and user errors (ODPM, 2002), could be depicted in the modelling of the e-Voting process and therefore either predicted or counter-measured in a way that the outcome of the process would not be endangered.

Fraud: Although fraud could be regarded as yet another procedural risk, in our research we choose to provide a separate reference to it and attempt to manage it. The identification of fraud opportunities and their allocation to specific process steps could function in a preventive way against the possibility of fraud in all the different forms that it may take (Watt, 2002). Hence this line of research would support preventive management of e-Voting fraud.

7. Legal accountability and procedural responsibility

Defining roles and responsibilities within the e-Voting process could provide a better understanding of who is responsible for doing what so that the election result is effectively and efficiently produced. This also includes the issue of staff training in the new procedures and the new systems. The taxonomy of legal accountabilities in the UK e-Voting context presented by Xenakis & Macintosh (2003b), provides a mapping of the different legal cases which could arise and indicates legal accountabilities per agent, a feature which may prove especially useful considering the multiplicity of agents involved in the delivery of e-Voting services and e-enabled elections (Fairweather and Rogerson, 2002). It relates procedural responsibility to legal accountability, therefore indicating cases where an agent is legally accountable for an outcome without actually being responsible for the action that produced it.

7.1 Continuity of the process re-design

The need to adapt to e-Voting technology advances to changing voter trends could be accommodated by the modelling of the process. BPR could also provide a system to measure the achievement of the redesign goals and benefits, therefore providing common standards of comparison and effectiveness of alternative e-Voting channels.

7.2 Providing better management

Identifying and effectively introducing e-Voting technology to the electoral process could provide better management. This is in line with the need for customisation of the voting technology to fit local needs (ODPM, 2002), and the need for criteria of effective introduction of e-Voting

technology. Issues like voter education and transparency of operations could be benefited by providing a contractual view of the process allowing understanding of roles and interactivities (Glykas, 1994). Finally, re-design of the process could lead to process simplification, which is also a requirement in the application of e-Voting (Fairweather and Rogerson, 2002).

8. Conclusions

This research is being undertaken as part of a PhD aiming to provide a methodology for e-Voting management, modelling and analysis, based on BPR techniques. The result of this research to date has been to establish the key areas of electronic voting where the application of BPR methods and analysis tools could prove effective and provide efficiency gains. We can therefore identify the following potential benefits:

8.1 Providing a contractual view of electronic voting

A model of the contractual relationships in which the organisation participates should be in place before an attempt for BPR is carried out. These will contribute to the selection of the core election processes upon which analysis tools will be based. The focus should be on the identification of contracts that are critical for the election success. The notion of contractual relationships is broadly used by the UK civil service where independent agencies provide the central government with their services therefore developing a contract between them (HM Treasury, 1988). The identification of contracts will in turn help identify responsibilities and obligations among different agents deriving through their participation in contractual relationships. The multiplicity of the agents involved in the delivery of electronic voting forms part of the administrative related issues.

8.2 Defining responsibilities

When agencies participate in contractual relationships they undertake a set of responsibilities that are determined by the terms of the contract. Within an organization, responsibility relationships determine the type of the structural relationships between pairs of co-workers, whereas, a responsibility relationship between an external agent and an organization exists only for the duration of the specific contract. The notion of accountabilities is closely related to the identification of responsibilities. A person is held responsible by others when having an accountability, which will in turn create procedures even if not originally defined (Scherr, 1993). Once agent responsibilities have been identified they can subsequently be allocated along the e-Voting

process. This will be achieved by defining the agency relationships between the different collaborating parties in the e-Voting procedures, clearly demonstrating each agent's role and internal responsibilities.

9. Providing an object orientation process design element

Object orientation analysis deals with the issue of complexity. This is done based on the principals of abstraction and modularity (Glykas, 1994). Abstraction based on classification and generalization creates hierarchies of object classes, whereas aggregation hierarchies depict relationships of the aggregate classes and their component classes (Booch, 1991). Teams of objects interact to fulfil their responsibilities. The object client requests and receives a service by the object server within a given contract. This relationship could possibly enhance internal logistical support of the e-Voting management and the mapping of voting data exchange. The need for abstraction is evident in the case of e-Voting because of the high level of complexity involved in the process.

9.1 Representing organizational dynamics

In this instance the main issue is why should we provide process models. According to White (1992) process models serve to understand the reason justifying the process. Modelling can aid communication about the process and analyse it by determining the ways in which the process may be improved. In this way we can form a basis on which to specify systems support for the process. The organization's procedures and processes are examined so as to identify objectives, objects, activities, interactions and dependencies. Although no formal organisational structure has been identified in the e-Voting pilot cases this will probably emerge as a necessity for prospective scalable electronic elections.

9.2 Defining obligations

Obligations limit the choice of action, and therefore need to be fulfilled according to the undertaken responsibilities. Responsibility is 'for' something; obligation is to do something. Obligations are concerned with keeping things the way they are or changing them in relation to the responsibility held (Dobson, 1989). The determination of e-Voting agents and their responsibilities will include the specific identification of their procedural obligations. This aims to help manage the multiplicity of the agents involved in the delivery of e-Voting.

9.3 Specifying roles

Roles are related to agents who operate under an obligation to fulfil certain responsibilities. Simple actions are assigned to agents through roles. Processes are composed from the combination of these simple actions. Roles define an agent's state at any point in time. Agents rationally choose their next action according to the options associated with each specific role (Hirschseim, 1985). The modelling of e-Voting agent roles will serve the mapping of the tasks attributed to each agent. This aspect interacts with the allocation of procedural responsibilities but mainly aims at efficiency gains and better understanding of the process.

10. Defining the context of rules

The concept of business rules is related to the satisfaction of obligations constraining agents' actions. Rules are therefore constraints put on people by the organization on how they should act (Ould, 1992). Constraints are thereafter inherited to processes and activities either partially or in full. In the e-Voting context, business rules are substituted by the existing legal framework defining the election. During the pilot stage special legal provisions are taken for each pilot project. Similarly legislation varies according to different elections. We should therefore consider the legal framework as a dynamic factor to which e-Voting management should adjust accordingly.

In this paper we have identified the e-Voting issues, which can be addressed through the use of BPR methods and analysis tools. In doing, so we have mainly focused on the administrative side of e-Voting. Related future work includes the development of a methodology dedicated to the management of simultaneous, multiple channel delivery of electronic voting.

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