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DON'T JUMP OVER ACCEPTABILITY BEFORE IMPLEMENTING E-VOTING. SOCIAL ACCEPTABILITY AND IST CONDITIONS OF E-PARTICIPATION.

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Abstract

The paper asks for conditions to increase the levels of trust in electronic government and electronic participation as well as to focus on democratic improvement by introducing new kinds of participation.
For the 2009 student council election in Austria an electronic voting procedure has been established. This new voting channel has been widely and intensively discussed from different points of view, whereas mainly technical and political arguments dominated the debates.
The proposed paper is going to frame the Austrian eVoting debate from another theoretical point of view – the pyramid of e-participation. A successful implementation and social acceptability of eGovernment (government to citizens) arrogate for (1) a bottom-up principle, (2) powerful early-stage adapters, and (3) trust in technologies. The pyramid of e-participation implies an increasing involvement of citizens from lower to higher stages of electronic participation. The pyramid of e-participation is a theoretical design and operating procedure, as it describes the preconditions for raising the levels of complexity and involvement of eGovernment applications. We discuss the conditions for the successful introduction of eGovernment on the basis of eVoting in Austria.

Introduction

Electronic government is one of the most interesting concepts introduced in the field of public administration in the late 1990s. The idea of eGovernment followed private-sector adoption of so-called e-business and e-commerce (Moon, 2002, p 424). The definition of eGovernment includes different domains of communicative actions between citizens and the government, "however, like e-commerce, the popular interpretation of e-government is one that defines it exclusively as an Internet driven activity […] that improve citizens access to government information, services and expertise to ensure citizens participation in, and satisfaction with government process" (United Nations and American Society for Public Administration, 2001, p 1).

EVoting, which was recently introduced for student council elections 2009 in Austria, pushes forward the debate on e-participation and eGovernment in Austria. Introducing new channels for participation, bridging the gap between the "government" and the "citizens" can induce improvements in democracy. On the other hand new channels can also reduce the confidence in the political and communicative processes themselves and therefore harm democracy.

Until now, the political system relies mainly on the existing representative formats. In contributions of politicians and administration to support the vision of a citizen-oriented community as a means to strengthen democracy all different formats and channels of participation are mentioned, but e-participation is often excluded. Governments are not a driving force in modernizing the political system and more or less inform about the legal and political possibilities to practice direct formats of participation like initiatives of the citizen, petitions and referenda. Citizens are sceptical in adopting forms of e-participation, and the government takes over this scepticism and launch the applications for e-participation very slowly.

The paper asks what conditions are necessary to increase the levels of trust in electronic government and electronic participation. Various empirical studies ask for the reasons of a successful implementation of eGovernment.[1] We try to frame these diverse aspects from a theoretical point of view by applying the theoretical model of the e-participation pyramid, which implies different and stages of complexity and involvement of citizens, to the empirical example of introducing eVoting procedures at student council elections in Austria. In contrast to the public debate, the paper is not going to expound technical or democratic issues of the Austrian eVoting procedure. Instead, the authors aim at the conditions for introducing an eVoting channel for students. Successful implementation and social acceptability of eGovernment (government to citizens) relies on (1) a bottom-up principle, (2) powerful early-stage adapters, and (3) trust in technology. We argue that these necessary conditions are given in the context of the student council elections.

1. Theoretical setting

From a theoretical point of view, eGovernment aims at strengthening good governance by increasing transparency, efficiency and citizen-centric services. It is also seen as an effective medium to facilitate citizen consultations, policy discussions and even democratic inputs of different kinds (Galpaya et al., 2007, p 2).

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[1] (see Grimsley and Meehan, 2007, Kosmopoulos, 2004, Mambrey, 2008, Smith and Macintosh, 2003)

Regarding ICT technologies, eGovernment systems are different from commercial information systems: eGovernment systems include political as well as social objectives such as trust and reliability, inclusion, community and societal issues. Therefore, these systems cannot be evaluated by focussing on efficiency, effectiveness and their economic potentials. Social acceptability is seen as a major task for the successful utilization.

At the moment in mainstream research e-participation is usually seen positively as a mean for empowering the citizen. The belief exist that more e-participation causes more democracy which is far too simple, due to there is still a lack in knowledge and the necessity to monitor the ongoing changes and to evaluate the experimental trials, tools, techniques and applications.

Anyway, e-participation usually exists as a digital format connected to other formats of citizen participation like face-to-face meetings, hearings and discussion forums related to Web2.0 applications and news papers accompanied by mass media informing the citizen. Focal points can be identified in social or political blogs, podcasts and other social platforms and thus give these voices a wider reach, an indirect form of e-participation. The most interesting changes are expected in the civil society arena of communication and action.

eGovernment is first of all seen as a guiding vision to raise the level of efficiency and efficacy of the administrative institutions, secondly to change the relation between government, administration and the economic sector (new integrated processes) but less than a vision to empower the citizen.

According to Moon (2002), electronic government application can be differentiated into five levels, which are related to each other and are becoming more complex and sophisticated:

1st level: Electronic government services that inform citizens, by allowing them to access governmental information via Internet. This refers to *eGovernmental portals* and administrative applications.
2nd level Data transfer technologies enable citizens to communicate or interact with the government, new levels as there is sending and receiving of information are involved. This includes e.g. *eDiscussions* and electronic information desks.
3rd level: Several applications enables citizens to access government services, transactions between citizen and governmental institutions are possible, which is summarized under the term of *eParticipation*.
4th level: Government services are vertically and horizontally integrated, information, interaction und transaction are combined.
5th level: Use of the Internet to promote political participation by including electronic governance tools as well as polling and other democratic participation procedures. At this level *eVoting* and *eElections* are addressed.

The levels one to three are linked to government services and thus more related to the concept of good governance: "These stage levels require a higher level of "interoperability" […] and demand further information sharing and interactive operations among various stakeholders and governmental agencies to deliver more efficient and effective online public services" (Moon, 2002, p 431). The levels four and five are widening the interaction between citizens and the state, as they touch the democratic processes within a country.

1.1 Bottom-up principle

From level one to five the personal involvement of the citizen increases (see Meier 2009) and thus the level of eVoting is of higher demand of social acceptability than the level of eGovernmental portals or eDiscussions. Given the well-known linkage between personal involvement and processes of social acceptability it becomes obvious, that the successful implementation of eVoting requires an antecedent establishment of eGovernmental portals and forums for eDiscussions. Those forms of eGovernment can be used without high personal involvement, but the usage of these eGovernmental forms can help to develop and increase personal involvement and thus lead to social acceptability of more demanding levels of eGovernment. We propose a bottom-up principle, which means to establish and promote the usage of lower levels of eGovernment *before* introducing further technical solutions, which are higher demanding in terms of citizens' involvement.

1.2 Trust in technology

Anyhow, lower levels of eGovernment take trust for granted. Acceptability presupposes trust in technology. It also implies, that the citizens are convinced that the new technology provides a better solution to complexity. Trust is an elaborated concept. According to Luhmann (1973) trust is a mechanism for the reduction of social complexity (public trust). It is mainly driven by communicative acts, which means that communication between humans and personal trust is the basis for the evolvement of trust. In a macrolevel-approach, trust can also evolve in abstract systems like politics, science, or law and it is a central mechanism of modern (and complex) societies (Giddens, 1990).
Credibility is part of trust; it is an attribute annotated by humans to other humans or objects. At this point we see the linkage between trust and eGovernment. The technical solutions have to be credible solutions for democratic participation and might lead to trust in diverse forms of eGovernment. The evolution of credibility requires a powerful group of early-stage adapters, who can communicate the profit and reliability performance of eGovernmental services.

1.3 Early-stage adapters as testimonials

Coleman (1990) distinguishes certain elements that define a trust situation between a trustor and a trustee. Trust is an emergent social property based on interactions between actors and for this reason, an eGovernment procedure could, in principle, be established, if and only if, actors are convinced that it complies with certain trust properties.[2] Early-stage adapters could figure as persons in a position of trust.

Trust and satisfaction are driven by the citizens' experience: information, personal control in ones life and influence.
- People need to feel well informed about a public service, what to expect of it, and how to engage with it.

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[2] Given the multifaceted nature of trust, the concept of trust is pragmatic in the sense that it relies on a plausible working definition and proceeds in order to satisfy the definition's prerequisites for trust. One possible definition of trust is the following: Trust of a party A in a party B for a service X is the measurable belief of A in that B will behave dependably for a specified period within a specified context.

- People need to feel that engagement with the service fits in with the way they juggle the diverse demands made upon their time by work, family care and social life.
- People need a sense of influence in relation to any institution of public service. Influence is expressed through discussion and negotiation in which there is a sense of each party acknowledging the needs of the other (Grimsley and Meehan, 2007, p 139).

Raising the levels of the e-participation pyramid, there must be users, which are quite common with lower levels procedures, are willing to try more sophisticated techniques and show high levels of trust in electronic procedures as such. Early-stage adapters again could fulfil the position as communicators and persons of reference. Early-adapters are persons that seek new experiences and like to explore and is likely to be among the first to try anything new. Early adapters therefore are advocating change in the behaviour status quo. There are drivers (early adapters), who drive new innovations and thinking.

2. EVoting at student council elections in Austria

In the case of the eVoting procedure for student council elections the population is defined, as there are only students confronted with a new voting channel. Therefore is seems adequate, to apply the e-participation pyramid within a collegiate environment. The e-participation pyramid has to be adapted to a collegiate environment, from stage one – administrative communication - to stage five – eVoting. The evoting procedure as established for the student council elections is an Internet vote, which means, that voting is possible by using the own personal computer and enables registered voters to vote from every place with Internet connection.[3] The different stages of complexity and involvement are presented in table 1.

Table 1 collegiate environment

e-participation stage	principles	appliance
eGovernmental portals	Governmental information	University webpage, with lot of information on terms, classes, courses etc., library functions
eDiscussions	Communicate or interact with government	Online communication via Email established
eParticipation	Access to government services, transactions between citizens and government	Registering for classes
eIntegration	Integration of information, interaction and transactions	Registering for exams, eLearning platforms
eVoting and eElections	Promote political participation	Voting student council

The bottom-up principle, which means to establish and promote the usage of lower levels of eGovernment first, could be seen as fulfilled as we can observe all stages of an e-participation pyramid. Regarding eVoting, the electronic procedure is more complex and consists of technical preconditions to participate. Additionally, a higher amount of citizens' involvement is needed, as the eVoting procedures determine an electronic signature (card - "Bürgerkarte"). Students, who plan to participate in the first electronic elections in Austria, need to organize

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[3] More details on the evoting procedures will be described in the full version of the conference paper.

their own electronic signature as well as a card reader for their home pc's. This kind of preconditions increases the personal involvement of a student a lot.

Further on, students are early state adapters as electronic applications and online services are part of every student's life in these times. Additionally, these students, who are willing to participate in eVoting have to have a digital signature. This digital signature is not a special signature for students, its necessary for all other eGovernmental acts in Austria. Thru the new eVoting application, a big number of digital signature cards have been handed out unlike the years before, where only general eGovernmental applications were available. Therefore students are powerful early stage adapters with regard to the whole population and of course with regard to students, who are not participating in eVoting.

Another precondition for establishing new technologies is a certain level of trust in the procedures. Implementing eVoting structures face in many challenges, such as the lack of a specific institutional framework supporting the deployment of eVoting applications at large scale (see Antoniou et al., 2007). In addition, the general lack of trust in ICT and the Internet, as a safe medium to conduct secure transactions, further hinders these efforts.

This lack of trust in ICTs and the Internet affects very seriously any effort to migrate from the conventional and long established voting procedures to an electronic voting system, since voting is a fundamental process in any democracy. Moreover, the abundance of cases of misconduct in electronic voting has resulted in severe decrease of trust among citizens. According to the above, any successful eVoting system should target at increasing citizen's trust. Trust, however, is difficult to establish in the eVoting domain since eVoting is necessarily based in complex distributed information systems, involving complicated interactions between computers, between humans, and between humans and computers (Benoist et al., 2007, Chutimaskul and Funikul, 2004, Kosmopoulos, 2004).

As shown in table 1, students use eGovernment regularly. Therefore they show high levels of trust in eGovernment applications in the context of their university. By now we cannot predict, whether students are going to use the new voting channel eVoting.[4] So, the empirical test for trust is not possible. But regarding trust, several surveys and qualitative studies show that students in Austria highly trust in the eVoting procedure - more than 70 percents of the respondents (students) show highly or fairly levels of trust in eVoting[5]. In qualitative studies[6], such as focus groups, the level of trust can be intensively tested by discussing voting procedures in general and eVoting technologies in particular. The results from qualitative studies also show that students do not know a lot about eVoting procedures as such, but the level of trust is not decreasing remarkably. Furthermore, comparing survey results from 2008 to 2009, the level is constantly high. This is surprising since there has been a quite intense debate during the election campaign and awareness raising campaigns brought more knowledge about the applied eVoting procedures to the student population.

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[4] Student council elections are starting at May 18th 2009.
[5] Results are described in an unpublished SORA study on student opinions and attitudes towards eVoting from 2008. The cited results from 2009 are listed in an unpublished SORA study on opinions and attitudes of students during the election campaigns.
[6] Results are described in an unpublished SORA study on student opinions and attitudes towards eVoting from 2008.

3. Conclusions

As the different levels of the e-participation pyramid are given in a collegiate environment the establishment of an eVoting procedure at student council elections accounts for social acceptability. Whereas the general discussion on eVoting in the context of the Austrian student council election concentrates on the various basic requirements, which mostly apply to both evoting and conventional voting, such as accuracy, secrecy, receipt-freeness, unaffectedness, fairness, verifiability and verifiable participation, the paper tried to focus on the different levels of social accountability and acceptability related to eGovernment procedures in the context of e-participation.

With regard to different stages of complexity of techniques and involvement of people involved, the establishment of eVoting at student council elections and in a collegiate environment respected all preconditions as requested by the e-participation pyramid. All lower levels of electronic governmental applications are given in a collegiate environment at universities.

Students are using the Internet and electronic services for almost all administrative and study related necessities and procedures in their every day student life. They can possibly see as early-state adapters as student's life is engraved by electronic procedures. Students seen as clients do not always judge on the outcome of a service, but include the enduring relationship with their service provider university. The regularly use of electronic applications leads to high levels of trust in eGovernment. Trust is related to terms of legitimacy but contains also a dimension of expressing the communities' capacity to achieve a better quality of life than would otherwise be available if its members acted separately (Lin, 2001). Coming from this point of view, the production of trust is "a sine qua non in respect to public value" (Grimsley and Meehan, 2007, p 138) but could also been seen as an outcome, cause "trust in government and public services appears more rooted in the nature and quality of citizens' collective relationship with and experiences of the provider" (Grimsley and Meehan, 2007, p 138).

The overall goal of introducing eGovernment service should focus on integration and participation of all students, as well as in a wider context of all citizens (Mambrey, 2008). Students are using eGovernmental services at their universities and are therefore early-stage in order to promote e-participation on a general level. Anyhow, to extend and promote different forms of e-participation regarding the wider public, the e-participation pyramid give useful hints, what level of electronic involvement is empirical given and what is necessary to reach the next stage of eGovernment services or to raise the level of e-participation.

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