Web-based tools for policy evaluation[1]

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Abstract. Current research in e-democracy has so far focused on the early stages of political decision making. Information- and communication technology (ICT) has been shown to facilitate participation in agenda setting and alternative selection. But ICT also has the potential to facilitate evaluation of existing policies. This paper examines policy evaluation from local politicians view. What web-based tools are useful for policy evaluation, and what kind of information do these tools provide?

1 Introduction

The political decision making process is often modelled as an iterative process consisting of the following stages [1]:

- Issue emergence. The point at which an issue becomes more visible and important to citizens and policy makers, when some stirrings of government and interest group activity begin to be evident. Often issues emerge when national policies are seeking a local implementation, or when the local administration wants to rewrite current policy because it does not longer work according to the initial assumptions.
- Agenda setting. The process by which problems and alternative solutions gain or lose public and elite attention, or the activities of various actors and groups to gain greater attention or to prevent them from gaining attention.
- Alternative selection. The analysis and construction of policy alternatives.
- Enactment. The act of putting a decision into effect. Typically when the local government vote on an issue.
- Execution. The local administration implements the decision, and the policy is put to work
- Evaluation. At some time the administration or local government decides too evaluate if the policy is working according to the initial assumptions.

Figure 1 illustrates the political decision making process.
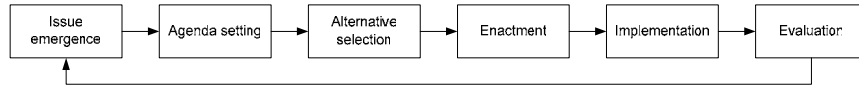
Fig. 1. Political decision making process

Information and communication technology (ICT) tools may be used to support the political decision making at all stages [2]. This paper is written from a local politicians view.   Therefore emphasis is put on how local politicians can use technology to become better politicians. ICT may also be used to increase citizen participation an influence. This has been discussed by several authors, e.g. Ted Becker and Christa Slaton [3], Kevin A. Hill and John E. Hughes [4], and Anthony G. Wilhelm [5], and will not be discussed here.

Another dimension is the division of responsibility between local government and local administration. We assume that local government is responsible for bringing new technology into the political decision process, even if politicians are not actively involved in all stages.

Different tools apply in/fit different stages in the political process. At the first two stages, tools that support unstructured communication may be used by politicians to listen for emerging political issues and ideas, and gathering support for bringing issues or ideas into the political arena. Examples of such tools are discussion forums, e-petitions, e-panels, and virtual town hall meetings.

At the alternative selection stage politicians may use e-consultations, opinion polls and even e-voting to ask citizens what they think of different alternatives.

Enactment may be done by e-voting.

During the execution stage, ICT may be used for service provision. Politicians are not involved in the actual provision of services. Decisions must be evaluated to find out if they work according to assumptions made before the decision was made.

ICT provides for faster and even continuous evaluation of the results of decisions. This opens up for a reformulation of the model presented earlier (Figure 2):
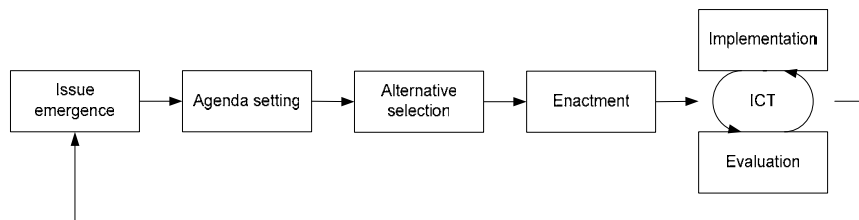
Fig. 2. Revised political decision making process

How can then ICT be used by politicians for evaluating decisions? We argue that ICT provides some powerful tools for evaluation of political decisions. One such tool is benchmarking by use of web-based tools connected to databases. Benchmarking makes it possible to compare different values related to demography, use of resources (money, people), and outcome. Another tool is web-based user satisfaction surveys. Such surveys are used to find out what citizens think about the services and the service provision. If user satisfaction surveys are asking the same questions, the results may be used for benchmarking as well. Benchmarking and user satisfaction surveys are initiated by politicians. We also see a need for citizens taking the initiative when policies are not working according to their assumptions. Therefore, we propose a third tool, an e-ombudsman, to alert decision makers when necessary.
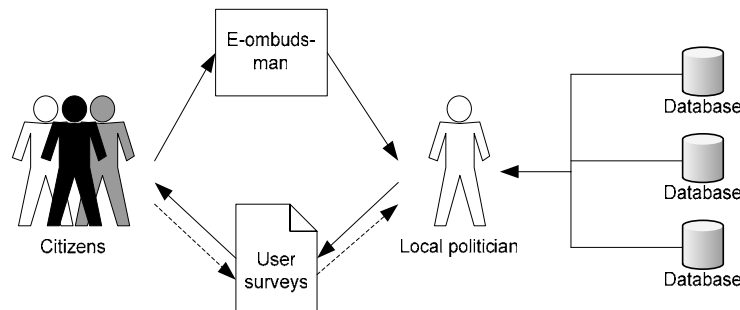

Fig. 3. Different web-based tools for policy evaluation

2 Methodology and related research

So far, research has focused on the use of ICT-based tools in the early stages of the political decision process. Several papers have been published on the use of discussion forums, e-consultations and e-voting to include citizens in the decision making process.

Ann Macintosh [2] also uses a model of the political decision making models to map tools to stages, but her examples are focused on the early stages. Interestingly, in her model, she has replaced "evaluation" by monitoring", probably to emphasize the idea of evaluation as a continuous activity.

In their proposed framework of e-democracy development, Wichian Chutimaskul and Suree Funilkul [6] introduced "e-complaints" as a tool for use by citizens during the evaluation period, but they did not elaborate on this.

Stephen Coleman [7] proposed a set of political mechanisms to make a step towards direct public participation. One such mechanism was online evaluation. His idea was to use some kind of standing focus groups. Such groups may cover a broad area and give their recommendations.

This paper aims to describe the current state of the art for web-based evaluation of political decisions in Norway. Even if the tools described may be used by citizens in general, we have focused on local politicians' need for evaluating political decisions. The remaining part of the paper will discusse the use of existing tools and initiatives for web-based benchmarking and user-surveys, and the development of an e-ombudsman. The research is mainly based on examination of current tools, literature studies (evaluation reports and working papers) and interviews with local politicians, administrators, and persons involved in implementation of the tools.

3 Benchmarking

Benchmarking [8] is a technique to measure the performance and quality of one municipality compared to other municipalities. The comparison is based on data reported by each municipality. The most common data are related to people, expenses and results. By using a database located on an Internet-connected server, it is possible to give access to such data, not only to administrators, but also to local politicians and citizens in general.

We will now describe one Norwegian benchmarking database and one portal connected to several databases. Both are accessible through the Internet, and are good examples of the current state of the art of benchmarking. The description is followed by a discussion of pitfalls and possible improvements.

3.1 KOSTRA

KOSTRA[2] is a database administered by Statistics Norway. From 2001 all municipalities are required to submit data to KOSTRA. A wide range of data related to service provision, resources, and expenses is collected from the municipalities. Such data includes: Municipal fees, purchase of external services, property management, financial key numbers, kindergartens, public schools, health, care, social services, children protective services, environment, culture, churches, water, renovation, public transport, municipal housing, commercial sector support, and fire protection.

KOSTRA includes an advanced web-based reporting application. This application makes it possible to select a number of municipalities and generate results as tables. Tables may be downloaded to personal computers in several formats (e.g. Excel) for further analysis.

We will now show some real life benchmarking examples:

The local government of Sande is about to vote on a new four year plan for kindergartens. One local politician is concerned with the quality of the kindergartens, and asks KOSTRA for information on the ratio of employees with a degree in

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[2] http://www.ssb.no/kostra/

kindergarten teaching. She also includes three other municipalities in the same geographical area, and gets the following results (Table 1):

Table 1. Example of information returned by KOSTRA

	Employees with degree in kindergarten education (percent)		
	2003	**2002**	**2001**
0701 Horten	40.0	39.9	38.7
0702 Holmestrand	33.3	27.9	30.7
0713 Sande	28.3	37.8	37.5
0714 Hof	30.8	31.4	33.3

She observes that the number of employees with degrees has dropped and is now the lowest among the four municipalities. Based on these numbers, she proposes to the local government that future recruitments should prioritize teachers with a degree in kindergarten teaching, and that the municipality should start a development program for existing employees.

During the local election, one local party group in Horten promised to prioritize public education. The local party leader wants this to influence the budgeting process, and ask KOSTRA how much of the total budget other municipalities in the same area are using on public schools. Armed with the following numbers (Table 2), he confronts the rest of the local party's representatives, and manages to increase the school budget.

Table 2. Example of information returned by KOSTRA

	Percent of total municipal expenses spent on public schools	
	2003	**2002**
0701 Horten	27.2	26.2
0702 Holmestrand	28.0	27.4
0713 Sande	33.4	35.0
0714 Hof	31.7	31.6

Holmestrand local government wants to discuss the organization of the public library. KOSTRA reports the following (Table 3):

Table 3. Example of information returned by KOSTRA

	Net. expenses public library / citizen (NOK)			Average loans / citizen		
	2003	**2002**	**2001**	**2003**	**2002**	**2001**
0701 Horten	262	279	268	6.1	6.1	5.9
0702 Holmestrand	308	382	370	3.9	3.7	4.0

Based on the numbers, the politicians sit down to discuss why the average loans per citizen are so much lower, finds out that the public library of Horten is more accessible during evenings, and then decide to do something about the opening hours.

3.2 Skoleporten.no[3] (School portal)

Skoleporten.no has recently been launched by the Ministry of Education and Research as a national web portal for issues related to education. The portal uses an underlying data warehouse collecting data from several other sources.

One important source is the **National Information System for Primary Education**[4]. This database contains all statistical information collected by the Ministry of Education and Research, and is made available to all citizens and politicians. Key information includes the number of pupils, teacher/pupil ratio, teaching hours per pupil, size of teaching groups etc.

Another important source is the **National Grade Database**[5] maintained by the Norwegian Board of Education (Læringssenteret). This database contains the final grade statistics for all public schools, and can be used to compare individual schools to each other.

Recently, Norway introduced national tests in the public schools. Results from these tests are also available on the portal.

Compared to KOSTRA, skoleporten.no has a much narrower scope. The portal is primarily developed for decision makers (including local politicians, school leaders, teachers and national education authorities), but also as resource for teachers, pupils and citizens in general.

3.3 Discussion

There is no doubt that benchmarking may give politicians and citizens valuable information. Still, we need to stress some common pitfalls:
- Reporting errors due to differences in organization and accounting practices [9]. One example is the reporting of administrative overhead. Some municipalities report such expenses as an integrated part of each administrative unit, while other municipalities report some of these expenses as central administration. It may therefore look like one municipality is using more money on administration and less on service provision, even if they are in fact delivering the same services. The same happens with property. Some municipalities charge each unit for the use of municipal property, while others do not.

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[3] www.skoleporten.no
[4] http://www.wis.no/gsi/
[5] http://www.ls.no/stati/stati.asp

- • Lack of granularity. We do not always see what is behind the numbers. If we look at the ratio of people working in the home health care to the number of patients, we can find that one municipality is spending more money on home health care than another municipality. But the real reason may be that the first municipality has two or three housing units with 24 hour supervision, and limited home health care provision, while the other municipality may have centralized their home health care homes, and is in fact providing much better services in the homes. Due to the granularity of the reporting, it is not possible to find out what is actually happening behind the numbers.

Reporting errors may be avoided by providing clearer guidelines, better granularity, and by increasing the competence among those reporting information.
It is important to stress that benchmarking should be used with care. Still, differences may trigger an urge to find out why the differences appear. Politicians may therefore get a better understanding by using benchmarking.

There have been several newspaper discussions on the use of both KOSTRA and the public school databases. The discussion about KOSTRA has concentrated on reporting errors and granularity, while the discussion regarding the public education databases has been much more concerned with the effects of benchmarking. One wing embraces this information and will use it to improve the educational system, while others fear that a ranking system that will increase differences within the educational system. It is still too early to draw any conclusions from this ongoing debate.

Even if there has been some criticism of quality of reported data, we believe that the quality eventually will improve. By making better guidelines and improving granularity, such information will be valuable resources for local politicians and citizens trying to find out how their municipality and schools measures up.

4 User Satisfaction Surveys

Web-based surveys represent an opportunity to collect information from citizens with less expenses and more frequency than is possible by using traditional paper based surveys.

Web-based surveys have so far mainly been used for evaluating schools. One system has been used by pupils; another system has been used by parents to answer how satisfied they are with different aspects of the school.

4.1 Effektiviseringsnettverket (Efficiency network)

The project "Effektiviseringsnettverket" founded by The Norwegian Association of Local and Regional Authorities (KS) has developed a set of manuals explaining how to conduct user surveys in different areas together with a set of evaluation criteria for

each area. These were originally used as basis for paper based surveys, but are now used for making ICT-based surveys.

A web-based application, **bedrekommuner.no**, (better municipalities) gives local administrators the possibility to initiate and administer electronic surveys. Some results from 2002 and 2003 are present in the database, but these results come from paper based surveys, except for some trials performed by public schools.

This year citizens may provide their answers directly through a web-based interface, by using a password received in the mail. The results are stored directly into the database. An option is to let the municipality register the data on behalf of the users. This may be appropriate when users lack the necessary ability or competence to fill out an electronic form.

Since several municipalities are using the same questions and the same database, the data not only reveals user satisfaction, but also facilitates benchmarking among the municipalities.

Currently 167 municipalities are registered users of the web-based application. The municipalities are performing user surveys within the following fields: Public school (parents), kindergartens, children protective services, building permits, care (three different sub-surveys), and social services.

Today, September 27th, more than 12000 questionnaires have been answered and put into the database. The results will be available later this autumn.

One example is Tinn municipality. Tinn used a web-based survey to measure the user satisfaction among parents of kindergarten children. The municipality received 297 answers, which is 81% of the parents.   This is a very good return rate. Effektiviseringsnettverket reports that normal return rate for paper based surveys within this sector are around 60%.

4.2 Elevinspektørene (Pupil inspectors)

The Ministry of Education and Research has developed a web-based survey "elevinspektørene"[6] to measure user satisfaction among public school pupils. The survey was made mandatory for 7th and 10th grade this year, and the results for all public schools are now available on their website. The survey was answered by 86% of all public schools. The rest either had technical problems, used the wrong survey (a demo), or was not able to complete the survey within the preset timeframe.

The survey contains questions about motivation, well-being, victimization, participation, school democracy, and physical environment.

Table 4 shows a translated example for 7th grade of one school:

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[6] http://www.elevinspektorene.no/

Table 4. Example of information returned by Elevinspektørene

Facts	2003
Motivation	3,0
Well-being	3,4
Victimization	3,7
Participation	2,0
School democracy	3,3
Physical environment	3,1

Higher values mean better results. In this school, we observe that participation is ranked considerably lower than the other areas. It is possible to examine the underlying numbers, shown in Table 5 (questions are translated):

Table 5. Example of information returned by Eleveinspektørene

Facts	2003
Are you allowed to participate in the planning?	1,5
Are you allowed to participate in the selection of different types of assignments in the different subjects?	2,0
Are you allowed to participate in decisions on how you should work on the subjects?	2,5

In 7th grade the pupils are supposed to take part in planning their own education. In this case, we see that the school still has some work to do on this question.

4.3 Discussion

User satisfaction surveys give valuable information on the how the users perceive the different services. If such surveys are done in several municipalities, it is possible to use these results for benchmarking as well.

Critical comments on the use of user satisfaction surveys have been concerned with the questions asked and the selection of citizens. Are the right questions asked to the right users? It will always be a decision whether to use the surveys developed by Effektiviseringsnettverket or to make own, localized surveys. The advantage of using the first alternative is benchmarking, the advantage of the second alternative is the possibility to focus on local issues.

5 E-ombudsman

Benchmarking and user satisfaction surveys are valuable tools for assessing policy decisions. But both methods have in common that they must be initiated by local government or administration.

There is also a need for some kind of mechanism to insure that local government is made aware of policies not working according to their intentions.

Norway has long traditions of appointing ombudsmen to oversee government. Ombudsmen receive complaints, give advice, investigate, make recommendations, and report to the parliament.

Norway currently has several ombudsmen:
- The Parliamentary Ombudsman for Public Administration
- The Gender Equality Ombud
- Ombudsman for the Armed Forces
- The Ombudsman for Children
- The Consumer Ombudsman

Some cities have adopted the idea. The city of Oslo has a dedicated ombud for users of health- and social services, while the city of Bergen has a general purpose city ombud.

The city of Bergen, Norway, established a city ombud [10] in 1992. The city ombud is an independent control body. The city ombud has a special responsibility to protect citizens against mischief, and that municipal employees do not make errors or neglect their duties to the citizens. Today, most enquiries are made by telephone.
The 2003 annual report shows the increase in number of enquiries during the last four years (Table 6).

Table 6. Number of enquiries received by the City ombud of Bergen

2003	2002	2001	2000
349	243	263	155

Again, such ombudsmen are independent from administration, and act on behalf of citizens. Therefore ombudsman is a good metaphor for an e-service aiming to funnel complaints and reports of malfunctioning policies to the local politicians.

The idea is not original. A local government representative, Ivar Johansen of Oslo, established his own website **osloombudet.no**[7] two years ago. He reports that he has received around 100 enquiries since the web-site was launched.

The e-ombudsman would complement benchmarking and user satisfaction surveys, and give citizens the opportunity to raise issues not being handled by formal complaint processes.

5.1 E-ombudsman implementation

Citizens have the possibility to contact both local administration and politicians when they are dissatisfied with aspects of the services. In practice this is often done by using telephone, letter, e-mail or other means of communication. In some municipalities the mayor and other politicians makes themselves available by keeping

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[7] http://osloombudet.no

an open door policy, and some even conduct regular visiting hours in a cafe, a park or other locations.

The E-ombudsman would serve as a complement to such traditional channels. From time to time, citizens require anonymity. The E-ombudsman could also protect the anonymity of the citizens, but at the same time facilitate communication between the citizen and the local politicians volunteering for the ombudsman role.

The problem caused by anonymity is insufficient information. It is impossible to communicate with an anonymous letter writer to clarify certain points. By using ICT is it possible to develop an application that makes it possible to communicate anonymously.

The proposed E-ombudsman (Figure 4) is an application that acts as a mediator between a citizen making a complaint and one or several politicians acting as ombudsmen. They receive the complaint, and have the possibility to get back to the person complaining to ask for more information.
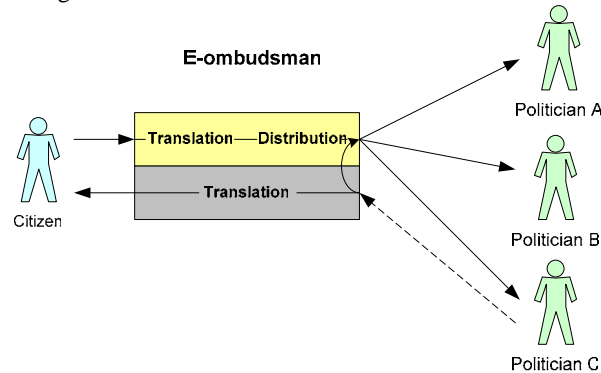

Fig. 4. Implementation of an E-ombudsman

Example of use: Nina, the single mother of a twelve year old boy, has received a letter from the local school about a school trip and that every pupil has to pay for transport and accommodation. She knows that the law says that education is free, and even if the amount is not that big, it will make some minor economic problems. She does not want to address this issue in person, since she may be accused for destroying the fun for the rest of the pupils. She could contact a politician, but would really like to be anonymous. She could of course write an anonymous letter to one of the politicians, but would then be unable to answer any further questions.

The E-ombudsman application translates the identity (e-mail address or user ID) into a new identity used in the communication with the politicians. Next, the application sends the complaint to a list of politicians. Any politician may ask further questions, and these questions are sent to the e-ombudsman, which translates the address back to the original address, but also to the other politicians taking part in the process.

There are still many problems to be resolved, both organizational and technical. Trust is one important issue. The application should probably be managed by some trusted third party. We are currently developing a prototype to try out the idea in practice.

6 Discussion

This paper shows different ways to evaluate political decisions by using web-based tools. Web-based tools make it possible to collect and use information faster and more often than with traditional evaluations.

We have presented a model using three different tools: Benchmarking by extracting information from databases containing statistical information, user satisfaction surveys, and a tool to capture alerts from citizens being concerned about the effects of policy decisions.

We have given some practical examples of use, and pointed out problems with benchmarking and user satisfaction surveys. We have also introduced the idea of an application called an E-ombudsman to capture citizen alerts.

References

1. Birkland, T.A. An Introduction to the Policy Process: Theories, Concepts, and Models of Public Policy Making, M. E. Sharpe Inc., Armonk, New York, 2001, p. 295
2. Macintosh, A. "Characterizing E-Participation in Policy Making," 37th Annual Hawaii International Conference on System Sciences (HICSS '04), 2004 , pp.
3. Becker, T., and Slaton, C.D. The Future of Teledemocracy Praeger Publishers, 2000
4. Hill, K.A., and Hughes, J.E. Cyberpolitics: Citizen Activism in the Age of the Internet Rowman and Littlefield Publishers, Lanham, Maryland, 1998
5. Wilhelm, A.G. Democracy in the Digital Age Routledge, New York, 2000
6. Chutimaskul, W., and Funilkul, S. "The Framework of e-Democracy Development," Third International Conference on Electronic Government (EGOV 2004), Springer Verlag, Zaragoza, Spain, 2004, pp. 27-30
7. Coleman, S. "Cutting out the middle man: from virtual representation to direct deliberation," in: Digital Democracy : Discourse and Decision Making in the Information Age, B.N. Hague and B. Loader (eds.), Routledge, London, 1999, pp. 195-210.
8. Karlöf, B., and Östblom, S. Benchmarking: Veiviser til forbedret produktivitet og kvalitet ad Notam Gyldendal, Oslo, 1993
9. Cap_Gemini "Evaluering av KOSTRA (KOSTRA Evaluation)," p. 125
10. Dahl, E. "Årsmelding 2003 Byombudet (Annual report 2003 The city ombud)," Bergen, p. 16