E-Governance – Risky for Democracies?

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Abstract

An effort to better enable democratic processes through e-governance is visible across varied economies in the past decades. Although philosophical dimensions render democracies into different forms and dimensions, the most widely practiced are direct and representative. A pivotal role in these democracies is that of voting. As a key instrument of e-governance reforms, e-voting has been introduced in many democracies. In a critical discourse, we take a deeper look into the risks involved with e-voting, which may well have the potential to reshape democracy as a form of governance.

Keywords: Democracy, E-voting, Representative, Direct

Introduction

In the 21st century, democracy is a concept that encompasses varied forms of governance, which are rooted in the evolved principles of freedom and direct involvement of citizens in government processes (King, 2006). Varied influences such as changing social values, religion, politics, technological evolutions and globalisation have contributed to the changing facets of democracy. Nevertheless, it still remains the most popular form of governance in progressive economies. While the nature of modern democracies are still evolving (Mejias, 2004:101), the latest paradigm is known as e-democracy, which is described as “the use of information, communication, technologies in governance (Clift, 2003)”. Proponents of e-democracies argue that technologies will radically transform government processes; making them more efficient and further, engage the citizens more than ever before, in the democratic process.

Every developed or developing economy that has a democratic form of governance has launched comprehensive initiatives with big budgets for implementing e-governance reforms (UN/ASPA, 2002; Backus, 2001). In the developed democracies, with the growth of capitalism, there is rising disengagement of the public in issues of governance, which is increasingly becoming a concern (Maddox, 2000). “The term democracy itself is not synonymous with a collective understanding of the objectives sought from a democratic government. There seems to be hope that e-governance can reinvigorate involvement in the public sphere (King, 2006:18)”.

While the developed democracies are struggling to re-engage passive citizens in governance, developing economies are striving to extend the reach to citizens through e-governance. Recognising that e-governance has significant power in enabling democratic
governance, many developing democracies, assisted by international organisations for development, have built encouraging reforms (Ndou, 2004). Some successes include Brazil and India. Well touted are the economic benefits and efficiency gains in these contexts (Dogra, 2005). There is evidence that it is enabling transparency and accountability in government, while reducing corruption via wider community engagement (Bhatnagar, 2001). It has become widely accepted that e-governance offers "...increased opportunities for economic development and plays a critical role in rapid economic change, productive capacity improvements and international competitiveness enhancement for developing countries (Ndou, 2004:6)". Conversely, there is also evidence that e-governance as such could be of high risk for developing democracies, due to lack of infrastructure and disparate/low literacy rates. When there is lack of awareness, policies, insufficient leadership and disparate infrastructure development, this causes "...the risk to deepen the digital divide and to further marginalise them with the networking revolution." (Ndou, 2004:7). Democracy as a governance form does not deserve a semi-sacred status, as the issues of inequality and defects of the democratic culture are in conflict with its application (Treanor, 2006).

The broader model of e-democracy should incorporate principles of community engagement and participation in the governing process (Blomer and Jay, 2004). At this stage, it is necessary to indicate that we are looking at the two main forms of democracies in practice today: direct and representative. "The e-direct democracy model does not necessarily exclude a form of representative or agency style of democracy, but it does challenge the political elite by moving the power from politicians to people (King, 2006:20)". Riley (2003) argues that there is no single model that is appropriate and perhaps the best solution that e-democracy can provide is the increased participation of people. The use of technologies or e-governance as such, raised varied questions, of which the most pertinent have been equality of access, reach and the ability to stimulate the public to re-engage in the democratic processes.

Two main objectives have been identified for e-democracy: (1) to provide citizen access to information and knowledge about the political process, services and choices available and (2) to enable the transition from passive information access to active participation by informing the citizens, encouraging them to vote, representing them, consulting with them and involving them (Backus, 2001:1). Depending on the type of democracy, these objectives translate into varied initiatives in e-Governance, which may inhibit or facilitate democratic governance. In many cases there may be conflict of founding principles/ideals as presented by Fraunholz and Unnithan (2006b).

Hacker (1996:203) summarised the many risks in e-governance: “It is a threat to privacy of citizens: it has manipulative and control potential: it has capacity to promote greater alienation; it is controlled by market forces that perpetuate materialism and glorify or over stimulate consumerism, and has the complexity and costs that causes further digital divide”. Although there is merit in e-governance, there needs to be trust developed through consistency and reliability of technologies to enable better processes that are fundamental to enabling e-democracies (Bishop and Anderson, 2004).
We focus on the notion that there is growing evidence that the public in democracies is increasingly becoming disenchanted with democracy as a form of governance. "Elections and voting are the foundations of a democracy. For ensuring a healthy government, fair electoral system is a prerequisite. There is therefore a need to develop technological alternatives for effective governance by ensuring infallible electoral system (Mathur, 2006)". Building on this argument, one of the main gauges is the reduction in election turn out (Coleman and Gotze, 2001). Democracies such as Sweden with its 80% voter involvement and UK/USA with even lower voter turnouts are concerned, as voting is fundamental to keep the democratic process alive (King, 2006:22).

Set on this premise, our paper seeks to explore this fundamental question as to whether e-governance is risky for democracies? We focus on the risks in e-voting in particular, as voting is regarded as the fundamental process in enabling democracies. This paper is organised as follows. In the next section we explain and justify the research framework built around the philosophical approach of critical discourse analysis. In the subsequent section, we provide a briefing of the two types of democracies and their e-governance roles – focusing on the role of e-voting, as the background structure for this paper. Subsequently, in the main discussion section, a critical discourse on the e-voting systems and experiences of varied economies are narrated, using public opinion and highlighting the risks based on ‘discourses’ that threaten the e-democratic concept. Finally, some conclusions are provided with open questions throwing the forum open for further debate, as to whether e-governance is risky for democracies.

**Research Framework**

The post modern philosophical approach of critical discourse analysis (see Locke, 2004; Blommaert, 2005) has lately been used in information systems research, as a way of approaching an issue by deconstructing ‘discourses’ available in the public domain, especially when there is not sufficient empirical data available for analysis and the topic itself is evolving or fuzzy (Fraunholz and Unnithan, 2006b). “The contribution of the post modern discourse analysis is the application of critical thought to social situations and the unveiling of hidden (or not so hidden) politics within the socially dominant as well as all other discourses (interpretations of the world, belief systems, etc...)(Palmquist, 2005:1)”. While there are no set guidelines on applying this method, in general, emerging debates, usually available in the media, are presented in a narrative to bring forth relevant insights. Often, the rhetoric is presented in tables, quotations and dialogues which shed light on the analytical thought processes. Some examples from successful discourse analysis are as follows. Beath and Orlikowski (1994) used this approach in deconstructing the information systems user relationship in information engineering. Thompson (2004) elicited meaning from a developmental discourse on ICTs and power in emerging economies. Yamaguchi and Harris (2004) applied this approach to a Bt Cotton discourse to find that there are dominant shifts over time from governmental process to economic impact. Fraunholz and Unnithan (2006b) used this philosophical approach to explore if e-governance is really inhibiting or facilitating democracies through citizen empowerment.

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Our research quest in this paper centres on the risks involved in e-democracies, especially e-voting, which seeks to re-engage the citizens in democratic processes in the developed economies and to better engage citizens through wider reach, in the developing economies. The e-voting system itself is emerging and pioneering attempts are being made throughout the world. Initially, we present that e-voting is a process that is fundamental to the existence of modern democracies, whether direct or representative in nature. The results of pioneering attempts in e-voting are varied and debates are rampant. In this context, we felt that the philosophical approach of critical discourse was best suited to ‘deconstruct the rhetoric’ from public opinion and draw some emerging thoughts together, to throw open a future debate which may lead to empirical research and strong conclusions.

Specifically, the attempt of this paper is to throw open the debate whether e-governance is risky for democracies? For this purpose, initially we focus on the role of e-governance in two typically practiced forms of democracies i.e. direct and representative, highlighting the fact that voting has a pivotal role and therefore, risks in e-voting need prime consideration. Subsequently, the main discussion section attempts to deconstruct existing ‘discourses’ in e-voting from both forms of democracies in a narrative manner, raising some pertinent risks involved in each context, which are summarised into a SWOT analysis table at the end of the section. In the concluding section, we probe the risks involved in e-voting and raise some pertinent questions as to its potential in reshaping democracy as a form of governance.

The scope of this paper is limited to the examination of e-voting as a fundamental instrument in enabling e-governance, within two types of democracies. We have sought to derive meaning from deconstructed rhetoric, in an evolving topic, where emerging debate is yet to be investigated in an empirical form. The thoughts presented are developed from a philosophical view point, nevertheless with supporting evidence from rhetoric and where applicable substantial academic/conceptual research.

Figure 1 illustrates the research framework and provides an overview of the paper.
Types of Democracies and E-governance

A modern definition of democracy is relevant at the onset, although rather difficult with its myriad interpretations. Dahrendorf (2004:1) presented that, “democracy is an ensemble of institutions aimed at giving legitimacy to the exercise of political power by providing a coherent response to three questions: (1) How can we achieve change in our society without violence? (2) How can we, through a system of checks and balances, control those who are in power in a way that gives us assurance that they will not abuse it? (3) How can the people – all the citizens – have a voice in the exercise of power?” Furthermore, “…Democracy is the voice of the people which creates institutions and these institutions in turn control the government and make it possible to change it without violence. In this sense, the demos, the people, are the sovereign that gives legitimacy to the institutions of democracy”. To examine this definition more closely, it is necessary to take a historical perspective into the classical form of democracies.

Classical democracy is defined by Ober (2002) as the “political power wielded actively and collectively by the demos or members of the society”. In ancient Greece, the members of the society registered as political participants through ‘demes’ or local
political organisations to participate in the democratic governance. In its classical notion, “democracy depended as much on an attitude of mind, on unwritten laws and customs, which require a resolute adherence to the ideals of freedom, equality and friendship, as to the institutions of states...individual and community interests are not only equal considerations, but indissolubly bound up with each other (Maddox, 2000:81)”. The basic principles of freedom and direct involvement in self governance have lent themselves to different dimensions of democracies today (King, 2006:1).

However, in the 21st century, democracy has been reshaped considerably from its classical roots. Ideally, it is represented by Abraham Lincoln’s version “...government of the people, by the people, for the people...”, but in practice, it does not even live up to this ideal. The theories of democracy are constantly reshaping due to myriad influences such as social and ideological revolutions, politics and religion to name a few. “Today’s democracy is, therefore, the result of constant revisions of the classic ideal, limited by safety nets intended to assure economic security, social stability and constancy and reflecting market concept of citizens as consumers. Gradually, it seems, the active role of individuals has been ‘de-emphasised’ and citizens have retreated from their civic involvement apparently accepting what Henry Kariel has referred to as ‘survival through apathy’(King, 2006: 17)”. Democracies can either foster a cohesive political structure by engaging/empowering the citizens, or destabilise societies in transition by dissolving consensus and fuelling differences (Hay, 2005).

The concept of e-democracy also needs a mention here, although a suitable definition is still evolving. “E-democracy...has more to do with the usage of ICT (Information and Communication Technologies) to strengthen and upgrade democratic structures and processes. It is essentially about engaging citizens in public policy-making for ensuring good governance. E-Democracy initiatives include e-Forums, e-Consultations, e-Referenda, e-Voting, and other forms of e-Participation (Gupta, 2006)”. Democracies across the globe are striving towards e-democracies, as is visible from the flurry of e-governance activities. In a seminal paper, Norris (2003) brought out role of e-governance in deepening democracies which has been used as a basis for presenting and highlighting the role of e-voting in the two typical forms of democracy: representative and direct.

It is also relevant to recount the commentary from the Commonwealth Centre of e-governance (2001), which articulated what e-governance can be and what it is not. CCE (2001:12) argues that “…in its simplest sense, e-governance can be said to be about the use of emerging information and communication technologies to facilitate the process of government and public administration. In reality though, e-governance is really about choice. It is about providing citizens with the ability to choose the manner in which they wish to interact with their governments. And it is about the choices governments make about how information and communication technologies will be deployed to support citizen choices”. Furthermore, “…the use of ICTs to encourage greater citizen engagement, on one hand, can be a liberating and democratizing force within government. In the unbalanced pursuit of risk reduction and the control of potential fraud, ICTs can, on the other hand, be extremely effective instruments of control and authoritarianism. The ability to reconcile and balance these inconsistent outcomes is not
a function of the technology. Rather it is the function of the policy choices governments are making and will make with respect to how that technology is utilised (CCE, 2001:14). A subtle warning can be noted that the use of e-governance using ICTs could be detrimental to the concept of democracies.

At this stage, we try to articulate and summarise the two basic types of democracies that are in the context of this paper.

Representative Democracy is a form of democracy that is formed on the fundamental principle of popular sovereignty by the people representatives. Specifically, elected representatives are expected to act in public interest—which may not necessarily mean according to their wishes—but with enough authority to exercise their initiative in the face of changing circumstances. “This approach entails people voting to elect representatives in a free and fair electoral system to make policy for them under a wide range of checks and balances to help ensure leadership accountability (Reapinc, 2006)”.

Norris (2003) emphasised that the focus of representative democracies is to function through free/fair elections. Theoretically, citizens are allowed to choose from alternative candidates/parties to represent them in government, by exercising their informed choices while casting a vote in the elections. Opportunities are then given to citizens to have their preferences weighted equally in the conduct of government. Theoretically, government is thus kept accountable and this form is also the most widely practiced in the world. What is the role of e-governance in this form of democracy?

First, through e-enabling, the quality of information available to a citizen to make an informed judgement in electing the correct representative can be improved. Corrado (2000) argued that a number of political websites, including mass media, interest groups, parties, unmediated information and so on could prove to be information sources on performance of government, record of candidates and legislative debates. The use of ICTs could enable efficient electoral administration, facilitating vote counting and dissemination of results. The potential of e-voting is in reducing costs and strengthening electoral turnout due to the convenience. “Ideally to strengthen representative democracy governments should introduce a variety of e-registration and e-voting facilities (Norris, 2003:4)”.

Examples of representative democracies include Australia and India.

“In established democracies many believe that the growth of e-governance can serve to modernize and deepen democracy where the public has become more disenchanted with the traditional channels of participation in representative democracy, exemplified by falling levels of voting turnout, party membership, and community associations (Norris, 2003:7)”.

Direct Democracy comprises a form of democratic principles and theories of civics, where sovereignty is lodged in the assembly of all citizens who choose to participate. This assembly may pass executive motions (decrees), make law, elect/dismiss officials and conduct trials. In its variant form as practiced in many states of US, the assembly
may elect officials as executive agents or direct representatives, bound by the will of the people (Goebel, 2002).

In the modern form, direct democracy is characterised by initiative, referendum and recall (Cronin, 1989). The initiative could be direct or indirect. In the case of a direct initiative, a measure is put directly to vote after being submitted by a petition. This has been practiced widely in Switzerland at all levels of governance (Switzerland, 2006). Conversely, the indirect initiative is a measure first referred to the legislature and then put to popular vote, if not enacted by the legislature. For example, in the US, a popular vote on a specific measure is known as a referendum only when originating with the legislature (Goebel, 2002). It is also known as an initiative, ballot measure or proposition. The referendum includes the ability to hold a binding referendum on whether a law should be abolished. This allows the general population a veto on particular government legislation. The third characteristic provides the people the right to recall elected officials by petition and referendum (Cronin, 1989). It was one of the major electoral reforms advocated by the progressive movement in the US during 19th and 20th centuries. While this has been widely practiced in the pure form of direct democracy in Switzerland, in the US the situation is disparate. A majority of the states allow recall elections in local jurisdictions, but only 18 states permit recall elections to remove federal officials. Direct democracy therefore has been interpreted in the two examples, with some differences.

As against the other forms, e-governance in direct democracy can “...emphasize action-related facilities, including, at a minimum, the ability for citizens to perform transactions, to submit forms online, to engage in online issue-related discussion forums, and to appeal procedural irregularities. More demanding forms of interaction would ideally involve departments offering public consultation processes, online surveys and polls (Norris, 2003:8)” Direct democracy necessitates that the public should have more opportunities to exercise their voice rather than via periodic elections. Therefore, they need to become actively engaged in community decisions.

Etzioni (1993) envisioned that the Internet will enable a ‘tele-democracy’ through mobilisation of virtual communities that participate in the democratic process. Budge (1996) commented that e-governance could enable online referendums, plebiscites and public forums for direct decision-making. However, as Putnam (2000) argues, mass membership of voluntary organizations has eroded democracies such as USA, reducing social capital and the capacity of citizens to work together to solve common problems. While there are debates on the crisis of democracy (Trenear, 2006), the growth of average informed citizens in affluent democracies are on the rise, with high expectations on the form of democratic governance. Conversely, there are rather passive evaluations of the actual performance of the traditional institutions of representative government. The new ICTs and e-Governance put together could “…potentially serve to reengage citizens with government, through expanding public consultations, increasing two-way interactions between citizens and public officials, and widening deliberation (Norris, 2003:7)”. As Margolis and Resnick (2000) comment with the power of Internet, the democratic process could be ‘politics as usual’ as it reinforces the power of established institutions such as the major parties, interest groups and media corporations, that are
already well-entrenched players in the policy process. Chadwick and May (2003:289) argue that “e-governance serves to reinforce managerialism in the public sector rather than opening new doors for public consultation and participation”. While studies on direct democracy focus on government delivering better services, they may not have addressed the converse perspective on e-governance that conflicts with democratic ideals.

The e-democracy seminar organised by the European Commission in Brussels seem to highlight citizen participation (Riley, 2004) as a key role for e-governance. E-governance is being facilitated via local councils, state councils or even federal offices so that the average citizen can leverage the benefit of e-democracies (Okot-uma, 2000; Caston and Tapscott 1992, Holmes 2001). The real question is how much of this is really engaging the citizens, which would then make e-governance an effective vehicle in facilitating e-democracy (Fraunholz and Unnithan, 2006b). Riley (2003) argued that the debate is often polarised between those who feel that the technologies will enhance the participation by the citizen in the government process and others who feel it is merely another medium. Clift (2002) believes that if the governments deliver more services online, there will be a dramatic shift in the willingness of citizens to use them.

Strengthening public participation in formulating government policies and facilitating better government service delivery seem to be high on the agenda of both forms of democracies. The voting process is a common pivotal factor in both cases, although in the direct democratic process, the attempt is far higher to engage the public in the political process leading to the actual voting period. On this note, we now launch the main discussion on e-voting, which is considered the fundamental function of e-governance, in both forms of democracies.

E-Voting – a fundamental risk for democracies?

The free and fair election process is regarded as fundamental for democracies. The role of e-democracy is often expressed through the use of technologies to provide new avenue for voting (King, 2006:22). In representative democracies, it is meant to enable citizens to participate in the democratic process, by electing their representatives to represent them in the government. In the case of direct democracies, the success depends on the number of citizens engaged in the voting process, which leads to the election of the assemblies. The essential component is voting as a measure of participation of all citizens in the elections. According to a recent survey (MORI, 2005) there is a gradual decline in the number of voters in developed countries although many economies such as Australia enforce mandatory voting so that every citizen is participating in the democratic governance. Conversely, the survey also highlighted an increasing desire among developing democracies to lower election costs through e-voting. Many economies such as Austria, Brazil, Canada, Estonia, India, Ireland, Norway, etc have pioneered electronic voting (Ace, 2006).

In this premise, we initially consider the example of US, with its own interpretation of direct democracy, within a majority of the states. Goth (2006) criticized that although the country prides itself as the ‘Cradle of Liberty’, when it comes to the cornerstone of e-democracies, namely e-voting, it is still struggling with the concept due to arrogance or

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ignorance in setting up e-voting systems (Goth, 2006:6). Specifically, the Diebold AccuVote-TS and its later version the AccuVote-TSx together are the widely deployed e-voting platforms in the US (Feldoman et al., 2006). In the general elections of November 2006, these machines were used in 357 counties of US, representing nearly 10% of registered voters. Scepticism was raised on the accuracy and credibility of the vote counts that these machines produced, much before the elections, as a result of varied studies conducted. The seminal work of Kohno et al (2004) studied a leaked version of the source code for parts of the Diebold machine software and found many vulnerabilities, which were further examined and confirmed by Feldoman et al. (2006). Of particular interest was the scepticism highlighted in the media prior to the elections and the reality reflected as per reports, post the elections (Table 1).

Table 1: E-voting – Pre Election Scepticism vs. Post Election Realities in the US

"Many Americans will head to the polls for November Mid-term elections with less certainty than ever about how or whether their votes will be counted. Two years after the controversy plagued 2004 elections, and four years after HAVA (Help America Vote Act)...experts are bracing for yet another wave of challenge to regional vote counting systems. Legal challenges to the paperless DRE (direct recording electronic) voting technologies are proliferating across the country...hacking challenges to many of these machines can bear fruit even faster than demands for recounts".

(Angela Gunn, Computer World, November 1, 2006)

"There were widespread reports of e-voting irregularities in the US after last week's mid-term elections. Voters across the nation described a phenomenon called "vote flipping", in which votes intended for one candidate were recorded for another. E-voting advocates blamed user error but others suggested touch screens used for e-voting may have been badly calibrated....The recent HBO documentary Hacking Democracy raised fears of undetectable e-voting fraud, but most reports from last week were of faulty machines. In Salt Lake City, Utah, and Indianapolis, Indiana, some machines did not boot up. In Florida some machines shut down. In New Jersey some voters claimed the machines highlighted a Democrat candidate by default. Denver and Pennsylvania also reported problems with their machines, resulting in long delays and voter queues. Tekla Perry, editor of IEEE Spectrum magazine, saw problems with e-voting even in the heart of Silicon Valley in California, where five out of the seven machines at her polling place failed to work".

(Lia Timson, The Age, November 14, 2006)

We find that perhaps it is worthwhile dwelling on the past history of this scepticism itself. Zetter (2004) revealed in a report that, in January 2003, a voting activist, Bev Harris, made a startling discovery that clicking on a link for a file transfer protocol site belonging to the voting machine maker, Diebold Election Systems, could lead to 40,000 unprotected computer files. These included source code of the voting machine, program files for its Global Election Management System Tabulation Software, a Texas voter-registration list with names and addresses, and what appeared to be live vote data from 57 precincts in a 2002 California primary elections.
Harris’s discovery was intriguing because the California files were stamped 3.31 pm on election day, indicating that Diebold company could have obtained the data during voting, while polling precincts are not supposed to release votes until after polls close at 8 pm. On probing further, Harris found that a vote database could be entered using Microsoft Access, a standard program bundled with MS Office, and votes could be changed without leaving a trace. Diebold had not password protected the file or secured the audit log, so that anyone with access to the tabulation program during an election – employees or hackers could change votes (Zetter, 2004).

After this discovery, concerns on the integrity of e-voting equipment grew in the US. The technical glitches were extended to implications of possible kickback schemes involving election officials. There were even concerns about partisan loyalties of voting executives at the time, with Diebold’s Chief Executive being the chief fund raiser for President Bush (Zetter, 2004:3). Harris had the support from activists and academics for finding the vulnerability and launching the movement to investigate e-voting. Another interesting discovery is highlighted by Felten (2006) as illustrated in Table 2.

Table 2: Security Vulnerability in Voting Machines

<table>
<thead>
<tr>
<th>The access panel door on a Diebold AccuVote-TS voting machine – the door that protects the memory card that stores the votes, is the main barrier to the injection of the virus – can be opened with a standard key widely available on the Internet. By sheer coincidence, Chris Tengi, a technical staff member who was involved in demonstrating the voting machine software, found that he could use the key used for opening 'hotel mini bars' which are freely available on the Internet.</th>
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<td>(Ed Felten, Freedom-to-Tinker, September 18, 2006)</td>
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Public outrage has risen, as reflected in the new bill on the anvil, which requires a voter verified paper trial nationwide and forces companies to open their software for public inspection.

Subsequently, several studies (Kohno et al., 2004; Wagner et al., 2006) have explored the security issues in the e-voting systems, the latest findings being that of Feldman et al. (2006) highlighted in Table 3. The authors propose urgent action, if the integrity of e-voting is to be preserved.

Table 3: e-voting - Technical Risks

| Malicious software running on a single voting machine can steal votes with |


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little if any risks of detection. The malicious software can modify all of the records, audit logs and counters kept by the voting machine, so that even careful forensic examination of these records will find nothing amiss.

Anyone who has physical access to a voting machine, or to a memory card that will later be inserted into a machine, can install said malicious software using a simple method that takes as little as one minute. In practice, poll workers and others often have unsupervised access to the machines.

AccuVote- TS Machines are susceptible to voting machine viruses: computer viruses that can spread malicious software automatically and invisibly from machine to machine during normal pre and post election activity.

Some of the problems can be eliminated by improving Diebold's software: others cannot be remedied without replacing the machine hardware. Changes to election procedures would also be required to ensure security.

Taking rhetoric from the election activist Bev Harris: “what we are fighting for is clean voting. Democracy is not democracy if our vote is not counted properly” (Zetter, 2006:26). In this example, we find that the popular scepticism is high on the technology risk of e-voting.

We considered the example of the purest form of direct democracy, in the country of Switzerland. It has a unique political system in which national cohesion is achieved by voters having the right to have their say on political matters. Therefore, the Federal Council and Parliament have to work closely with a wide variety of associations, groups and parties. Citizens above the age of 18 have the right to vote and they are regularly asked to take part in popular votes on a variety of political issues, or referendums. Recent votes have included: abolition of the army, abandoning nuclear energy, reform of health insurance or unemployment benefit (Switzerland, 2006). The engagement of people is high using ICTs as a medium for e-governance. The first ever e-voting experiment was conducted in September 2004 (Kable, 2004). Since then, e-voting has been extended to lodging of votes via SMS text messaging in 2005 (Smith, 2005). From a Swiss perspective, the voter turn out seem to be high at 41.5%. However, a deeper examination is hitherto required into the risks of e-voting that may threaten e-democracy in this country.

From one perspective, it is true that the form of democracy tries to engage the citizen in every aspect of governance, bringing the means closer via electronic channels. However, the real question here is whether the citizen is really responsive or interested? As King states (2006:23), the numbers of people who participate in e-voting especially in countries where it is not mandatory, is dwindling. Specifically, in this case, every critical issue is perhaps put to vote and in most cases, with one or two polls, the decision is taken. The citizen interest or engagement is almost as much as a ‘game show participant’ who
votes involuntarily, with much complacency. The reach of e-governance is so much that often they are ignored. Conversely, many voters feel that there are too many decisions to make which cut into their individual time (Mendelsohn and Parkin, 2001).

Democratic principles by nature allow the freedom of choice. Therefore, the issue whether citizens wish to be involved in a particular debate or not, should be a personal choice. In this context, to better enable the e-direct democracy, the attempt seems to be implicitly forcing citizens to participate in the political process. Specifically, the question remains as to whether the citizens feel almost forced or obliged to participate, against their wish. Conversely, the ease of accessibility often lends itself to a complacent, disinterested vote – which may often lead to a wrong or unsatisfactory decision. The way in which e-voting has progressed into SMS texts perhaps holds the promise of increased participation. But as pointed out by authors such as Putnam (2000) there will be a gradual decline in social capital, which enriches democracies. The passivity and lack of conscious commitment to a referendum could lead to a society that is so distant that democratic principles no longer hold any value.

In both the above examples, the application of e-voting lends itself to different types of risks. In the USA, the openness in the system makes it vulnerable to multiple security risks, which can counteract the principles of democracy or tamper with its very nature. The technical vulnerabilities are constantly being challenged and, to some extent, being addressed. However, there is almost a visible tendency to pass on the actual responsibility of governance to the merits and flaws of ICTs. To take it further, the onus seem to be shifted on to the public, more often than warranted, focusing on the technical risks in e-voting. Conversely, in the unique direct democratic system of Switzerland, the technical risks seem to have been addressed from the onset. The e-democratic principles underlie the extension of reach, via e-voting so as to reengage the almost passive citizens into the political process. However, do the citizens really appreciate this attempt? To an extent, it is seen as interference into their personal freedom, which is the founding principle of democracy. While much of the citizenry is rather passive due to the ease of reach, others seem to resent that they almost have no choice but to participate. In both these examples, there are pertinent risks involved, which are not really technical concerns, but reflecting more on the values of trust and privacy. This is also in alignment with the warning recounted earlier by CCE (2001) that with the unbalanced pursuit of risk reduction and control of fraud, democracies could lend themselves to corruption of their principles.

Conversely, King (2006) suggests that e-governance is often viewed as providing an opportunity to reinforce representative form of democracy, via e-voting. UK is planning to implement e-voting by 2007 as part of their electoral reforms program (Lettuce, 2004). Seemingly, they are drawing from the highly successful response of the television program known as Pop Idol, where trials of voting techniques are being implemented via mobile phones. The inherent idea is to increase voter participation. However, King (2006) criticizes that increasing the number of potential voters may not be the answer in the progress towards e-democracies. As UK Cabinet Office (2003) reported, there is a greater feeling of disillusionment and disengagement from the voting process by individuals due to lack of information and mistrust. Mejias (2004) expressed a need to
broaden the understanding of e-democracy to the public, rather than restricting it to e-voting cycles in representative democracies.

We take another example of representative democracies which have experimented with e-voting in an effort to increase the reach and reduce transaction costs. The Democratic Republic of Congo had its first open and democratic legislative elections in four decades (Isango and Colombant, 2006), where more than 9500 candidates were competing for the country’s new 500 seat parliament – the electronic voting process would seem quite relevant in enabling the process. The elections were held in July 2006, with the international community investing USD460 million into the election process (Flynn, 2006). However, following the elections, allegations of fraud lead to the arrests, unrest and deployment of peace keeping troops in September 2006, when the results were to be announced. The Supreme Court of the Democratic Republic of Congo (DRC) postponed the release of final results and also declared second proposed elections in October as unconstitutional (Xinhua, 2006). The costs in conducting a re-election and logistical difficulties seem to be the major reasons for this ruling. In theory, e-voting would have prevented fraud, reduced transaction costs and brought out a peaceful e-democracy. However, this would have meant engaging all of the citizens in the process. In a country with a population of 3,039,126 with 82.8 percent literacy, wrought with civil war history, lacking infrastructure, where the reach of ICTs to every citizen poses a significant challenge – is e-voting a viable solution? Specifically, can e-voting be the answer to facilitating equitable participation resulting in a representative democracy? We find that in this context, e-voting is rather too risky and too expensive.

Conversely, we examined India, touted to be the world’s largest democracy which has pioneered e-voting seemingly to reduce the costs as well as to engage as much as possible of its large voter base in the population. Over 1 million electronic voting machines were used in the 2004 elections (Ace, 2004) to engage approximately 672 million voters which constitute a large literate/semi-literate population. In an attempt to avoid technical glitches, basic computers/software, without networking was used in the e-voting process (Kablenet, 2004). This attempt of the Indian government and the Electoral Commission of India to experiment with e-voting has relatively been a success with few glitches and much positive response (Kablenet, 2004). If we considered the risks in the e-voting process itself, the reports suggest that “…there were some faulty starts, some account of voter confusion and a reported case of vote tampering. The major glitch was in the state of Assam were torrential rains had caused polling stations to be submerged. Election officials had to reach by boat and elephants – to put the voting machines in place (Kablenet, 2004)”.

However, there was an interesting turnout in the recent elections, which we present here, based on the voter demographics. In India, the literacy rate stands at approximately 66% at the end of 2005, with almost a 50:50 spread between literate/semi literate populace (Fraunholz and Unnithan, 2006 a, b). Have they been able to participate equitably in the
e-voting process? The election results seem to indicate that this is indeed the case. Specifically, the semi-literate in the context are almost half of the population which has had the benefit of e-governance reforms. Dogra (2005) points out that e-governance have been a useful way of reaching the country’s large population base. The other half of the voters are the digerati generation (Bagga, 2004), mainly concentrated in the metropolitan cities as professionals or the beneficiaries of the booming ICT industry.

During the pre-elections, BJP was the strongest candidate for being voted back into power, as they had been credited with the increased usage of ICTs in the country. During the election campaign, BJP had sent out a recorded number of text messages to mobile users as well as via Internet and email (Wilkinson, 2005). The inherent assumption was that, the large populace could be reached better via electronic means. Propaganda had lead to the perceived notion among the public that this party was really targeting for the votes from digerati, while ignoring the semi literate masses. The opposition Congress party had campaigned not only using the electronic means addressing the digerati generation, but also via road shows that demonstrated e-voting as a powerful tool for voicing the sentiments of the public. These road shows were essentially aimed at the semi-literate rural masses, while it also held interest in the metropolitan areas. Table 4 reflects the result of both attempts, post election.

Table 4: Post Election Sentiment in India

<table>
<thead>
<tr>
<th>Year</th>
<th>Full Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004</td>
<td>The inherent assumption was that the large populace could be reached better via electronic means.</td>
</tr>
</tbody>
</table>

While the BJP had almost taken for granted that via technologies the tyranny of distance can safely be covered, so extending their reach, the election results proved otherwise. They had not reached either of the population sections effectively. Perhaps the digerati may have found the email or SMS methods rather too ‘distant’ an approach and lost confidence. Conversely, the semi-literate masses perhaps felt too alienated, (also facilitated by further propaganda), resulting in mistrust. Lack of awareness combined with the feelings of mistrust, could have lead them to vote for Congress – which had actively tried to reach them. In both cases, the key highlight is the role of trust in democracies. As Finger et al. (2006) pointed out, ICTs can be harnessed successfully, but they do not replace the necessary involvement of possible representatives of the public, which builds trust in representative democracies.
The notion of manipulation in e-democracies facilitated by e-voting, as pointed out at the onset of this paper (Hacker, 1996) takes the discourse into the area of dual citizenships. After the world wars, many people migrated to different countries seeking a better quality of life. With globalisation and movement of people, many economies now include a significant amount of immigrants from another country. Over the past decade in particular, dual citizenships became the norm to keep these migrants engaged in the democratic process of their parent economies. We take the example of Australia, an immigrant country with representative democracy. According to statistics, 3.5 percent of the Australian population in 2003 consisted of Italians (Cavallaro, 2003). Particularly, we focus on the population who live as immigrants in Australia, many with dual citizenships with Italy.

Table 5: Italian Elections – A Media Analysis

<table>
<thead>
<tr>
<th>The Italian election has suddenly become particularly relevant to the three and half million Italian citizens living abroad – including some 100,000 in Australia. That is because for the first time ever, overseas Italian communities will be able to vote, with the creation of four massive electorates outside Italy. That means an election campaign is underway throughout the world – including Australia, which has the chance to elect candidates for the upper and lower house.</th>
</tr>
</thead>
<tbody>
<tr>
<td>...Italy's Prime Minister Silvio Berlusconi has been fighting for his political life this week. With Italy set to go to the polls, Mr Berlusconi's centre-right coalition had initially been facing a certain defeat from the left. But over the past month of election campaign, the prime minister appears to have fought his way back, managing to put Opposition Leader Romano Prodi on the defensive.</td>
</tr>
<tr>
<td>(ABC Radio National, 8th April 2006)</td>
</tr>
</tbody>
</table>

As is evident from table 5, the existing governance has been able to manipulate the turnout in the electoral process, through dual citizens, living outside of Italy. How was this possible? We argue that perhaps without the e-governance processes, this obvious manipulation would not have been easy (Fraunholz and Unnithan, 2006b). While the older generations of immigrants still nurture sentimental attachments to their homeland, the second generation of immigrants finds novelty in the idea (Cavallaro, 2003, ABC Radio National, 2006). The high utilisation of ICTs in e-governance rendered this manipulation of a representative democratic process. Can the fault be passed on to the use of ICTs or e-governance? Perhaps, e-voting in this context may not change the status quo.

We take another perspective from Australia with regards to the election process. In 2005, almost 5% of Australian citizens lived outside the country (COA, 2005). There is mandatory voting requirement (waived in some occasions), which is fulfilled via postal voting routed through the nearest embassy. There is debate that e-voting should be made available to make the process even more convenient for these citizens. However, the real
question is how relevant is the vote of these citizens, in forming the representative government? And how involved are these citizens in the election process or issues that are relevant to Australia?

Specifically, we seek to explain as follows. There are two types of Australian citizens who live outside Australia. The first category is of the citizens who are born/bred in Australia and in pursuit of better work opportunities and have moved to UK or USA. For them, the mandatory voting regulation is a reminder of their civic duty, which has been etched into their psyche. There is a mandate that e-voting should be made available to these citizens making it furthermore convenient for them to participate in the election process. However, how informed or involved are these people in the process? There is almost a passive sense of civic duty, which they perform. In such a context, is e-governance or e-voting re-engaging the citizens in the democratic process?

The second category of Australian citizens is the people who are originally from countries such as Lebanon and continue to live in their home country. For these people, the citizenship and passport acts as a *security blanket* especially in times wrought by war. In such cases, where is the relevance of e-governance or e-voting? Are these citizens exercising their vote considering the issues relevant for Australia? The answer often is that they are not even aware of the issues. They continue to vote, as it is a mandatory requirement which maintains their citizenship in Australia. Therefore, we argue that e-voting is not adding any value by enhancing the participation of the citizens in this category.

Australia entered the e-voting arena, in the midst of the controversial US elections (Timson, 2006). The pioneering attempts in e-voting was attempted in Australian Capital Territory in 2001 (King, 2006), when the Electronic Voting and Counting Systems (EVACS) were used for the first time, with much success. In the state of Victoria, e-voting has been successfully deployed with claims that the e-voting systems, not being networked, are beyond hacking and security vulnerabilities. Table 6 reveals the sentiments of the Victorian Election Commission that are relevant in this context.

### Table 6: Australia: e-voting Systems

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"The system is standalone, it's not like in the US where it is networked, so it can't be hacked," says Sue Lang, YEC communications manager. "The worst thing that can happen is that you'll have a loss of confidence in the election. That's (our) main concern. ..... "Privacy and security concerns were raised by political parties and election officials when the legislation allowing the e-voting trial was passed. But all these concerns have been addressed", Ms Lang says. "(We) have had an independent software auditor confirm it does what it's meant to do," she says.
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The inherent theme here is the issue of trust in the government processes. It seems that alleviating privacy and security concerns are of prime importance in this country, as reflected in the statements presented in Table 6. It could be well concluded that by
continuing to instil trust among citizens, enabled via e-voting, and to a certain extent, the country is able to progress towards a representative e-democracy.

In the cases of the representative democracies examined, it seems that e-voting leading into the progress of e-democracies perhaps holds value. First, the reduction of inequalities via wider reach as well as reduction in election costs, makes it appealing for most representative developing democracies. No doubt, literacy is also the corner stone on which this can evolve. Unless at least a semi-literate stage is achieved, it is hard to gain the best benefit from e-voting. The apparent risk is also the same factor that e-voting is rather too risky in developing representative democracies such as the Republic of Congo, when more than half of the population remains illiterate. In a case such as Australia, the risks in e-voting relates mainly to the uninvolved or uninterested voters or citizens who reside outside the country. While technical risks seem to be much under control in e-voting, by extending the reach to all citizens, perhaps the democracy is not really a true representation of people interested in the affairs of the country.

The Table 7 below provides a SWOT analysis of e-voting deriving from both direct and representative democratic perspectives and thus highlights the risks involved. While this analysis is far from complete, we have tried to develop some pertinent questions that have emerged.

Table 7: A SWOT Analysis of e-voting

<table>
<thead>
<tr>
<th>Democracy</th>
<th>Strengths</th>
<th>Weaknesses</th>
<th>Opportunities</th>
<th>Threats</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct</td>
<td>Increased citizen participation, voter turnouts, Reduced transaction costs.</td>
<td>Too much engagement creating passive citizens; creating issues of privacy in a democracy where the ‘freedom to be left alone’ is a founding principle.</td>
<td>Finding the right balance of engagement with citizens, addressing the concerns of citizens via better information dissemination.</td>
<td>Loss of citizen trust due to security vulnerabilities in e-voting systems.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Representative</td>
<td>Extended reach, reduction in election costs, empowering/engaging the citizen more.</td>
<td>Possibility of creating further social inequalities and digital divide in disparate democracies, inability to track passive citizens.</td>
<td>Finding alternate means of informing the citizens regarding the advantages of e-voting; Increasing the usage of ICTs in society.</td>
<td>Fraud and security vulnerabilities which prevent the acceptance of e-voting.</td>
</tr>
</tbody>
</table>

While the SWOT analysis closely relates to e-voting itself, there are inherent risks that have the potential for reshaping the concept of democracies as such, which are elicited through further rhetoric in the next section that concludes this paper.
Conclusions

In this critical discourse, we have examined the risks that contribute or threaten the progress of e-democracies, by focusing on e-voting as a central theme. Taking another view, why do countries even consider e-voting? Democratic forms of government in modern times have been in existence for many years and during this time manual voting has been tried, accepted and trusted as a strong process of electing people into governance. Why should there be even consideration of another alternative? It seems that the concept is gaining momentum due to its varied perceived benefits. In developing countries it does have the potential to extend the reach, while keeping the transaction costs minimal. In developed economies, it is touted to re-engage citizens in governance. However, will the technology be a liability instead of being an enabler of democracies? To address this question, we take a closer look into the issues raised in both types of democracies.

In both types, the issue of trust has been highlighted. Are e-voting technologies reliable? Are they subject to manipulation? Are there sufficient control mechanisms? Often mistrust is expressed by the public in e-voting. First, the technical vulnerabilities and security risks need to be alleviated before e-voting can replace the manual process. Second, the notion of being disempowered by a machine is emerging in direct democracies such as the US as well as representative democracies such as India. Public sentiment often reflects that, unless there is a balance of engagement between ICT use and active role of government officials, people may lose confidence in this form of governance as such.

However, we argue that in representative democracies, as the examples suggested, e-voting still holds the promise of engaging the majority public during the election process. The risk is when politicians or political parties, attempt to shift responsibility on to technologies, without being engaged with citizen centric issues and without raising public awareness. For example, enabling e-voting without propagating its merits would really hold no value in an illiterate society. As highlighted also in the case of Australia, there are possibilities of manipulation and passive engagement of citizens in the elections itself, which does not result in a truly representative form of e-democracy.

As Gupta (2006) rightly points out, in representative democracies, e-voting can be considered a “democratic experiment where interactive technologies give credence to the oft-repeated democratic claim that governments are ‘of, by and for the people’....There is a fundamental and paramount need to remove obstacles such as online censorships by governments to ensure effective citizen engagement in policy-making for good governance. The challenges are nonetheless daunting, and require greater efforts to build confidence, raise awareness and capacity both within governments and among citizens to make the very concept of e-Democracy hugely successful (Gupta, 2006)”.

Wanchai (2006) proposed a citizen consultation model with the aim to promote the ‘open-government’ concept where citizens are encouraged to participate in every step of the government decision-making process. It is suggested that the model contributes to the instrumental rationality of discretionary decision-making and follows the commitment to a democratic government. “By providing the participation platform via the Internet, officials, citizens, and affected parties can put forward discussions and argumentations relevant to the cases, which is an effective way to enforce caution on the decision-maker and reflect more on the issue (Wanchai, 2006)”. If we consider this in the context of representative democracies, it would mean that there will be potential for people to participate continuously, rather than only during the election time, through e-voting. While it may be useful, there is a potential for changing the nature of representative governance itself. Politicians can take any significant issue that does not get resolved in the parliament and open it for a public debate. If a consensus cannot be reached after this, the responsibility can be shifted partly to ICTs and partly to the public itself. In a representative democracy, the fundamental theme is that, people elect representatives to form government, authorising them to make decisions that are conducive for the existence of the democracy. By the increased usage of ICTs, before or after the election process, there is constant shifting of responsibilities on to the public. So, where will be the actual representative governance which renders this democratic form? We argue that the very nature of the representative democracy will be affected adversely or reshaped into a form that renders government unaccountable.

It is well regarded that responsible citizen engagement is good for democracies, especially in direct democracies. In Switzerland, technology/security risks have been alleviated and there is trust in the e-voting system, with all citizens actively using ICTs. In this context, theoretically, it would seem that e-voting is a cheaper option to be used in day-to-day-politics. However, having a passive complacent citizen engaged in the democratic process is almost similar to a game show participant, which is rather unhealthy for the progress of democracies. Specifically, with strong ICT infrastructure and penetration, any difficult situation can be ‘put to vote’. Is this desirable?

How much democracy can people take? Is it necessary that all the citizens exercise a vote in all the situations? Where should the citizens be involved and not involved? Direct democracies need to strike the correct balance for their survival. Are the citizens really competent to exercise this vote? There is significant potential to get an emotional rather than a rational outcome, which direct democracies regard as fundamental. To illustrate this argument, we take the example of the constitution of European Union.

An attempt was made to pass a constitution for Europe, to codify uniform human rights throughout Europe and streamline EU organisation. In 2004, the initial draft was signed by representatives of the member states of the Union, subject to ratification by all peoples of the member states of the EU. However, in 2005, voters in France and Netherlands rejected the constitution (BBC, 2005; Whitlock, 2005). The failure of the constitution to win popular support in these two countries caused some other countries to postpone or halt their ratification procedures (BBC, 2007). The Czech Republic regards that the constitution will not exist if it was rejected by France and Netherlands voters. Denmark
and Ireland has postponed their referendums indefinitely. Poland has called for drafting a new constitution, putting its referendum on hold. Portugal has suggested that it will only hold a referendum if the draft was agreed by all 25 member states of the EU. Sweden and UK have put their plans for ratification on hold (BBC, 2007). As a result, the Constitution now has an uncertain future or rather "hangs in limbo."

The emotion vs. rationale equation while engaging people in a democratic process is also visible in the recent US elections. On close examination, it can be noticed that it is often the wordings of the campaigns, rather than the actual content, which dictates the election outcome. It is almost a mass emotional vote, rather than a rational judgment. With the increased usage of ICTs, in an attempt to engage citizens more and more, in a direct democracy, we argue, that there is potential to reshape its rational foundational principles. Unless there is a correct balance, as a concept, direct democracy may be under threat as a democratic form of governance as such.

Whether it is direct or representative, e-voting and e-governance do have the potential to threaten the very existence and reshape the fundamental concepts of democracy as a form of governance. The solution is to perhaps to proceed with caution, using ICTs and e-voting as tools rather than letting them steer democracies.

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