Inter-organizational Cooperation in Swiss e-Government

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Abstract. In Switzerland inter-organizational cooperation is a cornerstone of the national e-government strategy. Based on existing frameworks, the authors examine different stakeholder's perspectives towards cooperative e-government within the Swiss federal system. The discussion of pronounced barriers and enablers is based on various sets of data: A document analysis and interviews with the program office on the national level, data from surveys among e-government officers across federal levels and a case study conducted at the concrete operative level. The analysis aims at reflecting the relevance of different aspects of cooperation for the development of e-government, contributes to validating existing analytical approaches and provides suggestions for further research.

Keywords: inter-organizational cooperation, Switzerland, federalism

1 Introduction

Cooperation enables innovation and is considered to be a big challenge for business development [1]. It is also an important parameter for the public sector: through standardizing technology, processes or data and generally through sharing information costs, *efficiency* in *production* and *distribution* can be optimized and the *quality* in the *service delivery* can be enhanced [2], [3]. Governments are increasingly using collaborative strategies and projects to face complex problems, which cannot be addressed effectively through traditional bureaucracies [4], [5].

E-government maturity models consider different stages, usually indentifying two initial stages referred to as "interaction" and "transaction", followed by a third stage generally referred to as "integration". While the first two stages are primarily associated with technology, the third stage involves a *culture leap* and *organizational change* [6]. In this stage, inter-organizational cooperation is a key element of public management reform efforts [7]. *Cooperative government* can be seen as a higher stage of development in e-government; it assumes a certain grade of *organization maturity*, in which coordination is established and inter-organizational services can be provided efficiently and effectively [8].

Applied to governments in a federal system, the term "inter-organizational cooperation" incorporates *horizontal cooperation* between agencies of the same federal level as well as between departments and divisions of the same organization. Secondly, it incorporates forms of *vertical cooperation*, which involve different federal levels of the political-administrative system and thirdly, it incorporates *cooperation outwards with non-governmental organizations and industries.*

Regardless of the constellation of partners, we can assume that different *project types* (e.g. different size, grade of complexity or organizational change) will influence how inter-organizational cooperation in e-government is achieved. Collm et al. [9] distinguish between six different dimensions in which organizations can establish either cooperation or collaboration, namely goals, tasks, responsibility, resources, leadership and decision-making. According to their concept, collaboration constitutes a more complex form of cooperation in the sense that the named dimensions are conceived as being shared. In the following, we focus on inter-organizational cooperation and collaboration, referring to both forms as cooperation. The present paper emerged from an applied research-project, which aimed at identifying challenges of cooperation among organizations from different federal levels.

2 Discussion of Selected Analytical Frameworks on Cooperation

Research has approached the topic of cooperation since as far back as the sixties [10], [11], [5]. Still, there are few validated results about the determinants of effective governance in inter-organizational settings [4]. The same holds true for the available literature in the field of e-government. Most of the discussions take place at the conceptual-theoretical level; the validation-process is often on a qualitative level, mainly on the basis of case studies. Research in the field deals with the challenges for inter-organizational cooperation and/or formulates strategies on how to deal with identified key barriers, and often focuses on issues related to cross-agency information sharing in the context of service delivery. Generally, there is a consent that inter-organizational cooperation is demanding: it often combines competition, questions of autonomy, and interdependence [10], [5] and relates to issues associated with the notion of *trust* [15], [14]. Accordingly, managing in inter-organizational arrangements is considered to be different from management within organizations [13]. Enabling leadership is of special importance, since there is *no central authority*. In this context, the necessity of assuring *top-management support* in the involved organizations is broached by different authors (e.g. [11], [15], [4], [16], [8], [3]). Rather than controlling, the focus needs to be on *co-ordinating*, whereby autonomy of the partners should be retained [16].

In order to illustrate the specific affordances with regard to leading inter-organizational e-government projects, we can draw on Thomson and Perry who identify five *key dimensions of collaboration* from an actor's point of view focussing on concrete *activities* and *processes*:

1. *The process of collaborative governing*: Agencies must understand how to make decisions jointly about the rules that will govern their relationship. It is important to create structures for reaching goals through shared power arrangements;
2. *The process of collaborative administration*: Agencies need administrative structures that move from governance to action. Key elements here are e.g. the presence of clear roles and responsibilities, the presence of concrete achievable goals and good communication;
3. *The process of reconciling individual and collective interests*: Collaboration creates a tension between self-interests and collective interests. This dimension is especially problematic because these settings typically form around intractable problems that partners cannot solve on their own;

4. *The process of forging mutually beneficial relationships*: Without mutual benefits, information sharing will not lead to collaboration. Agencies that collaborate must experience mutually beneficial interdependencies based on either differing or on shared interests;
5. *The process of building social capital norms*: In collaboration, partners often demonstrate a willingness to interact collaboratively only if other partners demonstrate the same willingness ("tit-for-tat" reciprocity") [17].

These affordances as formulated from a leadership perspective are also integral to existing frameworks for analysing cooperative e-government. Thereby, authors stress different dimensions that can generally be categorized along the classical holistic framework for e-government (e.g. [12]), which incorporates a political, a legal, an organizational and a technical dimension (for an extensive literature review see [15]). Klievink/Janssen for instance focus on the need for a coordinated e-government service delivery, and propose an analytical framework of coordination. They stress that coordination between different agencies creates dependencies at various levels, including channels for contacting government agencies, business processes, information (systems) and infrastructural dependencies within and among governmental organizations [3]. Their framework distinguishes three layers. First, a *network layer*, that includes political and governance elements. "Actors, structures, (conflict of) interests and outcomes" are understood as being part of a political process that relates to the notion of power and involves the ability to cope with diverse power positions. Governance elements include specifying various roles in the network and setting up agreements in order to ensure accountability. Secondly, an *intra-organizational layer*, which includes the allocation of roles and responsibilities as well as the alignment of the different processes. Finally, there is a *technical layer* that focuses on standards and interoperability as key aspects (fig. 1).

Fig. 1: Analytical Framework of Coordination [3]

Coordination	**Network and Governance**	Power and trust Agreements and contracts Accountability
	Organization and processes	Responsibilities Division of roles Aligning processes
	Information (technology)	Standards Interoperability Data

Persson/Axelsson/Melin apply inter-organizational concepts from the industrial/business network approach to an e-government case in order to better understand the e-service development challenges in one-stop government [18]. The focus is on the *interaction* between organizations, the quality of their relationships and correlated challenges. First, they propose *characterizing* relationships between organizations with regard to *continuity*, i.e. the relative stability of the relationship, *complexity* with regard to the number of contact channels, actors involved etc., *symmetry*, e.g. resources or goals and *formality*, i.e. the existence and relevance of contracts. Related challenges concern differing organizational cultures and goals and stakeholders' perceptions of the relationship itself. In that they put a stronger focus on the preconditions for cooperation. Furthermore, they point out different qualities of

cooperative relationships, namely inter-organizational relationships where connected *activities* need be coordinated (links), relationships in which related actors *mutually acquire meaning* in their reciprocal acts and interpretation (bonds), and relationships that comprise *pooled resources* such as personnel, equipment, know-how and financial resources (ties). The challenges associated with these dimensions of relationships (cf. fig. 2) are similar to the ones proposed by Klievink/Janssen, addressing technical issues (dependencies and ownership of IT-systems), organizational aspects (administering separated processes and interdependencies between activities), political aspects (hierarchical levels of involved actors, division of tasks, i.e. power positions) and legal aspects (differing assignments and roles of agencies). By applying a business approach to e-government, Persson/Axelsson/Melin explicitly put a focus on an *economic level* of cooperation, discussing the problem of potentially asymmetrical incentives for joint e-government projects, which may affect the allocation of resources. This aspect is also more prominently discussed by Gil-Garcia et al. who suggest integrating the topic of securing financial resources as one of several core strategies to deal with barriers to information integration [16]. Persson/Axelsson/Melin further address the difficulty that *knowledge* is usually an outcome of as well as one of the resources that needs to be managed in the project.

Fig.2: Dimensions of relationships and correlated e-government challenges [18]

DIMENSIONS OF RELATIONSHIPS	CORRELATED CHALLENGES
Links: Link refers to the connections that exist in the activities between organizations; the links between activities reflect the need for co-ordination which affects how and when various activities are carried out	Technical
	Administrative
	Activity
	Commercial
Bonds: Bonds arise in relationships as two related actors mutually acquire meaning in their reciprocal acts and interpretation	Actor
	Economic
	Legal
Ties: A relationship between two organizations affects the way in which the organizations use their personnel, equipment, know-how, and financial resources, etc.	Resource

This latter aspect is also stressed by Pardo/Gil-Garcia/Burke who identify six *determinants of governance structure* in cross-boundary information sharing initiatives. In their categorization, determinants related to knowledge issues are salient, including knowledge of participating organizations, knowledge of environments and knowledge of information needs. In accordance to other approaches in the field, further determinants are executive involvement, enabling legislation and the diversity of participating organizations and their goals [4].

3 Inter-organizational Cooperation in Swiss E-Government

The Swiss Federal Council considers inter-organizational cooperation as a key-success-factor for e-government and has anchored its importance in the national e-government strategy. The basic assumption is that business and the population expect their affairs to be dealt with in a flexible and efficient way, beyond organizational limits and federal hierarchies. In order to ensure that this occurs, existing administrative processes must be optimised across organizations at different levels

and the various administrative authorities must cooperate [19]. In the Swiss federal political system, *subsidiarity* is a guiding principle, which assumes that matters should be handled by the lowest competent authority. In the context of e-government this may pose problems, since financial power for e-government matters is often stronger at higher levels – an asymmetry that can hinder collaboration.

In order to describe the Swiss situation and the maturity grade of inter-organizational cooperation at different federal levels, we rely on a discussion of different sets of data: For the national perspective, we conducted a qualitative analysis of publicly available strategic documents and open interviews with members of the national e-government program office. Furthermore, we analyse published data from national surveys on e-government [23], which allow for discussing accentuated challenges from different perspectives. Finally, we briefly present a concrete case, in order to integrate salient aspects from an operative point of view.

3.1 Development of E-Government in Switzerland

In a first national strategy (2002) the Swiss federal executive conceived e-government as an *information society* phenomenon aimed at modernizing the state and supporting political participation [20]. In this first phase, the Swiss political authorities neither stressed the interplay between different federal levels nor addressed the importance of governmental cooperation. In 2007, the Swiss Federal Council adopted a genuine *national e-government strategy*, which provides a number of basic principles, a course of action and an instrument for implementation in the form of a catalogue of prioritized projects [19]. At the same time, the Council also institutionalized different boards and units to support the achievement of the formulated goals: (a) a *steering committee*, with political representatives from all federal levels, that is responsible for the coordinated implementation of the strategy; (b) an expert *advisory board* that advises the committee and other involved organizations on various topics and (c) the *e-government program office* that constitutes the administrative unit of the steering committee and coordinates the implementation of the strategy [21].

The realisation of e-government in Switzerland follows the principles of federalism and is conceived as a bottom-up approach [19]. So-called project leader organizations are designated the role of implementing nationally prioritized projects: the catalogue of projects explicitly distinguishes between services where "*coordination across organisations is necessary*" as opposed to those where "*nationwide implementation can be achieved in a decentralised manner through mutual exchange of experiences*" [22]. The project leader organizations are responsible for setting up the project organization and securing the funding. As is stated in the strategy, "[t]he use of ICT for integrated and cross-organizational administration processes and the necessary modernisation of the administration that this implies must be implemented via the normal management structures in the administration" [ibid.]. Generally, the enhancement of e-government therefore depends on the initiative, capacity and capability of leading organizations on the one hand and on establishing beneficial cooperation between different units on the other. The strategy draws on the assumption that the prospect of achieving efficiency gains by utilising synergies through cooperation will work as a driver for e-government.

Thus, while Swiss government ascribes strategic importance to e-government and considers cooperation as a means for development, the question is how well inter-organizational cooperation is proceeding at the operative level and how it can be supported.

3.2 Discussion of National Quantitative Surveys on E-Government

Since 2008, the institute gfs.bern has been mandated by the federal IT strategy unit and the cantons to conduct studies on the state of e-government on a yearly basis. The studies are based on a survey among officers responsible for e-government on all federal levels, they are representative and allow for discussing some conditions for, the state of and the necessities for inter-organizational cooperation in Swiss e-government. The following discussion is based on the data provided in the 2010 survey [23]. The results will be discussed in light of the different dimensions relevant to cooperative e-government as proposed by the frameworks presented above. The aim is to identify which affordances and challenges are salient in the Swiss context and whether the federal structure of the political system plays a role in that respect.

3.2.1 Political and legal dimensions

With regard to the contextual factors that influence the development of e-government it has been pointed out that a lack of political support and the state of legal requirements and regulations may constitute major challenges for inter-organizational cooperation. When looking at the data in the Swiss national surveys we find that regardless of the political level, the majority of public administrations appraise the legal setting for e-government and Internet activities as adequate. As for the administrations that consider the legal foundations to be insufficient, we find notable differences between the three levels: while cantonal officers quite often asserted that they don't perceive the legal setting as being adequate, this was less the case for municipal and federal officers. Furthermore, there are differences with regard to how e-government officers assess the legal conditions on federal levels other than their own. Clearly, the adequacy of the legal setting on one's own federal level tends to be rated better than those on the other levels. Strikingly, there also seems to be little knowledge on the legal settings in other public administrations: 72% of the federal administrations did not provide any answers on the legal context of cantons and municipalities, conversely 44% of the municipal and 41% of the cantonal participants are not able or willing to indicate the federal situation. Even though the overall assessment provides a rather optimistic view on legal issues, a lack of knowledge and the differences between self-assessment and peer evaluation potentially pose a challenge for inter-organizational cooperation.

In the literature, political support is considered as a critical success factor for inter-organizational cooperation. Generally, around a fifth of Swiss e-government officers do not feel *supported by their political superiors*. The majority of e-government officers consider themselves to be well or rather politically supported (see fig. 3). Still, there is a significant perceived requirement as far as support from superordinate political levels is concerned. Municipalities and cantons wish for more support from the canton and from the confederation respectively. Cantons would especially appreciate concrete support in the realization process, with regard to planning,

strategic issues and coordination. On the communal level the requests are more concrete, focusing on specific e-government services and their implementation.

Fig. 3: Adequacy of legal foundations and political support for e-government (2010) [23]

Focus	Federal officers			Cantonal officers			Municipal officers		
	+	0/?	–	+	–/?	–	+	–/?	–
Legal foundations (1)	(n=46)			(n=23)			(n=981)		
Federal level	**52%**	37%	11%	42%	41%	17%	43%	44%	13%
Cantonal level	24%	72%	4%	**58%**	13%	29%	46%	42%	12%
Municipal level	19%	72%	9%	38%	29%	33%	**61%**	28%	11%
Political support	(n=~40)			(n=~23)			(n=~950)		
Support by own superiors (2)	**57%**	15%	28%	**75%**	4%	21%	**64%**	17%	19%
Need for super-ordinate support (3)	X	X	X	**71%**	25%	4%	**69%**	35%	6%

1: + entirely or partly sufficient, 0/? not answered or don't know, – partly or not at all sufficient
2: + strongly or rather supported, 0/? not answered / don't know, – rather or strongly hindered
3: + clearly or rather more support needed, 0/? not answered or don't know, – rather or clearly less support

One of the prospects of the national Swiss e-government strategy is that it supports accountability across the federal levels. Even though it rather resembles a statement of intent, the strategy is meant to guide action according to a shared understanding of the goals of Swiss e-government and provides a blueprint for different agencies' own e-government strategies. The existence of a strategy at the different federal levels and their orientation towards superordinate strategies therefore allows some reflections on the state of "*networked governance*". The development over time shows that at the cantonal and federal level, strategic e-government has gained in importance. In 2010, almost three quarters of the cantons had an e-government *strategy*, for the federal administrations it was 54%, while on the municipal level the rate was only 21% (see fig. 4). Overall, cantons and federal administrations tend to orient their strategies towards those of superordinate levels while this is less the case on the municipal level (see ibid.). Based on the theoretical considerations, we can assume that cooperation between municipalities and other federal levels will be more demanding, especially with regard to administrative and governance aspects (e.g. reaching consent on goals).

Fig. 4: Development of strategic e-government across federal levels (2008-2010) [23]

Strategic orientation	Federal administrations (~n=20)			Cantonal administrations (~n=23)			Municipal administrations (~n=380)		
	2008	2009	2010	2008	2009	2010	2008	2009	2010
Strategy exists	33%	45%	**54%**	65%	74%	**75%**	19%	27%	**21%**
Alignment super-ordinate str.	85%	42%	64%	80%	82%	95%	33%	59%	29%

3.2.2 Organizational Dimensions

According to the literature in the field, the allocation of roles and responsibilities is crucial for constituting inter-organizational cooperation. However, the results of the surveys show that it is not always clear who is actually in charge of e-government at the different federal levels. As for the municipal and the cantonal levels, responsibility tends to be better clarified over time, while this is not the case for

federal administrations (cf. fig. 5). This might pose a challenge for establishing leadership and setting up a functional project organization, however, the fuzziness of responsibilities was not considered as the greatest challenge in the development of Swiss e-government.

First and foremost, problems for developing e-government where identified with regard to questions of financing and the use of an organization's personnel. Thereby, the assessment of the challenges for e-government has slightly changed over time. While in 2008 budget was considered as the greatest hurdle for developing e-government, personal resources were considered as the greatest challenge in 2010, followed by financial resources and time/administrative efforts (see fig. 5). Even though personal resources for e-government have increased on all federal levels, these are not considered to be sufficient. Overall, the results of the surveys suggest that organizational barriers are clearly more salient than those related to legal and political issues as described above (legal groundwork, political support, strategic orientation).

Fig. 5: Development of organizational conditions for e-government (2008-2010) [23]

Organizational advantages and challenges	Federal administrations (n=~40)			Cantonal administrations (n=~23)			Municipal administrations (n=~950)		
	2008	2009	2010	2008	2009	2010	2008	2009	2010
Clear responsibilities (1)	60%	58%	**57%**	57%	65%	**67%**	49%	62%	**62%**
Salient Challenges (2)									
Budget	47%	47%	**59%**	57%	**74%**	63%	43%	44%	**47%**
Personal resources	X	63%	**65%**	X	57%	**71%**	X	46%	**49%**
Time/administrative efforts*	7%	5%	**54%**	13%	13%	**42%**	11%	2%	**46%**
Legal foundations	X	13%	26%	X	39%	33%	X	21%	19%
Attitude of political actors	7%	11%	17%	28%	30%	21%	18%	13%	16%
Missing/wrong strategy	X	32%	22%	X	4%	13%	X	15%	19%

1: Responsibility is clarified
2: Aspect is considered as barrier to realising e-government
*"Time" was defined as a given option of answers in 2010

Another aspect concerning the organizational level of cooperation refers to the alignment of processes. Golder et al. [23] note a tendency that even when e-government is gaining in importance within a given administrative unit, the opportunities for e-government (standardizing and simplifying inter-organizational processes) are not exploited.

3.2.3 Technical Dimension

With regard to the technical dimension, the adherence of Swiss administrations to eCH-standards (see http://www.ech.ch/) can serve as an indicator for the relevance of technical challenges. The adherence to national standards has generally increased over time, but seems to be stagnating now. Again, there are differences between the three federal levels. Especially at the municipal level, adherence to eCH-standards still has much scope for expansion: in 2010, 41% of the municipalities entirely or partly stick to standards, while this rate is generally higher for the cantons and the federal administrations (91% and 61% respectively). Again, inter-organizational constellations across federal levels seem to be more demanding with regard to laying the grounds for beneficial cooperation.

3.2.4 State of Cooperative E-Government in Switzerland

Since the beginning of the surveys, inter-organizational cooperation has been seen as the weak point of e-government development. Generally, agencies seem to orientate themselves to other agencies in their own administration [23]. Above all, inter-organizational cooperation takes place between cantons, where the players can profit from each other's development considerably: for instance, 71% of cantons profit from the development of other cantons while this is hardly the case with regard to federal developments (13%) and also less so for developments at the municipal level (26%). This horizontal orientation is also observable on the other federal levels (see fig. 6). Cooperation is however not only taking place across and among federal levels. Swiss authorities also cooperate with partners from the private sector (see ibid.). Regardless of the type of partner, cooperation is not only a potentially challenging endeavor, but also a means for overcoming one of the major barriers to developing e-government: Especially at the cantonal level, a considerable rate of administrations (38%) already have reached financing through cooperation.

When asked whether cooperation should be enhanced, 53% of the e-government officers on the municipal level pleaded for more cooperation, similarly half of the officers from federal administrations were in favor of extending cooperation, while a the cantonal level this rate was 38%.

Fig. 6: Co-operative approach: positive effects and need for enhancement (2010) [23]

Focus	Federal officers			Cantonal officers			Municipal officers		
Positive spill-over effects	(n=46)			(n=24)			(n=981)		
From federal developments	59%			50%			15%		
From cantonal developments	13%			71%			26%		
From municipal developments	0%			13%			51%		
From intern. Developments	9%			21%			1%		
Financing through cooperation	7%			38%			13%		
PPP	(n=46)			(n=24)			(n=981)		
Is an issue	46%			67%			27%		
Projects exist already	11%			25%			3%		
Need for strengthening coordination / co-operation (1)	(n=~40)			(n=~23)			(n=~950)		
	+	0/?	–	+	0/?	–	+	0/?	–
	50%	30%	20%	**38%**	12%	50%	**53%**	17%	30%

3: + coordination / co-operation should be enhanced, 0/? not answered or don't know, – coordination / co-operation is sufficient

To sum up, cooperation is taking place most between cantons and least between federal administrations. The authors of the surveys state that on the cantonal level, where cooperation is generally better developed, it seems to be weak especially if we are dealing with cantons that can be considered as strategic precursors. In such settings there is less tit-for-tat reciprocity, diminishing the players' perception of the necessity for and the benefits of cooperation. Organizational issues such as responsibility and resources (personal and financial) clearly pose the greatest challenges for inter-organizational cooperation. With regard to political and legal settings we find that political support for e-government rather favours cooperation. However, the legal setting and specifically the discrepancies between self-assessment and peer evaluation of legal conditions might pose some challenges for cooperation,

especially across federal levels. Even though inter-organizational cooperation is a reality, the results show that there is as yet no established culture in the Swiss public administration.

3.3 Cooperation from the View of the Swiss Program Office

The e-government Switzerland program office focuses its activities on the *coordination of Swiss e-government*. The implementation of the Swiss e-government strategy is safeguarded by the list of the concrete priority projects and their controlling, which allows both, the concrete impact and the development of e-government in the country to be measured. More precisely, the program office's controlling efforts encompass 20 projects related to public services that in the view of the stakeholders exhibit a particularly good cost-benefit ratio, and 20 projects aimed at establishing important prerequisites for other services. Besides the state of their implementation, the program office evaluates to what extent strategic goals are achieved, conducts international comparisons and integrates the perspective of target groups on e-government (e.g. policy makers, media).

In its latest assessment [24], the national agency points out several advances, such as: a considerable impact of prioritised projects on "the IT portfolios and IT strategies of the cantons, concerning, among other things, financial, legal or organizational issues", an increasing number of available transactions – especially at the cantonal level and a generally high and increasing satisfaction of the private sector and the population with e-government offerings. Conversely, it also hints at some of the problems currently faced by Swiss e-government at large by the project leader organizations in particular:

1. *Implementation schedule*: Several projects are delayed, due to either the necessity of coordinating complex political and federal processes or to resource problems (cf. e.g. [18]);
2. *Funding*: Around 40% of the projects are only partially funded, the main challenges being initial funding or the question of distributing the costs between several federal levels;
3. *Cost-effectiveness*: While the program office has introduced an instrument for assessing qualitative benefits of the projects, the cost-effectiveness of many projects is difficult to estimate (cf. [8]);
4. *Interoperability*: Is generally improving, but constitutes a greater challenge at the municipal level (cf. e.g. [3]).

Similar to the results presented in figure 5, the view of the program office confirms that resources, finances and time are crucial dimensions that need to be addressed in order to facilitate cooperation at the concrete project level. In accordance to the strategy, the program office sees *cooperation* as an essential topic in the development of e-government and attempts to sensitize the project leaders to the challenges associated with cooperation by offering different activities such as workshops, presenting international best practices and helping to establish incentives for the financial breakdown (cf. [18]). Providing an instrument for assessing quantitative and qualitative benefits of an e-government project might positively contribute to establishing mutually beneficial relationships.

3.4 Business Case: Electronic Real Estate Information System

The nationwide *electronic real estate information system* (eGRIS) can be considered a successful *prioritized e-government project*. The system will permit retrieval of the most important Swiss real estate information online; authorities and the private sector will obtain real estate register data electronically and the processing of real estate register transactions will be possible without any media break [22].

The project exhibits two life cycles: it started in 2001 under the direction of a federal agency, but now a private organization leads the project, in partnership with various federal administrations, cantons, notaries, banks and further parties. Under the public leadership eGRIS.I provided a basis for a nationwide information portal and an electronic course of business between the different cantonal real estate agencies. On the technical level, eGRIS.I laid the groundwork for achieving interoperability between the heterogeneous precursor solutions (e.g. a short time ago, there were five different real estate information systems in Switzerland and there was no nationwide view on the data). The legal setting has now been clarified and builds the foundation for the services that will be provided by eGRIS.II (electronic disclosure, electronic data delivery and electronic course of business) [25]. Thus, when launching eGRIS.II, two of the four main challenges for inter-organizational cooperation had already been settled (cf. e.g. [16], [18]). Furthermore, eGRIS has an *added value* for all stakeholders: cantons profit from the automation, they can preserve their sovereignty over the data and build on existing cantonal IT-infrastructure. The users (e.g. banks, federal administration) realize efficiency gains through standardization and automation of processes. A business case conducted for the steering committee confirms that in the case of eGRIS, *cost-effectiveness* is a given, which has been an important incentive for the involved organizations to engage in this PPP project and helped to secure top-management support in the private sector. Furthermore, the project has recently been adopted on the list of prioritized e-government services, which potentially helps to grant political top-management support (cf. e.g. [3]). Concerning political and organizational challenges, the project seems to be on a promising way of handling them. In the interviews, the project leader (private sector) and a representative of the cantons asserted that setting up a cooperation organization had been challenging, particularly, with regard to aligning the cantons. In that respect, one of the challenges was that the concerned cantonal agencies were not adequately organised on a nationwide level. The chosen solution was to place the issue with an already existing coordinative organization of the cantons in order to establish consent on representation in the project. By now, the project organization and a governance structure have been set up. Thus, representation of the *stakeholders*, *their interests and constraints* in the steering committee of the project is established and the *assignment of tasks* and the *division of roles* have been clarified (cf. e.g. [16], [17]). With regard to sensitive issues (e.g. in the context of data or in the legal dimension) efforts to retain the *autonomy* of the different players (cf. e.g. [16]) have been undertaken, so that one of the bigger hurdles at the outset of eGRIS.II – the concerns with regard to data protection – could be overcome.

The project leader sees his role as *enabling leadership*, in developing ways to cope with complexity – in the sense of managing dependencies between activities and interests, as quoted in [3]. In the interviews, critical topics like *power* and *trust* were

openly addressed and the involved partners actively engage in reconciling potentially diverging interests. From a leadership point of view, it is remarkable that very soon a *double project lead* (*business view* and *technical view*) was established, among others in order to assure *tailored communication* (cf. [11], [8]). In an interview the eGRIS project leader considered the following success factors to be particularly decisive in order to facilitate cooperation at the operational level:

- To conduct consistent and regular *stakeholder management* and to engage in *tailored communication*
- To *adhere to a clear policy* and communicate this effectively, in order to *build trust*
- To address *stakeholders as participants* and to cultivate *cooperation* instead of *coercion*
- To *preserve the autonomy* of the different stakeholders (cf. here [17]).

This case both confirms the relevance of the dimensions of cooperation as proposed by research on inter-organizational e-government as well as a shift in the prevailing challenges over time. While political and legal issues initially posed particularly critical challenges, the emphasis has moved to organizational ones. Besides mutually beneficial financial incentives for the project, enablement and enactment of leadership seem to be decisive, confirming theoretical assumptions.

4 Concluding Remarks and Further Activities

The aim of this paper was to discuss the state and relevance of inter-organizational cooperation for the development of Swiss e-government by adopting different stakeholder perspectives. In particular we looked at the major challenges and necessities as formulated by different players. By doing so we validated existing concepts on inter-organizational cooperation in e-government – mainly derived from case studies – on the basis of quantitative and qualitative empirical data. The categorization of barriers to and strategies for cooperative government along a political, legal, organizational and technical dimension has proven to be useful for analysing cooperation in e-government.

The results show that there are different foci and perceptions of the barriers to e-government development, depending on a given stakeholder perspective, especially across federal levels. The view of the national coordination agency is clearly shaped by the aims defined in the national e-government strategy: cooperation is considered as major driver for e-government in a federal setting. As for the accentuated challenges, governance issues such as finding agreements on the allocation of costs, organizational issues such as aligning processes in a complex (political) setting and technical issues (interoperability) are salient. E-government officers who are engaged in cooperative e-government at the operative level particularly stressed budget, personal resources and time as salient challenges. Even though less salient, the relevance of political and legal barriers to the development of e-government and cooperation are confirmed as well. A closer analysis further shows that there are different foci and perceptions across the federal levels, suggesting that the affordances for enabling cooperation are likely to differ according to a given constellation of partners. Data attests that cooperation in the field of the Swiss e-government takes place especially between cantons, where the players can profit from each other's development considerably and where cooperation is not only associated with

challenges, but also appreciated as a means to overcome financial shortages, thus confirming a cornerstone of the national strategy. The business case once again reinforces the relevance of organizational issues such as defining a cooperation organization, setting up a functioning governance structure or addressing trust issues at the operative level. Additionally, the case supports models that point to the importance of setting preconditions and addressing specific context factors for initiating the project, e.g. legal issues.

Further scientific activities could analyze a broader spectrum of qualitative cases in order to identify and categorize the main challenges and demands for leading inter-organizational cooperation in the context of e-government more precisely. Based on the findings presented in this paper, it could be interesting to examine the relation between political and legal as opposed to organizational challenges (less so technical ones) over time, i.e. in relation to general advances in a country's development of e-government. Further empirical evidence is also needed for developing methodological approaches to support leadership in cooperative e-government.

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