MIDEM. Models for Interactive Decision Making

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Abstract: This article is a broad reflection on e-Democracy models used in several countries throughout the last 20 years. It is based on hands-on experience gained through experiments and projects with local authorities conducted since the days of videotex. In essence, ICT can be utilised to radically transform the shape of political decision making into a citizen-oriented vision. The realisation of this vision must involve the participation of people and continuous deliberation between citizens and political decision makers. Although e-Democracy is considered a way for creating genuine dialogue between interest groups in a society in the future, the technology needs motivated communities to ensure self-governance is developed. If used properly ICT will transform our understanding of political action.

Keywords: e-Democracy, decision making, ICT, deliberative poll, televote, electronic town meeting, funnel model, citizen jury, referendum

1. Introduction

New opportunities for democracy have been created by the contemporary societal transformation period, often called the post-modern *information society*. (Keskinen 1999). The rapid diffusion and introduction of new information and communications technologies (ICT) are increasingly providing many communities, primarily Western but also many others, with new tools and methods that aid them in evolving old-fashioned representative, thin democracies into participatory and deliberative, strong democracies (Held 1987, Rättilä 1999) The vision of this development emphasises the empowerment of all members of a community to more directly govern their own lives as independent planners and decision makers. This would mean changing today's democratic paradigm into a more open paradigm that promotes a plurality of values, needs, methods and procedures. (Keskinen et al. 2001, Rubin 2000).

The potential of ICT means whole new sets of concepts and practical solutions to be innovated when working with R&D on new democratic praxis in the knowledge era. (OECD 2000, Keskinen 2001). It is not sufficient to try to use ICT as a voting tool without first ensuring universal access to data, information and Knowledge bringing relevant data, information and knowledge to people in order for them to build their knowledge and secondly, empower citizens to become independent decision making collaborators. This interactive decision making approach calls for new models that will complement, evolve and reform the current representative democracy to better suit the modern needs of rapidly moving and changing societies. (Becker 1995, Keskinen 1997, Becker & Slaton 1997).

2. The basic assumptions of e-Democracy research

The basic assumptions of *e-Democracy* research are: i) employ ICT to aid decision making can contribute to better decision making procedures, ii) transformational politics can be pursued (Woolpert & Slaton 1998) that aim at changing existing power structures through empowering citizens, and iii) the representative model is still valid and other models are complementary to it. (EVE 2001). This does not mean that the present representative model should stay unchanged, rather, different models have their proper uses for different purposes during decision making processes. This calls for a conscious process of integrating new, participatory and deliberative models (Slaton 1992, Knight & Johnson 1994) with the representative one in new innovative ways. (Becker & Slaton 1981, TANN 1995 and 2000).

The sectors in which the multi-stakeholder societal decision making processes have the greatest benefits of *e-Democracy* are described in Figure 1. The use of ICT will help in the three levels: Decision Making, Knowledge Flow and Knowledge Base. In Decision Making, the processes and the political dialogue can be enhanced to include much more stakeholders than before. The Knowledge Flow is important for the interaction and discourse for producing relevant and new knowledge

and it greatly benefits of the global communications networks. The Knowledge Base could not be created, maintained and enhanced without using the information society tools. It is also important to ensure the universal access to new data, information and knowledge in order to employ new interactive decision

making models. The Hyper Cycle contains the continuous feed-back process, that is needed between the three levels and their actors for enabling a genuine dialogue to be created between the societal actors participating in the decision making processes.
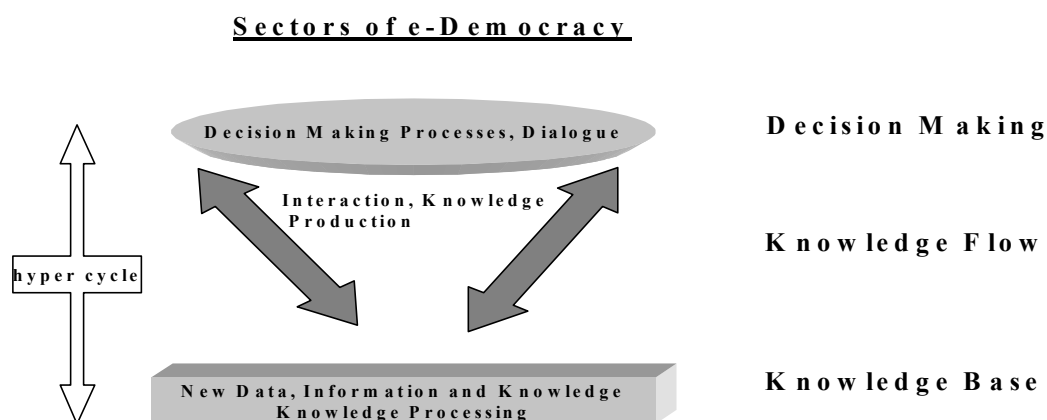
Figure 1: Sectors of *e-Democracy*

3. Objectives

Democracy is not a steady state phenomenon, it is a dynamic process. (Keskinen 1997). Many researchers have recently pointed out that the old deterministic approach to democracy based on the Newtonian philosophy of objective truth is in doubt. A new dynamic approach based on probability, uncertainty, chaos and the quantum theory is being developed by and tested in many Western countries. As Ted Becker & Christa Slaton (2000) argue, a transformational politics paradigm is needed, which involves applying such concepts as chaos, randomness, probability and change. Classic and Newtonian systems were based on ideas of hierarchy and dominance. The new paradigm shift asks how we can empower citizens and enhance their understanding and realisation of democracy. (Becker 1995, Keskinen 2001) Methods to this effect emphasise more lateral, equal and interactive relationships like mediation, the recognition of interdependencies, and networking. In fact, uncertainty, ignorance and misconceptions can somewhat contrariwise seen as productive processes

for learning and finding new alternatives for society and its governance provided lessons from this type of interactions are learned.(Sotarauta 1996).

Thus, the objective of research and development calls for several approaches to be integrated, 1) political action development, 2) proper ICT software development for new interactive decision making processes, 3) proper ICT software for genuine dialogue, 4) opening and reforming decision-making processes in order to allow for innovative win-win based solutions to problems, and 5) a socio-cultural approach.

4. Methods and models

There are several methods of participatory, deliberative and direct approaches for interactive decision making where authorities, politicians and citizens have co-operated around a given issue. However, there is no general knowledge or recognition of a global model that would suit all situations. This is a matter to be considered seriously as it indicates that parallel to the increasing diversity of communities there will be a diversity of

decision making models that suit varying problem solving situations. Hence a new citizens-oriented model is proposed.

Certain methods have been extensively tested in the last 20 years. Examples of successful methods include: 1) A citizen's jury which is assembled using statistical sampling techniques such as simple random sampling or allocated sampling. The process followed by the jury is a long term negotiation and preparation method for a dedicated decision making problem; this process has been used in Australia and New Zealand (Carson & Martin 1999, Carson et al. 2003), 2) A deliberative poll (TELEVOTE) that aims at gathering well argued alternative ideas that aim at defining solutions by using sampling techniques. However, the opinion poll on which the deliberative poll is based is formed from the opinions of several communities and is not an individual polling method (Slaton 1992), 3) The Electronic Town Meeting (ETM) model that has been successfully used in the US, Canada, New Zealand.(Becker 1995). According to Becker and Slaton (1997), there is ample reason to expect that computer voting is near at hand and that citizens around the world will welcome this new method of citizen participation in the election processes for e.g. leaders and representatives, or for voting on referenda.

4.1 The scientific deliberative poll (TELEVOTE)

TELEVOTE is a "scientific, deliberative public opinion poll" (Becker 1981, Slaton 1992). Conventional public opinion polls are a part of the weakness of modern representative democracies. Rarely are they used to allow citizens to state preferences for political agendas or to set priorities. Questions are often superficial and alternatives are confined to a narrow range of choices determined by out-of-touch elites. And citizens who are civic-minded enough to respond are usually caught in the midst of their daily routines and are not thinking about the issue of the poll when they are asked to give their opinion on it.

The modern "deliberative poll" is clearly and rigorously structured to present a range of balanced information and expert opinion based on a scientifically objective format of randomly selected samples of the public. In addition, each citizen is treated with great respect, is given abundant time to think about all the data and opinions and furthermore is provided with opportunities to "deliberate" privately and publicly. The result is a far more in-depth, high-quality breed of "public opinion," one that earns the description of being "informed and deliberated". Some of these models use a face-to-face "jury" style procedure pioneered by The Jefferson Center in Minneapolis, Minnesota. Some use the telephone and have citizens deliberating in their homes (The Hawaii Televote model (Becker & Slaton 1981)). Some use large face-to-face groups, some use small groups. All have been eminently successful, particularly in the responses of the participants who almost unanimously applaud the new methods of polling as being "empowering".

4.2 Electronic Town Meetings (ETMs)

Over the past 15 years or so, there have been a number of authentic ETM experiments, whose purpose is to emulate and improve on the traditional New England Town Meeting.(Becker & Slaton 1981). Thus, there must be discussion, deliberation among ordinary citizens and a vote that determines the outcome. In addition, there must be some use of electronic media to facilitate this process. Most of these experiments have tried to mix in several of the following components: interactive TV, interactive radio, scientific deliberative polling, telephone voting, plus a wide variety of face-to-face meetings including those facilitated by the use of electronic handsets. Some have focused on problem issues, some have involved planning or envisioning processes. Most have been at local, state or provincial levels. One of the most interesting ETMs - because it was to be binding for 5 members of Parliament - was conducted by the Reform Party of Canada in Calgary, Alberta. It used random samples from citizens in 5 parliamentary districts, who watched a televised debate on the important issue of "physician assisted suicide" (euthanasia), and then voted by phone. The ETM seems to promise an alternative way to set public agendas and priorities for various legislative bodies to follow as well as being an alternative method of putting referenda

before the public - a tool of direct empowerment. (Becker 1995).

4.3 Funnel model

The Funnel model is based on the multi-use of different decision making models (see the Figure 2.)

Transformational Politics "Funnel Model"

Representative democracy

Deliberative democracy

Participatory democracy

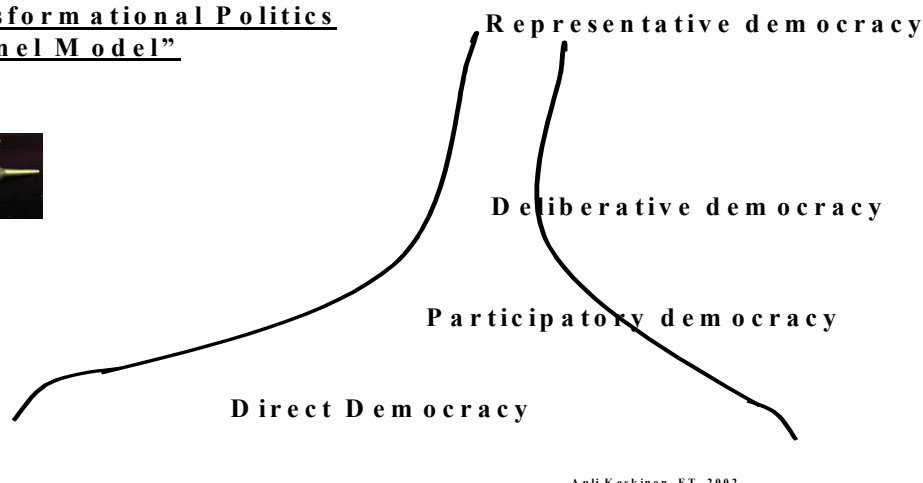**Direct Democracy**

Auli Keskinen, FT, 2002

Figure 2: Funnel model

The Funnel Model includes direct democracy in the first phase when new ideas begin to form in a population. In the second phase a participatory model is chosen for finding arguments for alternatives that can be supported by actor groups. The third phase finds genuine dialogue between the parties concerned - experts, citizens, decision makers. For this phase several deliberative models are suitable. The final decision is made using an ordinary representative method. This model has been successfully tried by Youth Parliaments in several municipalities of Finland, and by the Maunula suburb of Helsinki since the mid 90's, see. Table 1 compares the successful models used e.g. in Finland (Keskinen 1997 and 1999), Australia (Carson & Martin 1999, Carson et al. 2003), Sweden (Ohlin 1998), Denmark (Schmidt 1993) and the USA (Becker & Slaton 1981, Becker 1981 and 1995, Slaton 1992).

The comparison shows some common factors of all the methods: they on the one hand aim to genuine dialogue, representativeness, deepening understanding of the complexity of the issues to be decided on and enhancement of the knowledge base and involvement of several new multi-stakeholders, and on the other hand, they specifically challenge the decision making processes and the time spent on preparing the arguments for good decisions. (About complexity, see Santa Fe Institute 2001, Keskinen & Aaltonen & Mitleton-Kelly (2003)).

Table 1: A Comparison of e-Democracy models (revised and complemented from Carson et al. 2003)

Type of Method	Opinions Accessed	Weakness/Strength
Citizens-oriented Model	Respondents are asked for well-argued and weighted opinions that have been formed by self-organising groups of people through direct and deliberative democratic dialogue processes. Funnel Model appropriate.	Model is time-consuming and in the beginning sensitive to those opinions that are voiced loudest. However, given enough time and varying combinations of group members, all voices will evidently be heard. Appeals to both self and common interests.

Type of Method	Opinions Accessed	Weakness/Strength
TelevoteETM	Explores what respondents think now, measured against what people think after they receive additional information (with encouragement to engage in discussion with family and friends).	If discussing only with like-minded people (or not discussing at all), respondents may become confused, anxious or entrenched in their views due to the unexpected complexity of an issue. Questions can only be answered if private research is undertaken. Self interest is tempered by conversation with others (if discussion occurs).
Multi-phase Referendum	What people think now, starting with agenda-setting, i.e. what issues will be processed and what are the options - several - and how the result will be treated. Opinion is expressed as a vote in several phases if decided so.	Several alternative responses are available, and respondents may be confused and anxious about the unexpected complexity of an issue in the absence of debate. Appeals to self interest, but gives the opportunity to converge after several rounds of votes. Time-consuming.
Citizens' Jury	What people think after they have had access to full information, an opportunity to question specialists, and time to argue/discuss the merits of the case with their peers. Required to build consensus but not to reach it. The process is flexible to meet the group's needs.	Allows for decisions (usually in the form of recommendations) that can take account of the complexity of the issue, minority opinions and new ideas. Diversity of opinions and independent, skilled facilitation. Time for deliberation means that any concerns can be allayed or confirmed. Appeals to common interest.
Funnel Model	What people think in several phases: 1) free forum for direct democracy, all tools and methods allowed, 2) alternatives selected for further work by participatory models, 3) dialogue in deliberative mode between decision makers and citizens, 4) decision making through representative methods	Wide array of opinions come together, long hyper-cycle type knowledge development process assures that all voices are heard and minorities stay minorities. Time for deliberation granted. Time-consuming. Appeals to common interest.

4.4 New Citizens-oriented Model

The most important approach to new democracy modelling is that different decision models can be used during different stages of the decision process. This means that all the models of citizenship are not mutually exclusive but that they play different roles during "the life cycle" of the process, and, furthermore, this should also be decided by the citizens. In a citizens'-oriented model citizens are considered to be decision makers with equal opportunities to reach representative decision makers. In this model the vital difference to all other models is that the citizens set the agenda, not the politicians, or rather - this process should be interactive and based on win-win strategies.(Henderson 1996). However, there has to be a procedure to coordinate

this process and avoid the continuous need for voter input. In plain language, all citizens should be able take part in strategic decision making, whilst "conventional" decision makers take the role of executive decision makers. (OECD 2001).

4.5 Multiphase referendum as a tool of the citizens'-oriented model.

Almost all deliberative/participatory democracy models can be utilised in this model as tools for a chosen phase. A list of relevant and already used tools can be listed as follows: The internet, text messages, digital TV, local TV and radio, on-line debates, on-line polls, citizens jury, deliberative polls, drawing lot, e-voting, multiphase referendum. (Keskinen 1997,

OECD/PUMA 2000). It is also clear that the present state-of-the-art of interactive communications methods must be further developed for facilitating genuine dialogue amongst the parties concerned. As an example, a multiphase referendum could be used in local and regional decision making arenas. The multiphase referendum has been discussed by Keskinen (1997) and is described below.

Phase 1	Phase 2	Phase 3	Phase 4	Phase 5	Phase 6	Phase 7
Agenda setting: what is the opinion poll to be organised about? What for? The aim: binding or recommendatory?	What will be asked? The background research and its results are disseminated. Dialogues, discussions, learning processes, developing the alternatives needed for the Phase 3	What are the alternatives for the referendum?	What are the methods used in the referendum? Technical solutions, alternative tools for opinion giving?	The referendum process	Presenting and disseminating the results, public dialogue and debates	Decisions based on the results, other action or events recurring from Phase 1.

The questions raised here are: where do the citizens participate? How? Who will co-ordinate the processes? In the case of deliberative and direct democracy citizens will participate throughout all phases starting from Phase 1. In participatory democracy they will participate in Phases 2, 5 and 6, and in present representative democracy only in Phase 5. Furthermore, the E-vote method can be considered as a tool for this model too if it is understood as a complementing tool (used in on-line polls or multiphase referenda etc), and is not used as a conventional voting system of representative democracy.

4.5.1 New ICT Software for e-Democracy

As far the new ICT software needed for e-Democracy is concerned the question arises: what technical solutions should be developed to improve public participation? The first and most important tasks are as follows:

Task 1: Create tools for the continuous collection and analysis of huge amounts of input information given by millions of citizens. Any kind of answer, whether it is a zeros, or multiple hits etc. must be transferred into a simple and understandable table giving scientifically meaningful figures.

Task 2: Create tools for genuine dialogue. Notice that dialogue means not only information and opinion transfer but also the transformation and synthesis of opinions for building a better common understanding. In dialogue people are ready to compromise in the process of creating new knowledge and new innovative alternative solutions.

Task 3: Create tools for the citizens to monitor decision makers' actions to add accountability. Text messages, digital TV etc. can be used for instance. This can mean an imperative mandate for citizens, changing representatives on-line or anything else. This is an area where more R&D is clearly needed.

4.6 The challenges of the citizens'-oriented model

There are three major challenges that need to be studied and developed: the challenge of inclusiveness: Technological development itself is thought to be useful for the increasing empowerment of citizens in Europe, and on national and local levels. However, there are three different kinds of deficits that need to be addressed.

- Participation deficit: The main concern in many countries at the moment is the participation deficit. There are no legally binding reactions that can be expected of policy makers and non-institutional decision making procedures with regard to policymaking.
- Legal deficit: Present legislation has been fixed along lines set two

hundred years or so ago for practising representative democracy, and it has no flexibility towards any ad-hoc type management of common affairs. Local politics, though, have recently been opened up for more participatory methods but the pace is too slow compared to the development of societies, communications facilities and their diversity.

- Representation deficit: The representation deficit seems to be unsolvable, as long as mainly "elites" participate in deliberation processes and there is not enough research on the present frames used in public spheres, such as; what is the role of a representative or a deliberative process and how can we guarantee inclusiveness in decision making? Furthermore, the development of tools without knowing what citizens need is a futile task. In actuality, it is a secondary question to whether citizens need to send letters to public representatives or use on-line debates to express their opinions on the web, if these deficits prevail.

The challenge of creating a process can be seen in discovering what can be done to activate a sufficient number of citizens to participate in a decision making process. In order to do this and enable citizens to participate in virtual communities three requirements are to be filled: Access- Competence - Motivation: (Viherä & Nurmela 2001)

- Access: Citizens must have universal access to information and the means of communication. Problems in this area include scarcity or bad networking, digital divides and other equality deficits. For example, there are people who do not have the access to the relevant ICT
- Competence: There are many people who do not possess the adequate know-how to use ICT or who do not feel that they know enough about the issue to be able to participate in the public affairs.
- Motivation: Without motivation citizens will not participate in the public issues. To be motivated people need to feel that their opinion is heard and can have an impact. They should also be able to feel that they are part of a social community when preparing

and agreeing/compromising on a decision.

On the other hand, the free-rider problem decreases the motivation. Some people think that if all is going well without their interference, why should they bother. Also, a very basic social need is human face-to-face interaction and "doing-together". This need cannot be completely fulfilled by ICT. Formerly, voting and political farmhouse meetings were part of leisure time and social interaction, whereas today political participation has to compete with many new forms of social interaction.

The challenge of outcome: Does e-Democracy as described by the Citizens-oriented Model result in different decisions when compared to traditional democratic models? How does one define "better democracy", or "better decisions"? Two fundamental questions are: Will democracy have a different content in the Future Information Society from that it has to today? (Keskinen et al. 2001). What can be said about the ontology (ethical and political questions) of e-Democracy compared to traditional democracy? (Held 1987).

5. Future challenges

Technically, the future models of democracy are very open as almost all technologies can be used for implementation. The question is more of a political and social one: what type of citizenship models does European society want to develop for what type of decisions? The Citizens-oriented Model can be created in a technological or political sense, but is this type of participation wanted, and by whom and for what aim? More participation in every decision is not necessarily compatible with an efficient modern state, even a democratic one. The basic elements of the Future e-Democracy (Tele-Democracy) have been discussed by Becker & Slaton in their book: The Future of Tele-Democracy in 2001.

The Basic Elements of the Tele-Democracy Paradigm are :(Becker & Slaton 2001)

- Global direct democracy movement
- 21. Century democratic communications methods - horizontal and interactive

- Modern Mediator Movement - heterarchy, quantum politics
- Internet based transformational political organisations

Finally, it is interesting to note that in Finland several new projects on e-Democracy were launched in 2002/03. A project called "The Future of e-Democracy" aims to find future ways to tackle and exploit the global networking opportunities and their use in interactive decision making. A new initiative for the Second Call of the EU RTD 6th FP /priority 7 (Citizens in the Knowledge Society) was co-ordinated by the author in 2003 resulting to a proposal called "ECCE - European Citizenship through Co-operation and Engagement: Developing Inclusive Participation". The author also steers a 4 -year project at University of Tampere, Finland, funded by the Science Academy of Finland (2003-2006), called: ONDIS "On-line Discussion as Political Action". Here, political participation and activity on the internet's online fora and the relationship between democracy and the political activity taking place in Internet will be studied. The research problem is approached from the point of view of public participation and by discussing the relationship of information and knowledge to political action.

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