

Municipalities goes Internet

By Are Vegard Haug and Arild Jansen

Section for Information Technology and Administrative Systems (SITAS)
Faculty of Law, University of Oslo, St.Olavs plass 5, P.O. Box 6706, Oslo, Norway
E-mail: a.v.haug@jus.uio.no and arild.jansen@jus.io.no
Telephone: +47 22 85 00 76 and +47 22 85 00 75

Abstract: In 2003 the University of Oslo¹ conducted a study on how Norwegian local and regional municipalities were using their websites to provide information and get feedback from its citizens. During several months a registration team studied more than 450 different municipal web-pages, with nearly 120 different items for each website. The large database was later supplemented by statistical data describing each municipality, e.g. economic data, size, citizens with access to Internet, etc. This in turn made it possible to conduct various statistical analyses to test theoretically founded hypotheses on variation. In this article some of these data are presented. Our focal point is primarily on to what extent the local municipal websites are used to facilitate what we labelled "political communication". Several proposals on what might explain variation are also suggested and tested empirically.

Keywords: E-democracy, citizen participation, contingency models, municipal web sites, online political communication.

1. Introduction

At present Norway is divided into 434 local and 19 regional municipalities. The local municipalities are by far the smallest in a Nordic context with an average population of roughly 5000. As in the other Nordic countries, the municipality plays a vital role in delivering many of the important tasks necessary in the modern welfare state. About two-thirds of all the duties are carried out locally, and the municipalities employ more or less 70% of all civil servants in Norway. These are governed by more than 12 000 local politicians elected locally every fourth year, thus the municipalities also represents an important democratic arena.

As for many municipalities in contemporary western democracies, Norwegian municipalities are facing a number of democratic problems. E.g. decline in voting turnout, reduced participation in political parties, reduced income, increased number of tasks, high rotation of politicians each election, etc. In a recent 5 years research project "Power and Democracy", several such indicators are examined. And the leader, Professor Øyvind Østerud, emphasize that "*Democracy as a chain from elections to decisions is weakened all the way. . . parties don't mobilize many voters any more, and*

¹ The Internet-based examination of all municipality websites in Norway was conducted by Harald Baldersheim and Morten Øgård *et al* at Department of Political Science, University of Oslo. This article is based upon a selection of data from the survey used in a Master thesis by cand. polit Are V. Haug (2003).

young people are less active than before, so the trend is likely to gather pace” (Østerud 2003). This in turn has challenged the municipal legitimacy, and the political pressure to change the way the municipality works seems immense.

Coinciding this we find quite a growing number of literature and governmental initiatives arguing that ICT is the “last hope” for saving democracy. On the one side, there are arguments that ICT will have positive impacts on the democratic processes. For instance Hoff *et al* ask if the e-democratic initiative “is part of a new political practice pointing towards the development of new models of democracy” (Hoff *et al* 2000:5). On the other, several more skeptical voices claim that technology itself cannot contribute much to solving this crisis; it is rather part of the problem. Finally there are several authors claiming that too much of the research is based upon normative arguments lacking an empirical foundation. Hacker and van Dijk claim that “now it is time to get over this stage of global oppositions and enter a phase of empirical research and conceptual elaboration” (Hacker and van Dijk 2000:230).

In spite of these different perceptions of ICT and democracy, it seems to be a consensus that ICT has potential to improve political communication substantially, which can be supported by the rather dramatic growth in the diffusion and use of ICT in Norway, also related to political activities (Christensen and Aars 2002). In that respect it seems important to explore to what extent the local municipalities actually improve the citizen’s facilities for political communication with the local political system. *What are the possibilities for the citizens to get insight into the functioning of the local political system through their Internet web pages? To what extent can the citizens participate in the political activities through these web pages? What can explain the variation across the local municipalities in initiatives aimed at facilitating political communication through Internet?*

2. Theoretical framework

The study presented in this paper belongs to a rather recent field of research often denoted digital democracy (or more briefly e-democracy): ‘*a collection of attempts to practise democracy without the limits of time and space and other physical conditions, using ICT or CMC (Computer Mediated Communication) instead, as an addition, not a replacement for traditional ‘analogue’ political practices*’ (Hacker and Van Dijk 2000:1). Through this understanding we emphasize that we do not see it as different type of democracy breaking with the traditional ones, but rather that the most fruitful practises of digital democracy are those which combine ‘virtual’ and physical reality, and in particular combined with the conditions of face-to-face communication. The theoretical basis for this study consists of 3 parts.

First, the understanding of political communication has frequently been related to different criteria or ideals of how a democracy should function (Held 1996; Dahl 1989). The belief that citizen’s influence and participation can be strengthened by the use of ICT can be linked to various models of democracy (e.g. Hacker and van Dijk 2000). In this study, however, the democratizing potential of ICT is linked to 2 of Dahl’s (1989) ideals or criteria for democratic procedures: *effective*

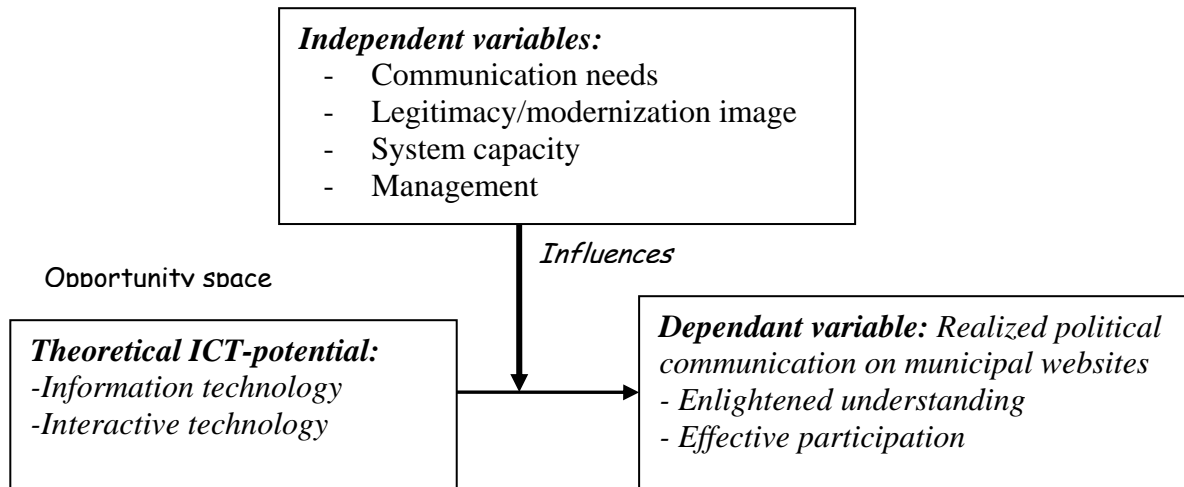
participation and *enlightening understanding*. The first ideal, *enlightened understanding* is understood as: “each citizen ought to have adequate and equal opportunities for discovering and validating the choice on the matter to be decided that would best serve the citizen’s interest” (Dahl 1989:112). By *effective participation* Dahl means: “Through the process of making binding decisions, citizens ought to have an adequate opportunity, and an equal opportunity, for expressing their preferences as to the final outcome. They must have adequate and equal opportunities for placing the questions on the agenda and or expressing reasons for endorsing one outcome rather than another”

Secondly, we take into account the “window of opportunity for e-democracy” that is created by the development and diffusion of ICTs, in particular the WWW (Haug & Øgård 2003, Rosén 2003, Christensen & Aars 2002). It seems to be apparent that access to a variety of information and communication resources is necessary for people to have adequate opportunities to exercise citizenship. As the Internet sees more and more uses for information provision and communication, *communicative resources* become increasingly important. This ‘opportunity space’ is the set of possible means and initiative that is created by the development and diffusion of ICT and Internet, and the WWW is of particular interest. In our context, communicative resources may be offered by the local municipality through the provision of various facilities, and in this way improve access to information. Through the provision of interactive functionality on the web that helps the interaction with civil organisations and in particular the politicians locally may stimulate effective participation in citizens confident with ICT, but not for all (Frønes 2002, Norris 2001). Based on the above discussion, we will use the term degree of *political communication*: i.e. communication that actually or potentially has an impact on the way in which a political system or parts of it works, to describe the extent to which two of Dahl’s democratic ideals, *enlightened understanding* and *effective participation* are being facilitated by Internet-based services.

Finally, we consider various studies indicating that web sites of Norwegian local municipalities have very varying structure and content (Christensen and Aars 2002; Norsk Gallup 2002, SSB 2003). Similar studies in other Nordic countries have shown the same patterns (Grønlund and Ranerup 2001, Torpe and Nielsen 2002, Hoff *et al* 2000). Different theories of organisational behaviour may explain the variation of how the municipalities have implemented and used such technologies aimed at strengthening the political communication. The aim is to investigate how different characteristics of the municipalities and their context may influence how each of them has implemented and use Internet for political communication purpose.

Departing from the theoretical perspectives described above, we have outlined the following research model:

Figure 1: General research model



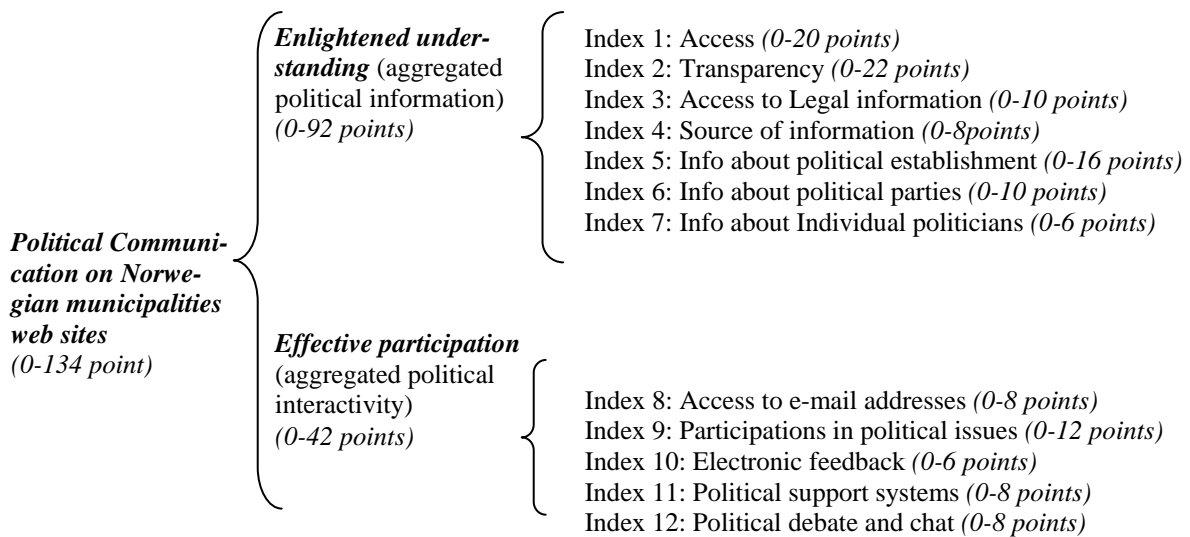
In this framework, we assume that the availability of ICT and in particular the Internet provides a number of opportunities for implementing and using different ICT solutions. To what extent these opportunities are put into practice, is assumed to be dependant upon several variables such as communication needs, perceived crises, system capacity and management.

3. Research methodology

3.1. The dependant variable

This study is based on quantitative approach for data collection and analysis. The dependent variable “political communication” has been specified through 2 major indexes. The first democratic ideal, *enlightened understanding* contains seven indexes, the second ideal, *effective participation*, contains five indexes. Each index holds several separate registrations that are examined during the research period. The following figure illustrates how the two democratic ideals are measured.

Figure 2 Operationalization of *Political Communication* (the dependent variable) in the Norwegian Municipality website Examination spring 2003.



The general idea is that the various municipalities might be located in a *window of opportunity for e-democracy*. Some of the indexes do of course overlap, and the separation is somewhat artificial. To measure the variation it is developed a simple rating system where 2 points were given to website that clearly had what we are looking for, 1 point if some information was found, and 0 points if nothing. The maximum total score is for *enlightened understanding* 92 points, and 42 points for *effective participation*. Hence the total possible score for *political communication* is 134 points for the 67 registration items used from the database.

3.2. The independent variables

Different organisational theories may explain some of the variation in how the municipalities have implemented and used the various technologies aiming at strengthening the political communication. One such approach is *contingency theories*, which claim that organisations have to adapt to their environment, e.g. Burns and Stalker (1961) hold that technological development and changes in the markets are external factors that influence organisational structure and behaviour.

One group of external factors are perceived communication needs related to the *complexity and dynamics* of the population structure in the municipality along with the citizen's access to Internett (Wollebæk and Selle 2003, Baldersheim et al 2003). This has led to the following hypothesis:

H1: Characteristics such as complexity, dynamics and access to Internett will create a need for information and communication facilities that the local administration aims to meet.

Another group of organisational theory departs from the institutional perspective. E.g. formal organisations are located in an institutional context where they are confronted with socially created norms about how they should behave (Røvik 1998). One such factor may be creation of identity, and that actions that can have a symbolic meaning may strengthen the legitimacy of the organisation. As an example, the perceived *crisis of legitimacy* resulting from the decline in voter participation

may lead to jumping on the 'band-wagon' as e.g. implementing e-government systems. Our second hypothesis is then:

H2: Crisis of legitimacy influences the modes of information and communication in the local municipal administration

Thirdly, organisational behaviour may be (partly) explained by its "system capacity" (Dahl and Tufte 1973). A well functioning democracy must have the competence and resources required to meet the demands it is facing it at any given time. This is particular important for the adoption of new technology (Kraemer et al.1989, Delone and McLean 1992, Damsgaard et al 1994). We know that critical factors for the success are e.g. different kind of resources (economy, competence and availability of relevant technical support (e.g. Kwon and Zmud 1987, Lyytinen 1992, Jansen 1998). Accordingly, we formulated this hypothesis:

H3: The system capacity of the local administration has significant influence on how it may provide ICT-based communication facilities between the politicians and the citizens.

The fourth hypothesis is based on the assumption that the characteristics of the management (e.g. IT-strategy, level of top management engagement) are determinant for the orientation towards "e-democracy".

H4: Management strategy impact on the mode of information and communications in the local administration.

4. Empirical findings

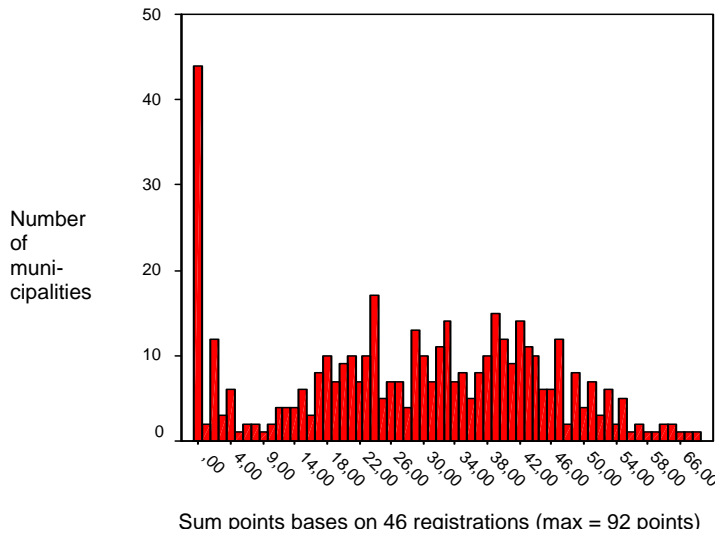
The empirical data provided below elaborate two kinds of findings. In the first part we present some of the major frequency findings from the websites examination. In the second part our four hypotheses about variation are tested.

5. Some do, some don't: The dependent variables

First, when we look at *enlightened understanding* (figure 3), we find that 42 municipalities (10 %) do not have an official website at all, the largest with more than 22 000 inhabitants. This was somewhat surprising, particular compared to Sweden and Denmark where all the municipalities today have their own website. Then a almost normal distribution occur. Some websites received close too zero points, and then the majority is placed between 10 and 40 points, with a few municipalities having quite a lot of political information on their website. The "best practice" municipality achieved 62 out of 92 points in total, and the average score was 28.5 points (31 %). In short, our findings strongly indicate that the potential for *enlightened understanding*, as defined in the survey, seems far from being realised in most of the municipalities.

Figure3: Main index *enlightened understanding*. Political communication facilities on Norwegian municipality websites 2003.

Enlightened understanding



The potential for “enlightened understanding”, as defined in the survey, seems far from being realised in most of the municipalities.

Interestingly, some municipalities manage rather well with websites containing a great deal political information, e.g. information about locally elected politicians, political parties, political institutions, meetings, political area under discussion, etc. In the following tables we have illustrated a number of specific findings concerning access to political information, information about political working committees and political parties.

Table 1: Access to political information and transparency

Example of questions	% yes
Is it possible on the website to find the political agenda (time, place, issues)?	70 %
Does the website present documents, report and minutes from political meetings?	64 %
Does the municipality present an electronic post journal on the website?	49 %
Does the municipality use electronic archive?	10 %
Does the municipality use online streaming (video) from political meetings?	1 %

Table 2: Information about committees of local council

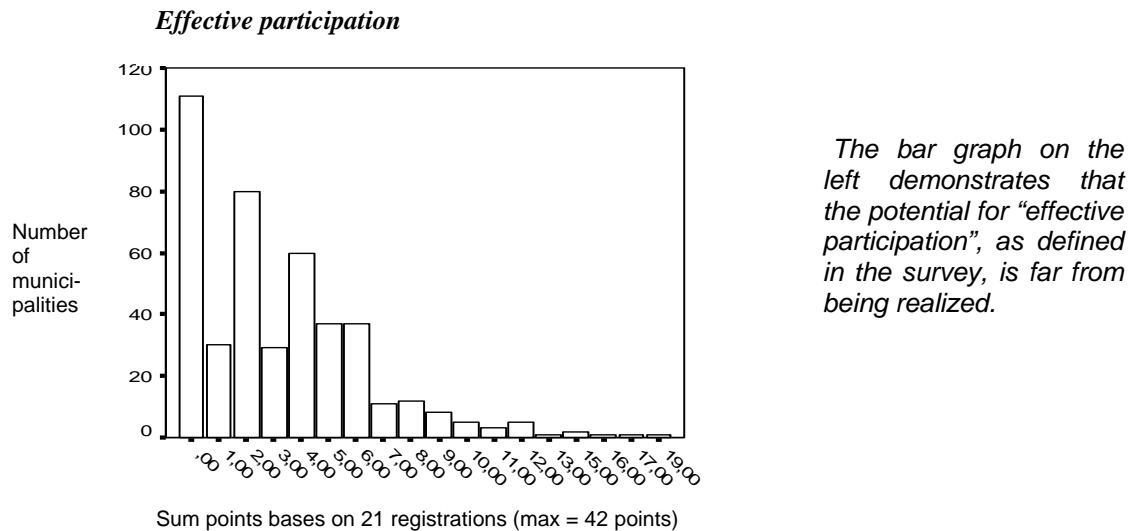
Example of questions	% Yes
Is it possible to find an overview of members/participants?	75 %
Is it possible to fins the distributions of seats?	75 %
Does the website present a map showing how the municipality is politically organised?	58 %
Is the Mayor presented on a separate webpage?	49 %
Does the website present tasks and responsibilities for the local political organisations?	26 %

Table 3: Information about political parties

Example of questions	% Yes
Does the website present the local political parties?	16 %
Does the website link to the <i>local</i> political party websites?	13 %
Does the website link to the <i>central</i> political party websites?	11 %
Does the website link to the <i>regional</i> political party websites?	6 %

When it comes to our second index *effective participation* (figure 4) two main findings can be highlighted. First, the majority of the municipalities do not use their websites for two-way communication. Even the “best practice” municipality scores only 16 out of 46 points. 138 municipalities are listed with less than 3 points on the *effective participation* index, indicating that nearly 60% of the Norwegian municipalities do not use the local websites to improve local political participation. Secondly, the study reveals that the variation is substantial. This might indicate that most Norwegian municipalities are in an experimental stage where several communication channels are tested.

Figure 4: Main index *effective participation*. Political communication facilities on Norwegian municipality websites 2003.



And as for the former index *enlightened understanding*, only a small number of municipalities have created websites containing several interesting communication facilities, e.g. electronic based consultations, online political forums, chat, online citizens services, citizens panel, access to e-mail addresses, etc. In the following tables we have illustrated some details regarding web based political participation in Norwegian municipalities.

Table 4: Access to e-mail addressees

Example of questions	% Yes
The Mayors e-mail address?	54 %
Political representatives (private e-mail address)?	24 %
Political representatives (official provided by the municipality)?	16 %
Committee leaders?	15%

Table 5: Participation possibilities

Example of questions	% Yes
Does the website present information about political arrangements (local conferences, specific issues to be discussed, etc.)?	17 %
Does the website present contact information in conjunction to political plans?	15 %
Does the website facilitate or prepare for online debate on political plans or issues?	6 %
Does the website present any form of online political consultation?	5 %

Table 6: Electronic feedback

Example of questions	% Yes
Does the website present any form of feedback system/complaining facilities	23 %
Does the website present any form of online public opinion poll, voting, etc.?	5 %
Does the website present any form of online benchmarking, etc.?	1 %
Does the website present any form of online petition, citizen initiatives, etc.?	0 %

Table 7: Online debates and chat

Example of questions	% Yes
Does the website present any form of discussion boards, etc?	14 %
Does the website present information about any form of moderator?	4 %
Does the website present any form of chat (discussions in real time)?	1 %

The tables illustrate strong variation between each index which demonstrates that there are differences in what the municipalities put their money into. But also we find clear deviation between political information and possibilities for political interaction: Norwegian municipalities' websites are much more commonly used for one way information rather than citizens' participation. To illustrate this point of variation we used a "spider web", and below the findings in the various indexes are summarised in two such webs.

Note that the dotted line represents the "best practice" municipal websites, while the inner line represents the average score. In the first figure 5 (*enlightened understanding*) illustrates that of all the 7 indexes, by far the most popular initiative is to present information of the local political institutions (e.g. the executive committee of local council, county council, etc.). Least frequent (13%) we find information about the various political parties.

Figure 5: Enlightened understanding (index 1-7). Findings from the Norwegian Municipal Website Examination: Different initiatives in percent of all the municipal websites.

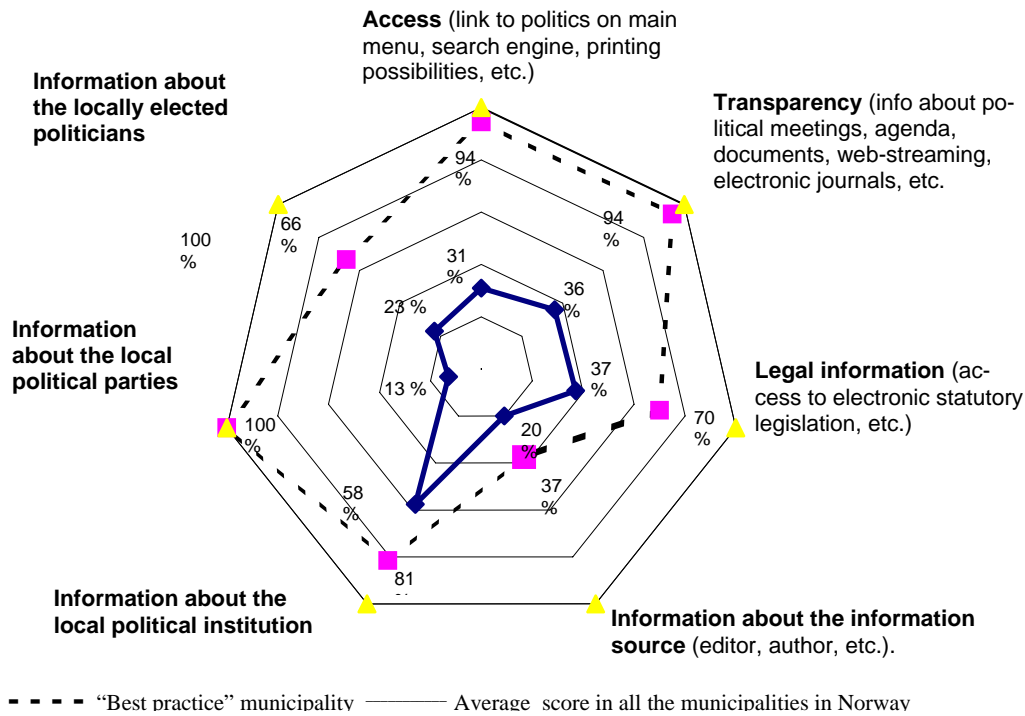
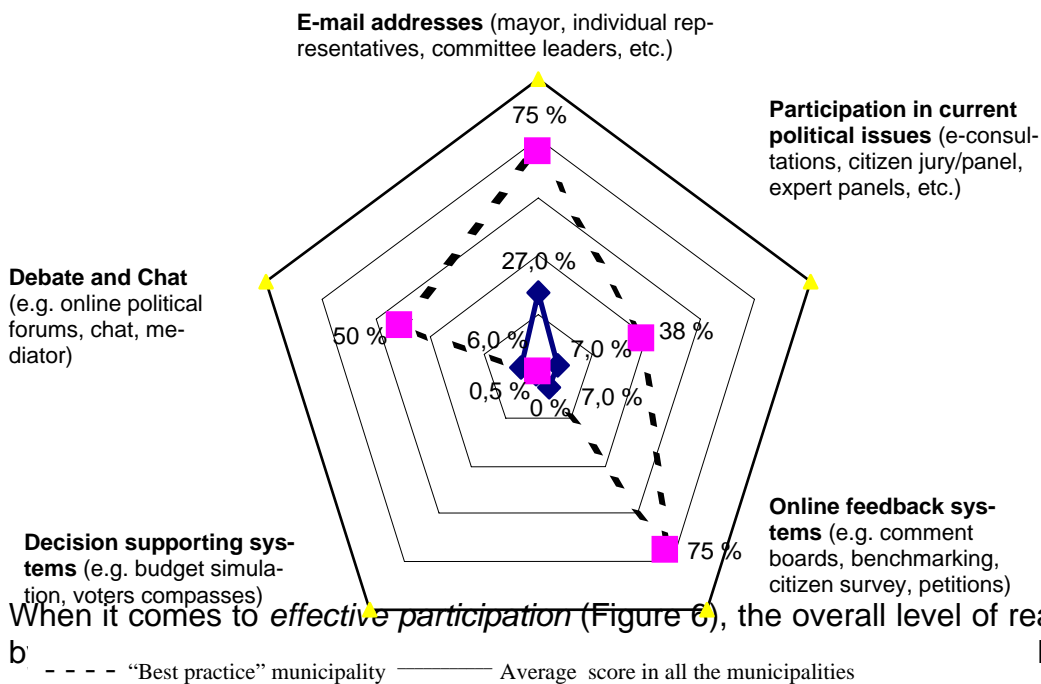


Figure 6: Effective participation (index 8-12): Initiatives in percent of all the municipalities' websites



Norwegian municipal websites are used much more for one way information provision than towards establishing new channels for interaction. Comparison to Danish and Swedish municipalities may indicate that the Norwegian municipalities are lagging behind our neighbouring countries (Torpe and Nielsen 2002, SKTF 2002).

4.2 What can explain variation?

In this section the hypotheses are statistically tested by regression analysis, as illustrated below (table 8). The table is structured according to the four hypotheses presented in section 4. The results from the regression analyses can be summarised in the following five central findings:

Hypothesis 1- Communication requirements: This hypothesis is measured by three independent variables: a) municipal size measured by population, b) change in population for the period of the last ten years, and c) access to broadband in the households. All of these independent variables are, though in unlike ways, indicators that might or might not affect the political communication requirements on the local websites. The findings show that the hypothesis from contingency theory gets support in 2 out of 3 variables. In particular we find a strong covariance between the municipal number of inhabitants (size) and political communication on the websites (Beta .250). The main tendency is that the municipalities with many inhabitants establish political communication on the web more than those with fewer inhabitants. Quite significantly is also the relation between access to broadband in local households and political communication (Beta .130).

Hypothesis 2: Legitimacy/modernisation image: The second hypotheses that derives from institutional theory and in particular symbolic actions, argued that the municipality might use the internet to revitalise the political legitimacy when it is exposed to some sort of crisis of legitimacy. This can of course be measured in different ways. In the regression model we tested the relation between *decline in voting participation* and political communication. Our findings do not however support such an argument (Beta .025). Yet, the hypothesis is tested on one single independent variable and needs to be developed further. Further research might also investigate to what extent various online political communication actually has an impact on political action or have mainly a symbolic value.

Table 8: Norwegian Municipalities Website Examination 2003. Linear regression: Beta coefficients for *political communication, enlightened understanding* and *effective participation*. All independent variables included.

Regression Model	Political communication (All indexes)	Enlightened understanding (Index 1-7)	Effective participation (Index 8, 9,10 and 12)
Constants:			
H1: Communication requirements			
H.1.1: Size (+ means increases with size)	,250***	,246***	,189*
H.1.2: Population migration (- means decreases when enlarged)	-,029	-,031	-,020
H.1.3: Broadband (+ means increases with more access)	,130	,117	,114
H2: Legitimacy/modernisation image			
H.2.1: Election participation 95-99 (- means increases when reduced)	-,025	-,032	-,007
H3: System Capacity (ability)			
H.3.1: Net operational result 98-00 (+ means increases when positive)	,107*	,100*	,090
H.3.2: Experienced financial barrier (- means fall when difficulties)	-,081	-,097	-,035
H.3.3: Access to e-mail/PC among staff (+ means increase when high)	,097*	,083	,092
H.3.4: Access to qualified staff (- means increase when access is easy)	-,101*	-,136**	-,023
H.3.5: System Integration (- means fall when experienced problems)	-,114*	-,094	-,113*
H.3.6: Level of outsourcing (+ means increases by use of internal)	,131**	,110*	,125*
H4: Management			
H.4.1: ICT-strategy (+ means increases when implemented)	,047	,034	,054
H.4.2: ICT-strategy included www (+ means increases when imple-	-,011	-,030	,021
H.4.3: Leadership engagement (+ means non/limited problems)	,017	,033	-,012
Adjusted R ²	,194	,180	,113

Significance: *** ,000 - ,001 , ** ,0011 - ,010 , * ,011 - ,050. Note: Due to the fact that all of the Norwegian municipalities where included in the examination, the relevance of significance should not be exaggerated.

Hypothesis 3 - System Capacity (ability): Our third hypothesis is tested by six different independent variables constructing “system capacity” of the municipalities: financial capability, experience fiscal situation, level of ICT access among the employee, access to qualified ICT staff, experienced difficulty handling technical system integration and degree of outsourcing. We observe that the independent variables measuring financial situation clearly are related to political communication (Beta .107 and Beta .081). Secondly, we find that the level of access to ICT among the workers plays a role (Beta .097), and also access to competent ICT labour (.101). Perhaps most exciting, there exists a strong relation between municipal outsourcing and political communication (Beta .131). The tendency points towards that those municipalities deciding to use external companies for programming and design of their websites, struggle in getting political communication online compared to the more in house websites. In general, taking all the inde-

pendent variables into account, it looks as *system capacity* is a fruitful concept when trying to explain variation among the municipalities.

Hypothesis 4- Management: Finally, we included three independent variables representing management. The first two independent variable focus on whether it matters if the municipalities have a general ICT strategy or not, and more specifically if they in this strategy included service to the inhabitants by means of Internet strategies. The last independent variable elaborates possible statistical relation between a leader's enthusiasms and online political communication. The analysis indicates that management, measured by strategy and engagement, did not make much of a difference. Even the strongest finding, general ICT strategy, only indicates a Beta on .047.

Note that the regression model explains an estimated 20 % of the total variation in political communication. Best explanation is found in the summarised index *political communication* (adjusted R^2 is .194), secondly *enlightened understanding* (adjusted R^2 .180) and *effective participation* (adjusted R^2 .113). Although we have succeeded in isolating some important independent variables, we still lack considerable explanations. An estimated 80 % of the explanation seems to come from other and undefined independent variables.

5. Conclusions

Summarizing our findings so far, we will emphasis the following: 42 out of Norway's 434 local municipalities (roughly 10 %) do not have an official website, thus Norwegian municipalities seem to be lagging behind the other Nordic countries. Among those municipalities that actually have a website, we find considerable variation in *political communication*. The focal point seems to be on the "users" or the "consumers" role that primarily belong to the governmental part of local democracy, and not on citizens and political communication. When online political communication is offered, the focus seems to be on information provision rather than online interactivity and political participation. Consequently the Norwegian municipalities primarily use their websites to stimulate one of Dahl's ideals, namely *enlightened understanding*. The second ideal, *effective participation* is not particularly developed.

When explaining variation, we find patterns that follow traditional contextual variables, such as municipality size and system capacity. A possible explanation is that the local e-democratic innovation process is rational, that is; municipalities are adjusting their investment in modern communication tools according to their specific needs and local ability. Whether the municipalities have an ICT strategy or not, for instance, or if the management is enthusiastic and supports the work, does not seem to explain variation.

Even though the research model contains 13 different independent variables, the regression analyses only explain about 20 % of the variation. This leads us to consider the significance of other undefined independent variables. In order

to collect empirical data that can have stronger explanation power, we need to get access to more specific data about the individual municipalities, e.g. by interviewing key persons about their strategies and background for their decision regarding developing the web-sites. Furthermore, we need an analytical framework that combines theories from various fields, such as e.g. organizational theory (e.g. contingency theory), innovation and diffusion theories, as well as economy theories etc. We also need a better understanding of the roles of different technologies used. By improving our models, it might be possible to better identify factors that can help us understanding the thinking and decision making processes in the different municipalities.

An interesting although somewhat normative question is to what extent we should permit inequality in the development of local democracy? On the one hand this might contribute to some sort of multi model democracy challenging the basic and classical Norwegian ideal of universal equality. On the other hand, by accepting the unlike development we might sustain local political autonomy. That is, to make local political communication a local political matter.

References

- Baldersheim, Harald, Pettersen, Per Arnt, Rose, Lawrence E. og Øgård, Morten (2003): *Er smått så godt? Er stort så flott? Analyser av kommunestrukturens betydning*, Institutt for statsvitenskap, Det samfunnsvitenskapelige fakultet, Universitetet i Oslo, Forskningsrapport 1/2003: Unipub AS
- Burns, T and Stalker, G.M. (1961): *The management of innovation*, London: Tavistock Publications.
- Christensen, D. A. og Aars, J. (2002): *Teknologi og demokrati. Med norske kommuner på nett!* Notat 29-2002, Rokkansenteret: Universitetsforskning i Bergen.
- Dahl, Robert A (1989): *Democracy and its critics*, New Haven:Yale University Press.
- Dahl, Robert A. & Tufte, Edward R. (1973): *Size and Democracy*, Boston. Stanford University Press.
- Damsgaard, J., Rogaczewski, and K. Lyytinen (1994) How Information Technologies Penetrate Organisations. An Analysis of Four Alternative Models. I Levine (red.) *Diffusion, transfer and Implementation of Information Technology* North Holland, 1994.
- Delone, W. H. & McLean E. R. (1992): *Information Systems Success. The Quest for the dependent Variable*. Information Systems Research Vol .3, No. 1p 60-95.
- Grönlund, Åke og Ranerup, Agneta (red) (2001): *Elektronisk förvaltning, elektronisk demokrati. Visjoner, virkelighet, Vidareutveckling*, Sverige, Studentlitteratur.
- Hacker Kenneth L & van Dijk, Jan (2000): *Digital Democracy, Issues on Theory & Practice*, London: SAGE Publications.
- Haug, Are Vegard og Øgård, Morten (2003): *Det e-demokratiske mulighetsrommet*. Avdeling for forvaltningsinformatikk og Institutt for statsvitenskap, Universitetet i Oslo: Rapportseriene (to be published).
- Haug, Are Vegard(2003): *Politisk kommunikasjon på kommunale hjemmesider*, Oslo, Unipub Forlag.
- Held, David (1993): *Prospects for Democracy. North South East West*, Oxford: Polity Press.
- Held, David (1996): *Models of Democracy*, Oxford: Polity Press.
- Hoff, Jens, Horrocks, Ivan and Tops, Pieter (2000): *Democratic Governance and New Technology. Technologically mediated innovations in political practice in Western Europe*, London and New York, Routledge.
- Jansen, Arild. (1998): *Technology Diffusion and Adoption in Small, Rural Firms*. I McGuire and Larsen (red.) *Information Technology Systems. Innovation and Diffusion* Idea Group Publishing, USA.

- Kraemer, K, J. King, D. Dunkle and J. Lane (1989): *Managing Information Systems*. Jossey-Bass Inc., San Francisco.
- Kwon, T.H. and Zmud, R.W. (1987) Unifying the Fragmented Models of Information Systems Implementations. I Boland and Hirscheim (red.) *Critical Issues In Information Systems Research*. Wiley and Son, New York. 1987.
- Lyytinen, K. (1991) Penetration of Information Technology in organisations: A comparative study using stage models and transactions costs. *Scandinavian Journal of Information Science*, Vol 3, 87-109.
- Norsk Gallup Institutt AS (2003): *TNS Galupp INTERtrack 3.kv 2003*, Oslo: Internett Research.
- Norges offentlige utredninger (2003): *Makt og demokrati. Sluttrapport fra Makt –og demokratiutredningen*, NOU 2003:19, Oslo, Statens forvaltningstjeneste. Informasjonsforvaltning.
- Rosén, Tommy (2001): *E-Democracy in Practice. Swedish experiences of a new political tool*, Svenska kommunförbundet och Landstingsförbundet: Bromma Tryck
- Selle, Per (2003): "Økt statsmakt – lokaldemokratiets forvitring" foredrag avholdt under sluttkonferansen for Makt og demokratiutredningen, Oslo 26.august 2003.
- SSB (2003): *Kostra Statistics Norway* . 2003. <http://www.ssb.no/emner/00/00/20/kostra/>
- SKTF (2002): *Hur står det till med e-demokratin? Om elektronisk demokrati i samtliga Sveriges kommuner och i Stockholms og Göteborgs statsdelar*, SKTF rapport 2002
- Torpe, Lars og Nielse, Jeppe (2002) *Åbenhed og Dialog. En vurdering af kommunernes hjemmesider 2002*: <http://www.socsci.auc.dk/digdem/publikationer.htm> (14.11.2003)
- Wollebæk, Dag og Selle, Per (2002): *Det nye organisasjonssamfunnet – Demokrati i omforming*, Bergen: Fagbokforlaget
- Zmud, R. W. (1984): An examination of the 'Push-Pull' theory applied to process innovation in knowledge work *Management Science*, Vol 30, No 6. June 1984.
- Østerud, Øyvind (2003): "Samfunnets nye maktkonstellasjoner – Maktutredningens hovedkonklusjoner", lecture given during the final conference for the Power and Democracy study, Oslo 26. August, 2003.