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e-Democratic Experimentation in Europe:

The Case of e-Voting

By

Fernando Mendez

E-Democracy Centre
Universität Zürich
Zentrum für Demokratie Aarau
Villa Blumenhalde
Küttigerstrasse 21
CH-5000 Aarau
Switzerland

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Abstract

Over the last decade European democracies have conducted numerous trials with a wide range of ICT enabled forms of novel political experimentation. These initiatives have been conducted across various levels of political authority, from the local right through to the supranational. At the same time, there has been considerable variance in terms of the distinct e-techniques that have been the subject of political experimentation. In this sense, Europe's diverse political landscape offers us a rare political laboratory for examining the potential impact of varying institutional structures and political cultures on distinct forms of so-called e-democratic experimentation. This is especially the case with regard to a number of recent e-voting trials. This paper argues that a focus on small-scale forms of political experimentation, such as e-voting, can overcome certain methodological difficulties related to undertaking cross-national comparative analyses of larger-scale e-democratic experimentation. Given the sheer variability in the types of recent e-democratic experimentation, their focus, target groups, the technologies used and the role of distinct public (and private) actors, it is argued that by adopting the former approach, that is by focusing on smaller scale trials, we are more likely to ensure that comparable phenomena are actually being compared. To the extent that this is achieved, and our analyses our more structured and focused across cases, we are also more likely to derive valid inferences as to the particular mechanisms or factors at play in a given form of ICT enabled political experimentation.

Fernando Mendez
e-Democracy Centre
University of Geneva
Faculty of Law, Uni Mail
40, boulevard du Pont-d'Arve
CH- 1211 Geneva 4
Switzerland
email: fernando.mendez@droit.unige.ch

Introduction

In analysing recent experimentation with information and communication technologies (ICT) in the political realm, and in particular e-voting, this paper draws on insights from three eminent Austrian scholars of the early 20th century. Their arguments are quite relevant to contemporary theories about the effects of ICT on social and political organisation. On the one hand, it will be argued that the arguments of both Friedrich von Hayek and Karl Popper against all forms of utopian social engineering offer a penetrating critique that can be readily applied to current theorisations regarding abstract constructs such as the information society. On the other hand, the work of Josef Schumpeter, and in particular his theories of economic development which focus on the innovative role of the entrepreneur, could, with appropriate modifications, provide insightful clues as to similar processes of innovation in the realm of politics. In brief, this paper uses specific aspects of the work of these three scholars as a conceptual point of departure for analysing e-democratic experimentation.[1] It begins by reviewing the arguments of these scholars, critiquing contemporary approaches and setting out a framework for the analysis of e-democratic experimentation. This sets the scene for three country case studies, which form the empirical core of this paper, followed by a comparative review.

1. Piecemeal social engineering

Beginning in the 1930s and continuing throughout the 1940s and much of the subsequent post-war period, both Hayek and Popper were at the intellectual helm of what amounted to a blistering critique of the then prevalent social theories. It will be argued in this paper that their line of reasoning is equally pertinent to contemporary debates about the impact of ICT on practices of democracy. Throughout their extensive writings on the philosophy of the social sciences, Hayek and Popper relentlessly warned against the dangers of 'collectivist' or 'historicist' inspired theorisations of social change. Their major bone of intellectual contention was, of course, targeted at the social theories inspired by Marxism. One theme in particular stood out: The dangers and futility of utopian forms of social engineering. The essence of Hayek and Popper's intellectual critique is readily applicable to

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[1] I will principally draw on the following works: Popper, K. (1957). *The poverty of historicism*. London, UK: Routlege; Hayek, FA (1942), "Scientism and the study of society: Part I", *Economica* 9(35), pp. 2670291; Schumpeter, J. (1911), *Theory of Economic Development*, Cambridge, Mass.: Harvard University Press

contemporary e-topias concerning the transformative potential of new technologies. In particular, three themes of their work stand out:

First, there is the argument that large-scale prognostications about social change are not only futile but tend to be based on intellectual error. Scientifically cloaked predictions about large-scale shifts in forms of social organisation must, therefore, be treated with extreme caution. Because many of these doctrines draw (mistakenly) on the natural sciences for their theoretical inspiration, they tend to focus on the misguided search for the driving forces of social transformation such as those that are propelled by material or ideational dynamics.

Second, to the extent that experimentation in any social setting is feasible it will need to be based on small-scale or, to use Popperian terminology, on 'piecemeal engineering'. It follows, therefore, that our attention should be directed towards the empirical analysis of small scale experimentation. Through the trial and error process of piecemeal experimentation it is easier to disentangle the purported cause and effect mechanisms that are hypothesised to be at play. However, given the complexity of any social setting, as opposed to a controlled laboratory experiment, such a task is complicated by the sheer number of possible interactions among an almost infinite number of potentially relevant variables. Thus, a corollary of the latter is that special attention must also be paid to the unintended consequences of any purported political reform or innovation.

Third, rather than offer holistic speculations about the structuring effects of hidden technological forces on individuals, the primary focus, on the contrary, must be placed on those individuals (or political entrepreneurs) whose deliberate strategies are at the core of political experimentation. It is individuals, within their respective organisational/political settings, operating according to this or that cognitive script, who are engaged in attempts at inducing piecemeal political re-engineering. For Schumpeter, innovation and (economic) change was the result of the creativity or wild spirits of entrepreneurial individuals. The same holds true for the realm of politics and this suggests that the political strategies of individuals, and their institutionally derived motives for pursuing a particular course of action, should be at the heart of any explanation.

We can now apply some of these insights to the task at hand: the analysis of ICT enabled experimentation in the explicit realm of politics. Much has been written on

this topic, especially from a theoretical perspective. To a certain extent, it is probably fair to say that the field is characterised by a conspicuous dearth of solid empirical material. This is perhaps somewhat surprising since politicking using ICT's could be expected to be likely to generate political conflicts. In fact, the Popperian hypothesis that 'you cannot introduce a political reform without strengthening the opposing forces, to a degree roughly in ratio to the scope of the reform' is especially fitting in this context.[2] It suggests that even supposedly minor-scale political tinkering is likely to generate opposition. If this is the case, then e-democratic experimentation should be no different. Indeed, to the extent that it could, at least in theory, affect the degree of political contestation over a given issue area, the allocation and distribution of (political) resources, or even have a perceived impact electoral outcomes, it is likely that e-democratic experimentation will not necessarily be perceived as politically neutral. Because of such dynamics, from a practical and, most importantly, from a methodological perspective, Popper advocated 'piecemeal social engineering'. In this respect, Popper's piecemeal social engineer strives to achieve his ends through 'adjustments and readjustments which can continually be improved upon' and will make his way 'step by step, carefully comparing the results achieved, and always on the look-out for the unavoidable unwanted consequences of any reform'. This was to be distinguished from 'utopian social engineering'.[3] This brings us to a neat paradox: while practitioners appear to be engaged in piecemeal political engineering, academic theorists have resorted to ever new conceptualisations of the linkage between ICT and social change. Indeed, there is no shortage of academic theoretical musings on the impact of ICT's on democratic process that comes perilously close to the utopian forms of social engineering that Hayek and Popper castigated. Much of this, it could be argued, takes the following simplistic form: the *quantitative* increase in the use of ICT's in the political realm is producing *qualitative* shifts in the political process. Although hard evidence of such effects may be hard to come by, theoreticians can still take misguided comfort in believing themselves to be endowed with the foresight of being able to detect the hidden forces at play that, given sufficient time, will generate the hypothesised societal change.

Contrary to the large-scale prognostications of the social and political transformation theorists, the empirical reality appears to be closer to the Popperian ideal of 'piecemeal social engineering'. In other words, in terms of real world e-democratic experimentation, much of it is proceeding in small steps, with trials here and there, or

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[2] See Popper (1957: 57)
[3] See Popper (1957)

through the emergence of spontaneous and usually small scale experimentation on the part of civil society organisations. Evidence of 'big bang' type transformations in the political process are far from evident. This in itself does not refute the transformative change theorists since their claims, it could be argued, are predicated on the hypothesised *cumulative* impact of small scale experimentation. This, of course, brings us neatly back to the argument about how increasing *quantitative* change in the use of ICT leads to *qualitative* shifts in social organisation over time.[4] In fact, most theorists conveniently camouflage the logic of their argument with this type of conceptual mask. Nonetheless, although the actual causal mechanism is perhaps more modestly formulated, the bold claim remains the same. Part of the Hayekian and Popperian intellectual critique of this type of social theory was directed at unfolding its flawed logic. In a nutshell, it amounts to this: only a super-mind, one possessed with a correct model of all the possible interactions between myriad individuals, across distinct contextual settings, and with complete information on the effects produced by such interactions, could correctly forecast social trajectories. Such a human mind, or body of theory, simply does not exist. Because of such informational constraints it is, therefore, much better to limit our focus to the more modest investigation of Popperian 'piecemeal social engineering'.

2. The limited universe of forms of e-democratic experimentation

Having critiqued some of the bold claims of much theorising on the ICT and politics nexus, it is now possible to focus more squarely on the subject of analysis. Over the last decade, a great deal of experimentation using ICT's in the democratic realm has been undertaken across Europe. Experimentation has been conducted across various levels of political authority, from the local through to the supranational. There has also been considerable variance in terms of the distinct e-techniques which have been the subject of experimentation. To this end, Europe's diverse political landscape offers us a rare political laboratory for examining the potential impact of varying institutional structures and political cultures on forms of e-democratic experimentation. However, we quickly run up against our first obstacle, which is mostly a definitional one. With little imagination e-democratic experimentation could be stretched to encompass a whole host of political phenomena involving, in one way or another, the introduction of ICT's into the political process. Much of this comes under the label of 'e-democracy'. There are numerous problems with the term, most

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[4] For a further development of this argument see Frank Webster's influential monograph on Theories of the information society (2002).

of them related to imprecise definitions. We ought to therefore pause while trying to offer a working definition of what exactly is understood by the term. At a broad level, it is probably fair to state that one of the central goals of the many e-democratic experimentations involves trying to harness the *democratising* potential of ICT's to empower the citizen. This suggests a certain process element and brings us neatly to our first distinction: e-democracy should be viewed as a *process* not a *product*. E-democracy thus conceived is not an end-state, or a product that can be somehow magically purchased if we just implement the right techniques. Instead, e-democracy should be seen as a process, one that will involve much experimentation, and many trials and errors, across all levels of public authority, but with no specific telos, or end-state in mind. This type of understanding is closer to the Popperian ideal described above. We can now offer the first part to our definition:

e-democracy consists of all electronic means of communication that enable/empower citizens in their efforts to hold rulers/politicians accountable for their actions in the public realm.

This is a good start, but we are still missing something. Furthermore, it sounds too much like a product or an end-state. Therefore, we can try to add some process elements to our definition. This can be done by focusing on some of the normative goals that underpin the techniques of e-democracy. Thus, a second part of our definition can be stated as follows:

Depending on the aspect of democracy being promoted, e-democracy can employ different techniques: (1) for increasing the transparency of the political process; (2) for enhancing the direct involvement and participation of citizens and (3) for improving the quality of opinion formation by opening new spaces of information and deliberation.

To briefly recapitulate the argument thus far, two dimensions have been distinguished: Firstly, e-democracy as a process involving the explicit introduction of ICT's into democratic realm and, secondly, the notion that e-democracy techniques (or strategies) may be geared towards particular normative goals. While the first dimension refers to certain 'material' elements mainly related to the evolving nature of ICT technology, the second dimension has a notable 'ideational' component. These two dimensions are brought together in the matrix below (see next page).

Having identified a rather limited universe of e-democratic techniques and forms of experimentation we can now endeavour to narrow our e-democratic universe to a

single technique: e-voting. Part of the justification for doing so is related to the difficulty in selecting examples of e-democratic forms of experimentation that are sufficiently similar across countries to allow us to discern or isolate important variables. Part of the difficulty arises from the fact that ICT experimentation in the democratic realm varies considerably in terms of its focus, target groups, technologies used, role of public authorities, etc. This leads to comparative methodological difficulties in making sure that comparable phenomena across diverse national setting are indeed comparable. To take a relevant example, the technique of e-voting has been used as a label to refer to the remote casting of a binding vote in a national election as well as to the expression by citizens of a political preference on a public policy issue. This is inconsistent given that the two are radically different. The latter is perhaps best understood as a form of e-consultation rather than e-voting. Such difficulties tend to also plague other types of e-democratic experimentation, which are less suited to comparative analysis across diverse national settings where meanings and the objectives of experimentation can fundamentally differ.

Table 1: Comparative e-democracy matrix

Material dimension: e-techniques	Ideational dimension: Aspects of democracy promoted		
	Increasing Transparency	Increasing Participation	Increasing Deliberation
Government website	x		
Accessibility	x		
Webcasting	x		
RSS/Podcast	x		
Political Blog	x		x
e-Voting		x	
e-Consultation		x	
e-Budgeting		x	
e-Survey		x	
e-Polls		x	
e-Contracting		x	
Forum (unmonitored)			x
Forum (monitored)			x
Interaction (audio/visual)[1]			x
Online political space[2]	x	x	x

[1] This form of e-experimentation refers to those initiatives that attach an audio/visual element to this type of interaction. The only two examples of this practice has been used in the US, for instance, where the California Governor, Schwarzenegger offers a live online video chat where he answers questions and discusses topics with citizens.
[2] For the moment this form of e-democratic experimentation is more of a theoretical construct, although some notable experiments are being conducted in Switzerland and Scotland.

For the present analysis we have striven to select a form of e-democratic experimentation that is sufficiently similar across cross-national settings according to a number of criteria. The focus is on e-voting as the implementation of a public policy

requing the explicit sanction of state authorities, rather than say, civil society organisations or even political parties. The objective of the experimentation is straightforward: to offer a given electorate or portion of the electorate the possibility to use ICT's in order to remotely cast a binding vote during an election or referendum. Such a definition can aided us when selecting country cases. Fortunately, there have been a number of e-voting experimentations in Europe that could provide potentially fruitful comparative insights into this particular form of e-democratic experimentation. It should be stated at the outset that the focus of this paper is not that of, say, electoral behaviour studies, which compares turnout rates or the socio-demographic profiles of voters, etc.[5] Instead, the logic is closer to that of comparative public policy research. In certain respects Europe has been relatively receptive to forms of e-voting experimentation. This can be contrasted with the United States where, on the contrary, e-voting is a divisive issue and where it is extremely unlikely, for the foreseeable future at least, that e-voting will become a generalised feature of the election process. This of course is a finding in itself. Why, for instance, is e-voting such a controversial issue in the United States but, for the moment at least, less so in Europe. This should already alert us to the important role played by political culture. Unlike the United States therefore, certain European states have been more receptive to this form e-politicking. In particular, three European states can, arguably, be said to have been at the forefront of e-voting experimentation. These are the UK, Switzerland, and Estonia.

3. Towards a framework of analysis

Before we now turn to examine the experiences in these three states individually and then comparatively, we shall briefly outline the conceptualisation informing this paper. Having made some progress on first defining e-democratic experimentation and then on choosing an e-technique to serve as the basis for case selection, we still need a conceptual framework to help structure and focus our empirical investigation. Based on the discussion thus far four phases can be identified that structure the way in which political experimentation is implemented. These are:

1) *Change in the incentive structure*: These changes include a 'materialist' element (that is changes in the availability of new technologies) and an ideational/perceptual

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[5] This is not in any way to suggest that such approaches are not useful. On the contrary, scholars working within this paradigm have shed light on aspects of e-voting. See for instance Norris (2005), and the work of Trechsel (2003, 2004, 2005)

component (i.e. in the willingness to experiment with new technologies of democracy). Since I have already discussed this in the definition above there is no need to rehearse this argument. The main point to underline is that this dimension can be treated as a parameter, and one can be agnostic about the 'material' technology and the changing 'ideational' mindset since these are 'out there' and can be more or less expected to be similar for most cases. In other words, the analysis need not focus on explaining changes in the material and/or ideational incentive structure.

2) Political actor mobilisation: The change in the incentive structure has offered opportunities to a number of political entrepreneurs (both private and public) who now deem it in their interest to mobilise in order to offer e-democratic solutions. But, as Popper has warned, there is also likely to be a mobilisation of political actors who may feel threatened by e-democratic experimentation. The latter can be expected to mobilise in order to prevent, or dilute, e-democratic experimentation.

3) Institutional setting: The conflicting demands will need to be settled by a political process that is subject to a given set of rules and procedures. These institutional arrangements govern the way in which the resolution of political differences occurs and the ability of political actors to realize their policy goals. Political actors' ability to create new rules and to experiment (as well as to resist such goals) will be heavily mediated by the institutional setting where they interact.

4) Outcomes: These refer to the policy outcomes that emerge in response to the demands of policy entrepreneurs and conflicts among political actors. Usually, there will be winners and losers in this process. For the purposes of the present analysis we are simply concerned with e-voting outcomes.

The main benefit of such a conceptual framework is that it allows us to analytically isolate the interaction between stage two, the mobilisation of political actors, and stage three, the effects of the institutional setting while remaining largely agnostic about stage one. It is this interaction between political actors within their institutional setting which, it is argued, is of primary theoretical and empirical interest. It is here where the action is really taking place. Although it is reasonable to expect that there may be a similar mobilisation of political actors across the cases, the degree to which political actors will be able to realise their goals within their respective institutional settings is likely to differ. This alerts us to the important mediating role played by

diverse institutional settings in any form of political experimentation. This conceptualisation can be graphically represented in figure 1 below.

Figure 1: A conceptual model
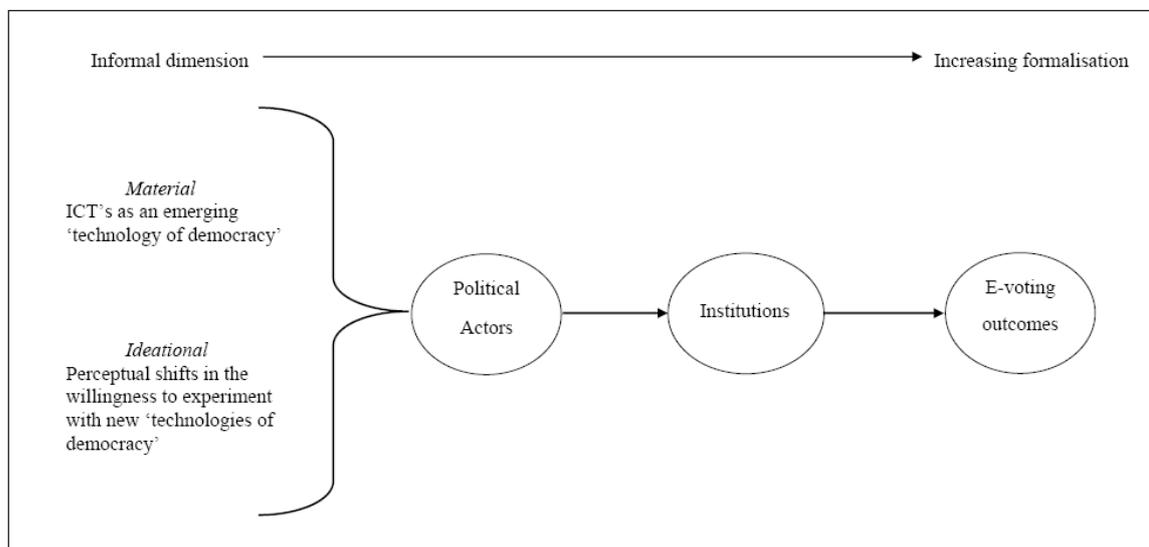
4. The case of e-voting

A variety of sources, mostly governmental reports and semi-structured interviews with governmental officials and national experts, were used for attempting to reconstruct the major elements of the policy and political process leading up to the introduction of e-voting trials. The analytical narrative presented below highlights in summary form some of the main political processes in the three political systems analysed. Each case is presented below and is followed by a comparative review of the main similarities and differences among the three countries.

4.1 United Kingdom

Since the late 1990s and early 2000 the, at the time, newly elected UK Labour government undertook a number of prominent efforts to place itself at the cutting edge of ICT experimentation in the political realm. In a specific drive to modernise the procedures of government, most of the new initiatives, especially those that required a considerable financial outlay, were geared towards e-government applications. In this sense, the roll out of e-government provided an important backdrop to the more specific e-democratic experimentation that is the subject of the present analysis. This may also partly explain why the policy rhetoric surrounding e-voting was framed, at

least initially, around notions of enhancing the delivery of government services.[6] According to this somewhat questionable analogy (at least from a normative democratic perspective), voting was seen as one of the many government-to-citizens interactions that could benefit from ICT modernisation.[7] Nonetheless, the most important legitimating policy discourse for the implementation of e-voting was undoubtedly the need to improve participation rates, an issue which had became a major government priority. In fact, it was believed that by enhancing the convenience of the voting process and bringing it firmly into line with the everyday practices and modern lifestyles of citizens, something could be done to potentially halt the perceived turnout crisis. Individual politicians advocating the e-voting panacea, such as Richard Allen, Nick Raynsford or the House Speaker, the late Robin Cook, routinely argued for the modernisation of old-fashioned voting procedures which appeared to be more in tune with the 19th century than with the present 21st century. They were supported by important institutional players such as the independent Electoral Commission. The latter played a crucial role in articulating the case for e-voting experimentation. In addition, the Electoral Commission would be charged with evaluating the pilot projects.

Following a consultation exercise about broader issues of e-democracy initiated by the Office for the Deputy Prime Minister (ODPM), the creation of posts such as that of the cabinet level e-Envoy, as well as new legislation for conducting e-voting experimentation at the local level, the scene was set for the UK's first e-voting trials scheduled for May 2002. The date is an important one since, in many respects, it could be said that the UK was the first country to implement e-voting in the world, at least in terms of the definition set out in the previous section. Essentially, 16 e-voting pilots took place in May 2002 and a further 20 experimentations the following year, in May 2003. All elections took place at the local level and were legally binding. Not all of the trials provided the electorate with the possibility to cast their electronic votes remotely however. Initially, the majority of the pilots focused on the back-end dimension, such as electronic counting machines, or supervised e-voting, e.g. at public kiosks. The key point to underline about the UK pilots is that they were focused on multiple channels of voting (e.g. internet, telephone, sms, and digital television).

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[6] See for instance the 1999 White Paper on Modernising Government.
[7] Chadwick and May (2003)

A number of political actors, including civil servants around the ODPM office, commercial players, such as BT, as well as officials in the local authorities that signed up for the trials, played an important role in the implementation of the UK's e-voting trials. To this list one could also add individual politicians, including those seeking election and incumbent candidates. One of the most important points to note about the UK trials was that e-voting was inextricably linked to another form of remote voting, postal voting. At least two problems have arisen out of this. The first is that because e-voting was largely legitimated in terms of its potentially positive effects on participation rates, it was also judged on this basis. Unfortunately, the evidence in favour of e-voting has been ambiguous at best when evaluated against this criterion. In fact, for Pippa Norris postal voting has been much more effective than e-voting for boosting turnout.[8] The second problem has been that a number of electoral fraud incidents involving postal voting have put the whole electoral modernisation exercise under the national media spotlight, with negative effects for e-voting.

Despite the fact that in the UK elections can be quite decentralised affairs, central government has taken more of a 'hands-on approach' in implementing e-voting solutions, especially in terms of the relationship with the selected technology suppliers. For instance, contracts were made directly between central government and technology suppliers. As Pratchett et al[9] have noted however, over the longer term local authorities can be expected to take on greater responsibilities for developing relations with the commercial sector. In addition, the UK's strategy on e-voting has been quite unique in terms of the commercial implementation of e-voting. Most countries are developing e-voting solutions in which the state ultimately owns the final output. In the UK however, it is private sector-led and the technology suppliers are likely to own the final system thus ensuring that ownership of the system will remain in commercial hands.[10] The UK has, in this sense, adopted a pro-market experimental approach to e-voting by putting in place a series of market incentives for commercial suppliers to bear some of the financial risk associated with the outlay of e-voting.

Interestingly, in the midst of the preparations for the 2002 e-voting trials the UK government went further and formally committed itself to holding an 'e-enabled

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[8] See Norris (2005)
[9] See Pratchett et al (2002)
[10] For more details see Pratchett et al (2002)

General election' after 2006.[11] The e-enabled general election is now firmly off the agenda especially in view of the politicisation of remote voting (by post and/or electronically). Furthermore, despite the government's commitment no legal basis yet exists for conducting national level elections. At the national level the opposition party tends to be mostly against the introduction of e-voting while the party in government is more enthusiastic. On the ground however, there is considerable variance among politicians at the local level which does not necessarily follow partisan lines. The basic fear among candidates is that e-voting could favour one party group over another. Thus, despite the fact that the UK, to all intents and purposes, could be said to have won the sprint to be the first to offer e-voting, it has since been put on the 'backburner'. The present lead agency, the Department of Constitutional Affairs, is pressing on with small-scale trials in upcoming e-voting elections in May 2007. An e-enabled general election, even for a small number of constituencies, is unlikely for some time. Instead, the focus is on continuing with small scale experimentation at the local level with the possibility to offer e-voting for the less politically salient European Parliament elections that are scheduled for 2009.[12]

4.2. Switzerland

Switzerland is, in many respects, a rather special political system that is characterised by two distinctive political institutions. First, an extremely decentralised system of *federalism* that, from comparative perspective, ensures that on many measures Switzerland ranks as one of the most decentralised federal polities. Second, a special tradition of *direct democracy* in which citizens are called to vote very frequently, in the region of at least 4-5 times a years on federal, cantonal and communal issues. The interaction of these two formal institutions, and the specific political culture that surrounds their operation, have played an important role in shaping the approach to e-voting experimentation, both in terms of its genesis and its overall sustainability. With regard to federalism, the division of competencies between distinct territorial units (there are three tiers of government) have ensured that elections are an extremely decentralised affair. This creates significant constraints on the ability of central government to step in and offer e-voting solutions. In addition, Switzerland's tradition of direct democracy and the fact that organising a referendum vote, which involves a binary yes/no vote, is easier to implement than an

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[11] See the 2002 strategic paper by the e-Envoy, *In the service of democracy: A consultation paper on a policy for electronic democracy*. London: Office of the e-Envoy.
[12] Interview with local authority election official.

e-election, which in the Swiss case is a complex affair, ensured that referendums votes would be the natural candidate for initial ICT experimentation.

In the year 2000 a number of politicians in the Swiss Parliament presented formal motions in which the issue of e-voting was raised.[13] Caught up in the e-euphoria of the times, these Swiss parliamentarians were concerned about Switzerland's progress on matters related e-government and, more specifically, the roll out of e-voting. With these formal parliamentary requests deposited, the legal and political basis now existed for the Federal government's administration to initiate a study on the feasibility of e-voting. [14] The e-voting project was led by the Federal Chancellery's Political Rights Division, a unit which operates in a similar fashion to that of many national Electoral Commissions but without the independent status that is sometimes accorded to such organisations. It is important to note that the organisation of elections is a cantonal (and in some cases a communal) competence, the central government only establishes certain basic procedural guidelines for federal elections. Under such conditions, the role played by federal agencies would, at best, be limited to facilitating e-voting experimentation rather than implementing it. This is indeed what happened when, in response to a questionnaire sent out by the Federal agency, three Cantons took up the e-voting challenge and initiated preparations for conducting trials. The federal level provided financing of up to 80 per cent of the additional cost of organising e-voting trials for national referendums in the three pioneer cantons. As long as the cantons respected certain basic voting principles they were largely free to implement their preferred e-voting solutions. The cantons were also free to establish relations with technology suppliers and organise their own commercial contracts. In effect, this means that Switzerland has developed three distinct e-voting systems, the Geneva, Zurich and Neuchatel models. The only

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[13] In particular the following parliamentary motion by politicians should be singled out:
a) mozione del Gruppo radicale-democratico (00.3298) del 19 giugno 2000: «E-Switzerland.
Modifiche legislative, scadenzario e mezzi», trasmessa come postulato dal
Consiglio nazionale il 6 ottobre 2000 (Boll. Uff. 2000 N 1196); b) postulato Helen Leumann-Würsch (00.3347) del 22 giugno 2000: «E-Switzerland. Modifiche legislative, scadenzario e mezzi», trasmesso dal Consiglio degli Stati il 18 settembre 2000 (Boll. Uff. 2000 S 485 seg.); c) interpellanza Briner (00.3242) del 5 giugno 2000: «E-Government. Strategia del Consiglio federale», risposta del 18 settembre 2000 (Boll. Uff. 2000 S 485 seg.); d) postulato Maya Lalive d'Epinay (00.3271) del 13 giugno 2000: «Sensibilizzazione sull'importanza delle tecnologie dell'informazione e della comunicazione», trasmessa il 6 ottobre 2000 (Boll. Uff. 2000 N 1193); e) interpellanza Maillard (00.3402) del 23 giugno 2000: «Società dell'informazione. Da slogan a vera e propria politica», non ancora discussa dal Consiglio nazionale.
[14] See the Rapporto sul voto elettronico: le opportunità, i rischi e la fattibilità dell'esercizio dei diritti politici per via elettronica del 9 gennaio 2002, avaialable at
http://www.bk.admin.ch/themen/pore/evoting/00776/02029/index.html?lang=it&unterseite=yes

proviso stipulated by the federal government was that ownership of the e-voting solutions would remain the property of the cantons. Furthermore, the pioneer cantons were obliged to share their technology or make it accessible to other cantons wishing to experiment with e-voting.

Three years after the parliamentary initiatives were adopted the first e-voting trials took place in a small commune in the Canton of Geneva in 2003. Since then, numerous e-voting trials have been conducted in the three cantons for national (as well as cantonal and communal) referendums providing a veritable learning experience in the domain of e-voting. More recently, in the canton of Zurich some communes have now started to experiment with e-voting for elections.[15] At this point it would appear that the roll out of e-voting, having been the subject of numerous and successful trials between 2003 and 2006, was on a secure path to becoming generalised, at least in those pioneer cantons. But this is not the case and, furthermore, neither was such a smooth trajectory envisaged for e-voting. For a start, federal financing has now been terminated given that the initial budget was limited to 5 years. Nonetheless, the cantons wanting to implement e-voting are still free to use the systems developed by the three pioneer cantons. Thus, the real problem is more political than financial. E-voting has not been universally welcomed and there are powerful political forces that are against e-voting. The arguments range from the risks involved in conducting e-voting trials, the cost implications, to arguments related to digital divide issues and claims that it devalues the symbolic act of voting. Interestingly, the last argument also applies to postal voting, an accepted and presently by far the most heavily used voting channel. In fact, the postal voting analogy is particularly apt for the Swiss case. It took around thirty years for the postal vote to become generalised, and even now it is still subject to considerable variation depending on the canton or commune. The federal council is, in this sense, pursuing a similar 'open approach' with e-voting as it did with postal voting. For many years, postal voting was available in only 50 per cent of the cantons and not in the others. Only after a critical mass of pressure built up did the confederation step in and ask the cantons to offer postal voting for federal votes (although not at the cantonal level). This happened in 1994 and from then on it was mandatory for federal elections. This suggests a useful parallel for the present e-voting trials and their future trajectory.

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[15] This was the case in the commune of Bulach during elections in March and October of 2006.

The cantons are of course free to implement e-voting for cantonal and/or communal elections. Given the frequency of votes, however, the cantons in practice tend to 'bundle' federal and cantonal votations thus making it impractical to have a separate voting systems for each election. The operation of federalism has, in this way, structured the step by step implementation of e-voting in Switzerland. In fact, the gradual implementation of e-voting is the policy preference of those in favour of e-voting since a 'big bang' introduction of e-voting is simply out of the question in the Swiss political context. The main problem is that some politicians, especially those from the Swiss People's party, perceive themselves to be the most likely losers if e-voting is generalised. In the typical Swiss consensus political style, a negotiated compromise has been reached in 2006 whereby a 10 per cent limit has been set for e-voting.[16] This means that no more than 10 per cent of the electorate can be offered e-voting. In this sense, the federal council is the key bargaining forum and to change the 10 per cent compromise some considerable pressure would have to be put on the federal council which could only probably come form the cantons. For the moment it seems that most political players are content with the 10 per cent threshold and we can expect a lengthy introduction of e-voting that will be subject to considerable variation among the cantons.

4.3 Estonia

Unlike the older democracies of the UK and Switzerland, Estonia, a former communist state, has only very recently democratised. Although it maybe a so-called neo-democracy, its political elite have taken very concrete steps to position this small Baltic republic at the vanguard of e-democratic experimentation on a truly global scale. The political eagerness to experiment with ICT's should be considered as part of a broader 'branding' exercise to put this small Baltic state on the international political map. This is an important factor in explaining the haste with which the Estonian political elite took up the global challenge to try to be the first to offer e-voting. One of the most important preconditions for Estonia's e-voting experimentation has been the online availability of government e-services. A wide range of government services that involve interactions with citizens have been put online since the government took steps in 1998 to implement a sophisticated e-government infrastructure. The crucial technological component to this architecture is an electronic national identity card or smartcard, which functions much like a banking

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[16] There is actually a 20 per cent limit for referendums in which the 'double majority' applies

16

card, and allows citizens to conduct transactions with government. First initiated in 1998, the smartcard project has been generalised to the Estonian population and is now compulsory for every citizen. With this so-called public key infrastructure firmly in place, many of the problematic authentication and verification issues that afflict the roll out of e-voting could be potentially resolved. Offering e-voting to the electorate was therefore seen as a logical next step for a government that already had considerable experience in online transactions with its citizens.

With the benefit of hindsight, it was not altogether too surprising when the plan to introduce e-voting in Estonia was first publicly announced by the Minister of Justice, Märt Rask, a member of the Reform Party in early 2001. It was also strongly supported by the then Prime Minister. At the time it looked as if Estonia would be the first nation to offer e-voting to its electorate with local elections scheduled for 2002 and national elections the following year. Unfortunately, for the early enthusiasts the implementation of e-voting, even when justified in terms of Estonia's re-branding or reversing the decline in turnout, turned out to be no straightforward affair. In fact, the e-voting agenda became the object of intense politicisation and even triggered a constitutional court conflict over the legality of e-voting.[17]

The major problem with the roll out of e-voting was the perception that it would benefit certain politicians or political parties disproportionately. The problems emerged during the legislative phase of updating Estonian electoral law to make it e-voting compatible.[18] Estonia has a multi-party system and e-voting was opposed by a number of political parties, with the more progressive parties (in the liberal sense) generally in favour and conservative parties against. Because of this antagonism the e-voting timetable had to be modified.[19] The compromise reached was that there would be no e-voting for the 2002 local elections, or the 2003 national elections. In fact, the earliest date for e-voting would be 2005. With this compromise in place new legislation was passed that allowed e-voting to be used for local elections, national elections, European Parliament elections and referendums. But this was not the end of the political controversies. After having created the legal basis in 2002, the National Electoral Commission took the lead in implementing e-voting as foreseen by

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[17] Drechsler, W (2003) The Estonian E-Voting Laws Discourse: Paradigmatic Benchmarking for Central and Eastern Europe

[18] For a detailed review see Drechsler, W (2003) The Estonian E-Voting Laws Discourse:. Paradigmatic Benchmarking. for Central and Eastern Europe. Available at http://unpan1.un.org/intradoc/groups/public/documents/nispacee/unpan009212.pdf

[19] These controversies are discussed at length by Drechsler (2003)

the new law. Shortly after, a constitutional conflict around the issue of e-voting broke out between the President, Arnold Ruutel, representing the Rural party, and the Estonian Parliament. The issue related to the accusation that e-voting violated the principle of the secrecy of the vote, a common argument used by opponents of e-voting. The conflict was not settled until September 2005, exactly one month before Estonia's first scheduled -vote for local elections. The Estonian Supreme Court ruled that the proposed e-voting system did not violate the secrecy principle. With this Court decision in place, and despite the opposition from President and a number of political parties, the Estonian government has pushed ahead with its e-voting agenda.

After a successful e-voting pilot trial for a local Referendum earlier in the year, the Estonian electorate was finally able to cast an electronic ballot for the local elections in October 2005. Paradoxically, the fact that the proportion of those who used the new voting channel amounted to slightly under 2% of the total electorate probably did much to allay fears that e-voting would disproportionately favour the liberal parties. In effect, this neutralised some of the antagonism towards e-voting and meant that the Estonian government could press ahead with its e-voting agenda with relatively little political resistance from opponents. Since then the e-vote advocacy coalition has grown in rapidly in strength and made up for earlier postponements and lost time. The culmination of these efforts was realised in March 2007 when the Estonian government held the first election in which e-voting could be used for a 'national' election by all the electorate.[20] In these most recent elections the proportion of those casting an electronic vote increased moderately from nearly 2 per cent of the electorate to 3 per cent.[21]

Until the recent Estonian elections of 2007, all e-voting trials had been at the local or regional level. Although they had missed out on the global race to implement a legally binding e-voting system for local elections, an honour that was awarded to the UK, the Estonian political elite have achieved the political goal of being the first to offer a generalised e-voting system to an entire electorate, not just at the local level but also for the more politically salient national elections. Unless, beaten to it by other member states of the European Union, a rather tall order at this stage, the Estonians

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[20] Of course, it was necessary that one should be in possession of the electronic ID card.
[21] See the official results available in at http://www.vvk.ee/r07/paeveng.stm#.

look like being the first to offer a national electorate e-voting for the European Parliamentary elections as well.

5. Comparative insights

In reviewing the three country experiences important points of similarity and difference can be noted among the cases. These have been summarised in the five tables below. The focus is on 1) certain macro-political variable, 2) electoral variables, 3) e-voting preconditions, 4) the nature of the e-voting trials and 5) e-voting outocomes.

Table 1 Macro political variables

	Size (European standards)	Type of democracy	Territorial structure of polity
UK	Large	Archeo Democracy	Regional-decentralised
Switzerland	Small	Archeo Democracy	Federalised-decentralised
Estonia	Small	Neo democracy	Unitary

Table 2 Electoral variables

	Electoral system	Tradition of remote voting	Frequency of voting
UK	Majoritarian	NO	Low
Switzerland	Proportional	YES	High
Estonia	Proportional	NO	Low

Table 3 E-voting (preconditions)

	Need for new legislation	Legal conflicts	IT security context	Level of e-government
UK	Yes	No	Problematic	High
Switzerland	Yes (with veto point for federal level)	No	Mixed, Favourable	Mixed/Low
Estonia	Yes	Yes	Very Favourable	High

Table 4 E-vote (trials)

	Type of e-voting trials	Approach to the roll out of e-voting	Role of private sector
UK	e-election	Limited trials	Pro-market
Switzerland	Mixed, but mostly e-referendum	Limited trials (10% threshold)	State owned
Estonia	e-election	'Big bang' approach	State owned

Table 5 E-vote (outcomes)

	Political context for further e-voting trials	Technology platforms	Links to other forms of e-democracy
UK	Unfavourable/Mixed	Competing models	Initially Yes
Switzerland	Mixed	Competing models	No
Estonia	Favourable	Single model	Yes

6. Conclusions

In reviewing our case study's central findings on e-voting policy trajectories we have noted that despite notable structural dissimilarities among the cases, the strategies of political actors have been quite similar in the three polities under investigation, especially in terms of the mobilisation of policy entrepreneurs in favour of e-voting. Their actions were framed in terms of similar rhetorical devices and legitimating discourses that were similarly deployed across the three cases. Part of the subtext behind the policy discourse was that many of the political actors pushing for e-voting were involved in an undeclared race to be the first to implement e-voting and thus be seen to be at the vanguard of ICT enabled political innovation. These individuals were certainly not in the dark about progress on e-voting within their political counterparts' national settings and would meet in international forums such as those organised around the topic of e-voting by international organisations like the Council of Europe. The potential interaction effects produced in such settings have been beyond the scope of this paper but can be considered to not be negligible. Nevertheless, this does not detract from the central insights derived from analysing the country cases. Political mobilisation in favour of e-voting was not only similarly forthcoming in the three cases but also generated similar degrees of antagonism on the part of e-voting sceptics. The Popperian hypothesis discussed in the introductory sections was thus confirmed. What certainly differed however, was the role of intermediary political institutions. These have helped to produce some notable

differences in the e-voting trajectories across the three systems. It appears that certain political institutions and constellations of political actors can provide a more favourable political climate for e-voting experimentation. This suggests, much as any political scientist would expect, that it is political actors and specific political institutions that explain variance in outcomes rather than more abstract and wishful thinking about the role of technology drivers. Nonetheless, it is important to state that in the Estonian case at least, an important pre-condition was the existence of relatively secure e-government infrastructure. As regards the legitimating discourse about increasing participation, presently, given the lack of e-voting experimentation over time, we have to be rather careful about prognostications concerning purported effects on turnout. We are at an early stage and it is too difficult to disentangle the 'novelty effect' of e-voting to say anything about purported positive effects on turnout. On the other hand, what has been established is that e-voting is not perceived as a politically neutral innovation and to the extent that this is the case, it is likely to continue to generate political controversy among political actors with conflicting passions and interests.