A Global View on eGovernment and eGovernance in Switzerland

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In this work we propose a framework to give a global analysis of eGovernment and eGovernance in Switzerland. First we discuss the eGovernment strategies and the eGovernance policies of the Federal Government, of the Cantons and of the largest cities in Switzerland in order to identify the overall directions of the Swiss ePolicies. We then propose a mean of measuring the proximity of eGovernment and its different generic functions. In order to do so we analyzed different international studies and defined an indicator based on 21 elements of measures grouped in six dimensions of proximity. In this paper we present briefly the results of two surveys conducted in 2002 and 2003 on the official Websites of the French-speaking Swiss Cantons. To conclude this work we give some hints for the application of a methodology based on proximity measurement.

Keywords: e. government; e. governance; Public Administration in Switzerland, Strategy of e. government.

1. Introduction

In order to analyze the state of eGovernment and eGovernance in Switzerland we propose a general framework for analysis. This view is shown in figure 1, where several „building blocks“ are defined: „democracy“ brings legitimacy to a given state, whereas the regulatory view on society is generally called „governance“ and „government“ is seen under the institutional angle.

Governance is complex to define and involves many stakeholders; the main ones are identified in figure 3. It shows the links between government and its environment and it is adapted from the work of Dr. Thomas Gordon in the eGovernance Consortium1.

Finally the public sector viewed in a restrictive way has one strategic goal (Fig. 4): to provide administrative services to its clients (citizens, businesses, other administrative units, etc.)

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1 www.e-governance-consortium.org
Basically adding an “e” to democracy, governance or government means using new (electronic) technology to improve them, but these new terms also cover a much broader field: re-thinking and reorganizing democracy, governance or government in order to better serve the general public interest. (Riley, 2003) compares eGovernment and eGovernance and defines several areas covered by these terms:

- **eGovernment**:
  - Electronic Service Delivery: query, inform, and transact with the public over electronic networks.
  - Electronic Workflow: automating internal and external workflows constituting government activities.
  - Electronic Voting: several alternatives of voting via electronic transactions.

- **Definition of eGovernance**
  - Electronic Consultation: interactions between public servants and the citizenry and interest groups, allowing ordinary citizens to participate in rule-making.
  - Networked Societal Guidance: each citizen can monitor governance and governors, and give online feedback or guidance to the governance system.

After this short introduction on eGovernment and eGovernance, we will now give an overview on the current situation in Switzerland, according to this framework we defined.

**eGovernment Strategies and eGovernance Policies**

The Swiss Federal Government started to consider information society policies in 1996 within the G7 Framework and subsequently ordered a study (Kappeler, B. & al. 1997) from a specially appointed reflection group. The latter constituted the foundation for several reports written by the Information Society Coordination Group in 1999, 2000, 2001 and 2002 for the Federal Council (Swiss Government). The latest of these documents (Groupe de Coordination Société de l’Information 2002) defined a detailed roadmap for an information society in Switzerland, covering many important aspects, from infrastructure to education and from eBusiness to eDemocracy.

**Federal Policies**

As stated in the report from the Groupe de Coordination Société de l’Information, an information society is characterized by the strong interrelations of technology, communication and content in all aspects of the economic and professional world and of everyday life. The Federal Council decided to monitor the transformations brought by information technology and to accordingly define a policy framework for eGovernance in Switzerland. Following the recommendations of different working groups, it defined eight priority domains: education, economic development, electronic commerce, electronic government, new forms of culture, security, scientific studies and legal aspects. During 2001 and 2002, several projects were initiated in the domains of education, eGovernment and eCommerce, some of which are presented below. The Swiss federal Government also pushed forward the legal recognition of digital signatures to provide a favorable environment for the development of innovative electronic applications. The Federal Council also decided to set up a scientific follow-up group whose mission it is to evaluate all activities regarding information society. This group published a first report in March 2002 (Center for Science and Technology Studies 2002) and came to the conclusions that the Federal eGovernance policies provided a solid basis for the development of information society although they also contained some weaknesses. Completing this scientific assessment, another report (Office Fédéral de la Statistique et al. 2002) was published in 2002, containing detailed statistical information on ICT use and on potential ICT developments in Switzerland.

In addition to these more general ePolicies, the federal government defined a strategy for its own activities and all levels of government projects related to eGovernance in Switzerland. The IT strategic unit of the Confederation was mandated to prepare a four-year action plan (Unité de la stratégie informatique de la Confédération 2002) to integrate ICT in gov-
ernmental activities and to modernize administrative services. This plan is based on three strategic goals: „creation of basics“, „service optimization“ and „networks development“. The first goal is to create appropriate conditions for eGovernment regarding organizational perspectives, technology and security. This involves a necessary work of standards’ definition in order to enable electronic collaboration between different public administrations and different departmental levels. The second goal is to facilitate the access to electronic services to all actors of the public and private sectors and therefore to reorganize internal processes of the administration so that they support electronic transactions. The last strategic goal of this plan is to create fully interconnected networks between all administrative units (at the federal, cantonal and communal levels) and their different partners, public or private. An example of such a network is the private-public partnership developed by the Confederation, the Cantons and private companies in order to give access to the Internet to all primary and secondary schools of the country.

A first and important step towards this interconnection has been taken in February 2003 with the public opening of the first version of the www.ch.ch portal. This project entitled „Guichet virtuel“ (virtual counter) is based on the cooperation between the federal, cantonal and communal structures of the Swiss public sector. It was designed in order to respect the complicated distribution of competencies between these levels. This portal provides citizens (but not businesses) with a single point access to all public services, with a thematic organization articulated around eight domains: private life, society, work, health and social security, mobility and environment, security, fiscal and political matters, economy. In parallel with the development of the „Guichet virtuel“, the eCH organization has been founded in 2002 to work on the definition of eGovernment standards for Switzerland. In order to take into account the specific needs of the different actors involved in eGovernment and to closely study relevant international work, it set up several working groups made of members of public administrations, professional associations, research centers and private companies.

Up to here, we spoke about eSociety and eAdministration policies, but let us not forget that Switzerland has a strong tradition of grassroots democratic participation and that it could therefore be a favorable ground for eDemocracy. In 2001 the Federal Council decided to carefully study the implications of electronic voting on the Swiss political and civil life. In his report on the feasibility of e-voting (Conseil Fédéral 2002), the Federal Council identified several risks that were considered too important for a rapid introduction of e-voting. It consequently opted for a prudent strategy and decided to proceed step by step, with thorough tests and evaluation of different electronic participation stages. In order to do so, three pilot projects were financed, in the Cantons of Geneva, Neuchâtel and Zurich. The first trials were conducted in Geneva where the citizens of the town of Anières were able to vote via Internet on 19th January 2003, to decide whether to accept a credit of renovation or not. This was the first time in the world that a politically binding vote was made electronically although there were previous experiences for elections. The results were encouraging, as 323 citizens chose to vote online, 370 voted by postal mail and only 48 went to the polling station. The authorities were able to count the electronic ballots in 73 seconds. Further tests took place in Geneva in 2003 and 2004, and in the future others will be made in Neuchâtel and Zurich experimenting different technical solutions. The Federal Chancellery announced however that the generalization of e-voting at the federal level was not to be expected before 2010, believing that the technical, organizational and political problems surrounding the e-vote should be leveled by that time.

Regional Policies

Most Cantons in Switzerland do not have their own ePolicies, as they can count on the Federal ones. However some larger Cantons, such as Zurich, Basle-Town, St.Gallen or Geneva developed and made publicly available their eGovernment strategies. We will come back to these further on. Other Cantons (Argovia or Neuchâtel) published overall reports about eGovernment. Several Cantons (Jura, Lucerne, Nidwalden, Zug) also prepared their own ePolicies that are more or less detailed. We believe that this shows a growing political interest

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2 www.ppp-sin.ch
3 www.ech.ch
4 www.gevote.ch
5 In April 2004 Carouge was the first city in Western Europe to offer the possibility to make an electronic political binding vote, with almost 26% of the participating citizens voting online.
in eGovernance. One the other hand none of the large Swiss cities, with the exception of the City of Zurich, do have any policies or strategic documents in that field, although several of them work in close cooperation with the Canton where they are located. This is more notable in the „Canton-Cities“ such as Basle-Town or Geneva, but they are other examples like Neuchâtel where the Canton and the town share their IT resources. There is also a close co-operation between the State of Vaud and its capital city Lausanne through a working group established by the canton in which both webmasters take part.

The first Canton to have a complete document supporting eGovernance (Staatskanzlei des Kantons Basel-Stadt 2001) was Basle-Town, where a group of experts developed a complete strategy and action plan for eGovernment. They clearly identified the tasks and limitations of an electronic public administration and they outlined several conceptual principles for an administrative One-stop-shop on the Internet. This document also proposes a framework for technical developments, a strong orientation for document and process management, as well as a legal ground for electronic procedures. Moreover, it defines a technical and style guide for the Internet portal of the Canton and it also took great care in the organizational and logistic needs of eGovernment projects. Although this strategy was published in 2001, we think it is to be considered currently as a „best-practice“ at the Cantonal level. In 2002, the Canton of St.Gallen also published its own eGovernment strategy (Staatskanzlei des Kantons St.Gallen 2001 that was more focused on infrastructure and networks. A roadmap for the necessary work of „creation of the basics”, as termed in the Federal strategy, is clearly defined in this document. Another of its interesting aspects is the integration of the communes and of different external institutions in a true eGovernance spirit enabling public-private partnerships for the development of eGovernment in that Canton. The St.Gallen strategy also provided some ideas and examples of tools or instruments that can be used for monitoring the progress of eGovernment. Whereas Basle-Town and St.Gallen developed their ePolicies internally, under the authority of the State Chancellery, the Canton of Zurich chose to establish a special working group called wif! that worked in cooperation with the consulting firm Arthur Andersen to define its eGovernment vision and the necessary foundations for such a project. wif! is the acronym for Result Oriented Management. In accordance with this title, (Arthur Andersen 2001) presents an interesting blueprint for eGovernment projects in Zurich, containing general definitions, „market“ and cost analysis, a general architecture for the cantonal portal as well as the definition of several priority projects (tax, procurement, building permits, social help, etc.). It also advocates the creation of a special competence centre for the coordination of these projects. While developing this report, the authors also took into account the users’ perspectives, by conducting interviews of key civil servants and by setting up workshops on strategy.

In this section we saw that, out of the 26 Cantons and the largest cities, less than one third of them developed true eGovernance instruments although they are in possession of most administrative competencies, Switzerland being a confederal state. Two main explanations can be advanced. First, many Cantons are too small and do not have the necessary resources to develop strategies for eGovernment. Second, the Confederation’s ePolicies take into account the needs of the Cantons and of the communes that can rely on the Federal policy framework. However we also mentioned that there is a growing interest in eGovernance on the side of the Cantons and we believe more and more of them will turn to eGovernance.

Main results

During these surveys we identified three main strategic goals, as they are stated in the eGovernment strategy of the Swiss Confederation:

– **Creation of basics**: developing appropriate conditions for eGovernment at the organizational, technology and security levels, as well definition of standards for electronic collaboration.

– **Service optimization**: access to electronic services for all actors of private and public sector and reorganization of all internal processes in order to support electronic transactions.

– **Networks development**: creating interconnected networks for administrative units at all levels and encouraging private-public partnerships.

A Proximity Indicator for eGovernment

We made two sets of measures on the official portals of the French-speaking Swiss Cantons in 2002 and 2003. These measures were both made within a timeframe of one week with an
on-line questionnaire that we completed while surfing on these portals. Our goal was to study which elements were available in order to support interactions between citizens and these public administrations. We selected the elements to survey on the basis of several existing studies, in the United States (Ingram & Gray 1998; Rockville 1999; Andersen Consulting 2002; West 2002) and in Europe (EVS Conseil 2001; Kosmos 2000; Kerschot & Poté 2002; Finger & Cotti 2002; Chappélet & Hitz 1999).

Methodology

Our first observation was that these studies were based on very heterogeneous approaches, but the elements of measure were often quite similar. We also discovered that most of these studies only took into account the existence or non-existence of relevant elements. Schematically, the evaluations we analyzed gave grades to the surveyed Websites according to the availability of elements that were seen as a guaranty of quality. These studies all used many quantitative variables and some of them included subjective elements such as „quality of the graphical chart“ in order to measure users perception. Using this type of approaches, one can evaluate quickly a large number of Websites in order to obtain a global „image“ at a given moment. However we think this binary approach is limited because it does not show the inherent strengths or weaknesses of a portal: it can integrate all the functionalities measured in a study and still be not very usable. In order to go a little bit further than these approaches we propose to transform the binary value of the existence of a given element (which we think amounts to an absolute value) into a relative one. In other terms, we believe that the value given to the existence of functionality on a Website should be dependent of its accessibility. Thus we used the concept of number of clicks to measure the distance of selected functionalities from the homepage. For example we think that the relevancy of publishing an email address on a Website is dependent of its distance (in number of clicks) from the entry point of a portal. Thus the idea of a proximity indicator based on the smallest number of clicks. At the most trivial level, a click is the noise produced when a user presses on a button of his mouse. By extension this term is applied to a basic interaction that a user has with a computer system. In the world of Internet the click has an additional meaning: it is the action of activating or using a hyperlink. This is the most basic level of definition and contextual semantic levels were gradually added, transforming the click in a form of universal metrics and placing it at the centre of the World Wide Web development. It is notably considered as an indicator of traffic on Websites, used to measure their popularity and economic value. As such, the click became the unit of measure for online marketing. Furthermore it became a distance measure: it shows how many steps users have to follow to „surf“ from one point to another.

Let us mention that we made no hypothesis on the preferences and surfing habits of the users. Indeed there are many ways of accessing the Web and of navigating: clicking of thematic hyperlinks, using search engines or sitemaps, using visual or textual modes of navigation, etc. We tried to test these different ways of finding a given functionality and to take into account the smallest numbers of clicks (SNC). Below we list the elements we were looking for on the public portals we analyzed, as well as their repartition in 6 dimensions of proximity (i.e. the generic functions that we think such a portal should integrate):

- **Connectivity**: Phone/Fax/Postal Address, E-mail;
- **Actuality**: Last update, Newsletter, „Push“ services;
- **Navigability**: Index, Search engine, Help, FAQ, Return to homepage;
- **Accessibility**: Navigation for handicapped, Translations;
- **Transparency**: Survey, Data protection, Official publications;
- **Interactivity**: Marriage, New business creation, Working permit application, Working permit renewal, Building permit application (Project representative), Building permit application (Client).

This survey allowed us to define 6-dimensional profiles of the French-speaking Swiss cantons. Results are shown under the form of a „compass“ that represents the average SNC for each proximity dimension. We considered that the superior limit was 5 clicks and that the users would stop looking for the information they wanted past this number. Indeed we set a virtual limit, but we included a margin of tolerance. We considered that having to click more than five times is equivalent to not finding the information and inversely we decided that non-existing information was equivalent to having to click five times. We always tried to use different search strategies and systematically record the smallest number of clicks: following the formal orga-
izational structure of the portal, using the sitemap, doing thematic researches, etc. We also set a time limit of 15 minutes, considering that past that limit any user would stop looking for desired information.

3.2 Main results

To show these results graphically we used a „compass„ inspired by the work of Kolence and Kiviat (Kolence & Kiviat 1973). It shows the average SNC as an area indicating the average distance between 0 and 5: a smaller area shows that a Website is more compact and that the proximity is „better“. We measured this proximity at a time interval of 18 months and this allowed us to see the evolution of these public portals. We will not show individual results for the six cantons we surveyed, but we will illustrate our approach with selected examples. Figure 5 shows the global evolution of the cantonal portals between 2002 and 2003: ameliorations were measured along all 6 proximity dimensions we studied.

![Figure 5: Average Proximity of Cantonal Portals in 2002 and 2003](image)

As we already mentioned, we will not go into the details, we rather want to point out a few key points of what we found out during our study. For most cantons, the problems of accessibility are not taken into account, notably regarding special interfaces for handicapped people. Contrary to the Anglo-Saxon practice, there is no mean of pressure to accelerate the development of such systems. In the United States for example, public administrations must make their Websites accessible for people who have vision, audition or motion deficiencies in accordance to Section 508 of the Rehabilitation Act Amendment of 2001. In a similar way, foreigners are not taken into account if they do not master the French language, although they are not a negligible part of the population in terms of interactions with public administrations. Furthermore, we noticed that, when translations exist, there are large differences in the contents offered, as translations are not updated at the same time (or at all).

We were also rather surprised to note that most public portals provide no information regarding data and personal sphere protection, although it is a very hot topic in Europe. Thus citizens do not know what will happen with data they provide online, even if one can consider that most citizens would trust their public administrations not to sell that kind of data, for example for marketing purposes. In some cases, we found warnings stating that emails sent to public administrations were not secure, but we did not considered it was sufficient. Moreover we considered that transparency was not only a matter of protection personal data, but that citizens should also be able to give their opinions on these public portals. We did not find any means of providing feedback regarding online services or information, other that a general email address, which purpose was not clearly stated.

Finally we found almost no on-line administrative procedures, even the simplest ones, although most sites provide information on how and where to realize these procedures, for example in terms of life-events (marriage, birth, and so on). The most advanced ones provide electronic forms, but it is rarely possible to do any on-line transactions. Often these forms have to be printed and sent by postal mail. Basically we can only state that interactivity is far from being realized on the portals of the cantons we surveyed.

On the other hand, the cantonal portals do well regarding the dimensions of connectivity, navigability and actuality and they got better along these axes between 2002 and 2003. Moreover, we found out that half of the cantons had a very similar convergence for these three dimensions: even if they had contrasted situations in 2002 and 2003, the evolution was really parallel. This makes us think that we might see a sort of collective learning in the domain of eGovernment.

When analyzing the results for each canton we realized that they had different profiles (see figure 6 for an example), but as we wrote in the introduction our goal was not to establish a ranking.

However this approach allowed us to make comparisons in terms of structure and balance of a Website in a synthetical graphical manner. By balance we mean that different parts of a Website
and various functions of an administration should be reachable in a relatively constant numbers of clicks. Indeed we believe a balanced public portal is an indicator of the level of integration of different departments or services within one public portal. Regarding the differences between the graphs of each canton we think there are the results of different eGovernment strategies and development stages.

Our approach has its limitations: it does not take into account the numbers and variety of potential users, as it is based on the hypothesis of an average Internet user. Furthermore, the smallest number of clicks is a static concept, as we counted it once and at a given time. It does not integrate the fact that users have learning capacities and that they might have difficulties finding given information the first time they are looking for it but that they might be quicker the next time. A more complete approach, but also much more complex to realize, would be to take into account the successful and failed clicks (i.e. the ones that bring users closer to what they are looking for or the ones that do not) and to calculate a ratio. We could then compare the ratios of several successive surf sessions. Finally we have to say that our approach is somehow limited as it only considers Web navigation in terms of hyperlinks activation. However users might have bookmarks or use general search engines that will bring them to the desired point much quicker than using classical navigation, from the homepage to the different sub-sections of a portal. In other words we based our work on the idea of a one-stop governmental portal, but some users might not go through this unique entry point and rely on alternative strategies. This was particularly true in the cases of Websites built according the hierarchy of a public administration, and even more so when the different departments and sub-services were described with acronyms that the average user probably does not understand. Some sites were based on the concept of life-events, which makes it a lot easier for the users than the hierarchical approach. We however noted that this life-events model usually only covered the first layer of administrative portals: the unique entry point uses this model to direct users to a sub-section of the portal, but the next steps are so-to-say classical.

Finally, this study taught us that the realization of an integrated and coherent interface to public services for varied users is a difficult task and that it is not yet realized in the cantons we surveyed, although we noted an interesting progression between 2002 and 2003. We also observed that the more technical aspects (navigability, actuality and connectivity) were well covered, whereas the more „political“ aspects (data protection, access for handicapped) are not really taken into account. In our opinion this shows that eGovernment must particularly progress at the organizational and socio-political level. Finally we were quite surprised to find out that so few electronic procedures were implemented and that true interactivity is yet to come in these Swiss cantons.

4. Conclusions

Our survey showed that eGovernance in Switzerland is still at a preliminary stage: there is an existing policy framework and the government has established the basics for eGovernment. However eConsultation is still at preliminary stages, which is a little of a surprise in the country of semi-direct democracy where citizens vote on almost everything. Furthermore we found out that eEngagement and Networked Societal Guidance were yet to be defined and implemented.

Regarding eGovernment, we judge that „technical“ issues are solved (that is the creation of portals, navigation functionalities and maintenance of public websites) but that „societal“
issues are still to be addressed. Indeed, the problems of access for everyone and of transparency are not really taken into account. Although there are more and more eServices and eWorkflow projects and applications, we believe the global results regarding interactivity or transactional functionalities are not satisfying. Finally, although it is much spoken about, eVoting is still in testing and assessment stage.

References

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Elektroninė valdžia Šviecarijoje ir visuotinis požiūris į ją

Santrauka
Šiame straipsnyje pateikiami globalus e.valdžios ir e.valdymo tyrimas Šviecarijoje. Siekiant nustatyti bendrąją šviescarijos e.valdymo politikos kryptį diskutuojamos federalinės valdžios, kantono ir didžiųjų miestų e.valdžios strategijos ir e.valdymo politikos. Taip pat sūlomos e.valdžios atitikties svarbiausioms esminėms valdžios funkcijoms vertinimo priemonės. Šiame straipsnyje taip pat pateikiami prancūziškai kalbančių Šviecarijos kantono oficialių svetainių tyrimo, atlikto 2002 ir 2003 m., rezultatai. Išvadose pateikiamos svarbiausių atitikties vertinimo metodologinės nuostatos.

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