

Case Study: The Swiss Electronic Government Barometer

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With the Electronic Government Barometer, Switzerland is entering uncharted territory from an international perspective. It regularly measures the state of development in all administrative positions on all three state levels. Furthermore, it does not limit itself to Internet presences in this process, as is the case in the well-known international studies. It also addresses the question of how the individual elements are integrated and how the management of E-Government takes place in the administrations. Finally, it relates the development with external context factors such as politics and law. The result is a unique breadth of data that can be analyzed for various different purposes and provides useful inputs for both research and practice.

Switzerland in an international comparison, and why it needs an E-Government Barometer

Switzerland is seen as a rich and developed country. Its administration claims to be both efficient and effective. For international firms, it is an attractive place to establish their headquarters, which has also been confirmed by international comparative studies (Wanner 2003). Impeding factors such as corruption are virtually unknown in Switzerland (Transparency International 2004). No reason therefore to be concerned about Swiss economic development — one would think. More recent indicators, however, show that the trend for Switzerland looks bleaker than is assumed: In the latest Global Competitiveness Report, “inefficient bureaucracy” is named as the most problematic factor for doing business (Porter et al. 2004). The same report also shows that the government prioritization of information and communication technologies (ICT) is only ranked as 47th worldwide, together with China, Madagascar, and Jamaica, while the Internet users occupy 23rd place. Ultimately, from international comparative studies, Switzerland comes off as rather mediocre. Although it is placed 8th in the E-Government Readiness of the UN (United Nations 2003), in comparison to developed countries, the Internet provision in the governmental area is modest, and from a European perspective, it is even in the bottom group (Cap Gemini Ernst and Young 2005; European Commission 2003).

The reasons for this internationally mediocre position can be found in various different places. The marked federalism leads to a fragmentation of decisions: approximately 3,000 political authorities autonomously determine what they would like to undertake in terms of E-Government. There is no central strategy, and the autonomy of the cantons and municipalities enjoys a higher priority than the technological development of the administration. At the same time, Switzerland has a very high level of data protection, which, for instance, has up to now prevented the introduction of a uniform personal identification number. This, however, also leads to the fact that the creation of legal foundations for a further extension of E-Government is only progressing hesitantly. Ultimately, the means and the capabilities for the introduction of E-Government are available, but the will and the consistency to drive forward the implementation are lacking. All of this information, however, is not provided by international comparative studies, but is rather available implicitly from specialists or was gathered in separate studies within Switzerland. The shortcoming of the international studies lies in the fact that they concentrate — perfectly justifiable from a comparative perspective — on the Internet presence, thereby neglecting the administrative structures on which the Internet presence is based (Cap Gemini Ernst and Young 2005).

In order for development in Switzerland to be followed in greater detail and, above all, so that the strategic management of information relevant to E-Government can be made available, a quantitative measurement tool was created: the Electronic Government Barometer. This tool is capable of providing information about not only the development of the provision of E-Government services in Switzerland, but also the conducive and impeding factors that contribute to this development.

The Electronic Government Barometer

The Electronic Government Barometer is based on a conceptual model that was specifically developed for the evaluation of E-Government projects (Schedler, Summermatter, and Schmidt 2004). It comprises four groups of E-Government applications, namely Public Services (ePS), Democracy and Participation (eDP), Production Networks (ePN), and Internal Collaboration (eIC). The ePS encompasses all service provisions of the administration that can be obtained over the Internet, both for private citizens as well as companies. The field of eDP contains all electronic measures that represent the decision and participation process in the politico-administrative system. Democracy is seen in this process as the formal participation of the population in political decisions (i.e. votes and elections), and participation is seen as any type of informal inclusion of population groups in decisions, mostly on the administrative level. Examples for participation are citizen forums, consultative votes, and district meetings. The ePN comprises the cooperation of the administration with third parties, i.e. with private citizens, nonprofit organizations, and other administrations. Finally, eIC forms the internal nerve system that links the other three systems with one another. It includes, for example, workflow systems, data hubs, internal communication, and knowledge systems. The four elements of E-Government have very different characteristics: the ePS are aimed at customers, effectiveness of the service arrangement, and consequently at individualization; the eDP are aimed at citizens, the inclusion of their interests, and therefore at equality of access; the ePN are aimed at companies, efficiency of the service production, and therefore at standardization; the eIC are aimed at employees of the administration, integration, and automation. They form the dependent variables in the model of analysis.

As independent variables, two groups were defined: a. the *environment* with politics, technology, law, and society, and b. measures in the *management* of E-Government with the fields of strategy, structures, organizational capacity, and culture. Thus, E-Government is embedded in an external and an internal context in which it develops. Ultimately, according to the expectation of the authors, the implementation of E-Government is not a problem of technology, but rather of the ability to connect to the organizational context. Of relevance are factors such as the support of the administration leadership, acceptance of the employees, and chances of success of those involved.

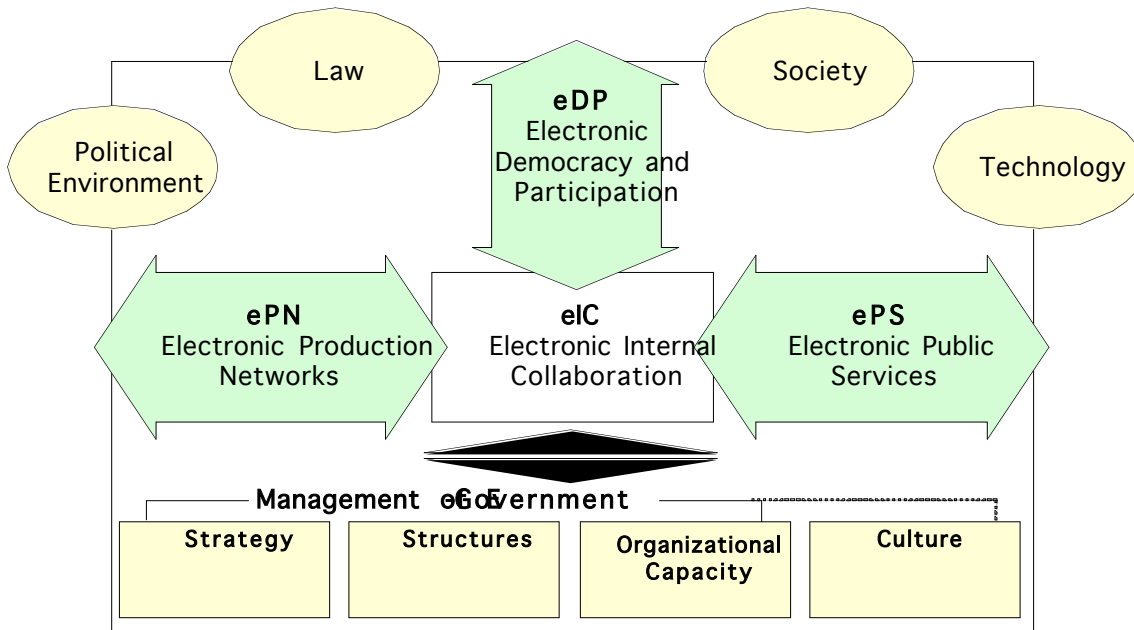


Figure 1: Model of the E-Government Barometer

The E-Government defines, for each of these fields, questions that measure the current state of development. Since 2002, this has been implemented in a yearly rotation and consults in writing all administrative units in Switzerland, on all three state levels (national, cantonal, and local level). In total, approximately 4500 questionnaires are sent out each fall with an expected response rate of approximately 25 percent. This type of survey enables for each year a *cross section* of the state of E-Government to be assessed. It is therefore an important information tool for the decision-making bodies in this country. The structure and the sheer size of the data permit the formation of multiple clusters for the analysis. Examples of this include:

- Evaluation according to state levels, e.g. federal government, cantons, and municipalities
- Evaluation according to types of municipalities as they are also used in the official statistics of Switzerland, thus for example urban and rural; rich and poor; touristic and non-touristic municipalities.
- Evaluation according to classes, financial conditions, or tasks of the public offices surveyed.

Of particular interest, however, are the links between the various different elements in our model. Thus, it has been possible to demonstrate that those municipalities that have a written E-Government strategy are quicker in their development than those without such an explicit strategy. It could also be shown, for instance, that the active political support of E-Government is conducive to its success. Finally, it became clear that administrations that have already carried out public management reforms are quicker in the introduction of E-Government than others — a result that concurs with our studies in Germany (Schedler and Schmidt 2004).

Of particular scientific interest, moreover, is the comparison of development over time, i.e. the *longitudinal* aspect. As Barometer data together with their senders are available to us, it is possible to trace the developments of individual administrative posts over time. If this is statistically evaluated, it is possible — for instance with the help of structural equation models and similar methods — not only to record the relationships between the individual fields, but also the direction and strength of influence.

Publication of the results

The results of each yearly survey are published in two forms:

1. Every year we publish a report for each state level, in which the current state of the development is presented with the help of descriptive statistics. Each report additionally contains an interpretation by the authors who comment on the current state. These reports are on the one hand delivered to the responding administrations as well as the sponsors of the Barometer, and on the other hand are published on the Internet (<http://www.electronic-government.ch/barometerbericht>).
2. Each participating administrative unit also receives via email an individual analysis of their answers in relation to their reference cluster. For cantonal offices, this means other offices with similar duties (e.g. tax offices), and for municipalities, other municipalities from the same size category. The evaluations enable a type of benchmarking for the administrations, i.e. they are able to assess where they stand in comparison to others.

All publications always exclusively contain anonymous information, i.e. the results do not allow answers to be traced back to one individual administrative office. Although the data would allow this, rankings and “best practice” analyses are purposely not provided. Once dispatched, the individual evaluations are immediately deleted, and the receivers know only their own position and not the names of others in their reference cluster.

Through this anonymity and by choosing to do without rankings (which would definitely be salubrious for journalists), any potential falsification of answers in order to obtain a better ranking is prevented. The goal of the Electronic Government Barometer can only be achieved if it can be implemented over several years and if the answers correspond to the facts as precisely as possible. Both of these factors would be endangered if the results could be abused for popular-media effects.

Organization and further development

To enable a further development of the E-Government Barometer, a series of organizational measures have to be met, which will be briefly described below. Thus far, the Barometer has been financed by a consortium consisting of two national government offices, three cantons, and two private software firms. This form of financing carries the advantage that it has a broad support base, but on the negative side means that the demands of seven different organizations have to be taken into consideration. For the future, attempts will therefore be made to secure a purely public financing. This is related to a wider development: federal government and cantons in Switzerland require a reappraised type of information on the state of E-Government in Switzerland that is relevant to decision-making processes. The Barometer provides, together with other sources, the basic data for this purpose, but is on the whole too extensive and too detailed for simple political use. Moreover, it does not produce any comparisons with other countries and, until recently,

did not take into account the perspective of the customers. In order to better fulfil the requirements of political decision-making bodies, in 2005 a so-called “Electronic Government Cockpit” will be developed that is to be financed by the public sector. It is currently being discussed how strongly the Barometer and the Cockpit are related and thus should be directed by the same institute and financed by the same source.

The E-Government Barometer is created in a system of contracting by the University of St. Gallen as the service provider. It therefore uses the technological resources of the university (online survey software *teleform*) and is operationally looked after by an academic assistant. This enables a very cost-effective solution. The benefit that evolves for the university lies in the comprehensive data available for further research.

The experiences in Switzerland have made it clear that a yearly survey is too frequent. The changes that take place from year to year are not exciting enough to justify such expenditure. Furthermore, a certain survey fatigue is discernible, which is noticeable from the response rate (2002 survey: 36 percent, 2004 survey: 25 percent) as well as in qualitative observations on the questionnaires. It was therefore decided to work on a biennial basis from 2006.

Finally, due to the quality and frequency of answers, it can be determined which questions are not answerable or relevant for which addressees. The questionnaires from 2006 will therefore be better attuned to the addressees, so that the individual will have fewer questions to answer and at the same time the general quality of the database will not suffer.

Evaluation

The Electronic Government Barometer was originally set up as a research project that as a side effect should also provide an information service for practice in Switzerland. It has in the meanwhile, however, developed into an instrument that is used for strategic evaluation in Switzerland. It is also held in high regard in the public sphere. The 2004 report alone was presented at five functions with a total of nearly 700 participants. We registered 3789 hits on our web site for the 2003 report and 485 hits for the 2004 report (two weeks after publication).

With the help of the E-Government Barometer it has been possible to create an information source for the national and regional decision-making bodies that supplements the international studies. Its particular strengths lie in the comprehensive reflection of E-Government, which also incorporates the decision-making processes and the processes of cooperation as well as the internal assimilation processes. Moreover, it touches on a decisive factor of implementation: the management of Electronic Government. In this regard, it has not only an analytical-descriptive function but also a normative one: through the necessity of answering questions on management measures in relation to E-Government, many administrations become aware for the first time how fundamental these elements actually are. To use the Swiss vernacular, “management means asking the right questions”. It seems that in this sense, the E-Government Barometer can make its own modest contribution to the further development of E-Government in Switzerland.

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