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The Uptake of e-Government in Switzerland : An Improbable Mismatch ?

Cahlikova Tereza

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FACULTÉ DES SCIENCES SOCIALES ET POLITIQUES

INSTITUT D'ÉTUDES POLITIQUES, HISTORIQUES ET
INTERNATIONALES

**The Uptake of e-Government in Switzerland :
An Improbable Mismatch ?**

THÈSE DE DOCTORAT

présentée à la

Faculté des sciences sociales et politiques
de l'Université de Lausanne

pour l'obtention du grade de
Docteur en science politique

par

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autorise, sans se prononcer sur les opinions de la candidate, l'impression de la thèse de Madame Tereza CAHLIKOVA, intitulée :

«The Uptake of e-Government in Switzerland: An Improbable Mismatch ?»

Jean-Philippe LERESCHE
Doyen

Lausanne, le 6 mai 2019

Résumé

L'objectif de cette thèse de doctorat consiste à analyser les moteurs et freins relatifs au développement du e-Government en Suisse et à évaluer l'utilité de ce type spécifique d'innovation pour l'administration publique suisse. En utilisant une approche méthodologique mixte qui combine des entretiens semi-directifs avec une enquête auprès de spécialistes, cette recherche offre notamment des explications au classement comparativement bas de la Suisse en matière de e-Government. L'étude de cas suisse est ici classifiée comme déviante ; l'état de développement du e-Government ne correspond pas aux possibilités que le contexte suisse offre. Les résultats montrent que les facteurs principaux qui impactent sur l'introduction des projets d'e-Government sont liés à la culture organisationnelle dans les administrations publiques suisses et au manque de structures de coopération entre différents départements et niveaux de gouvernement. L'installation d'une culture d'innovation augmenterait l'ouverture vers l'e-Government et autonomiserait le secteur public suisse à l'égard de l'innovation. En raison de la division des compétences définie par les structures fédéralistes suisses, la création d'une communauté qui permettrait le partage d'idées innovantes semble être la meilleure solution vers plus de coopération et d'apprentissage dans le cadre des projets d'e-Government.

Summary

The objective of this PhD project consists in the analysis of drivers of and barriers to e-Government development in Switzerland and in the assessment of the utility of this specific type of public innovation for the Swiss public administration. Using a mixed-method approach that combines semi-structured interviews and an expert survey, this research provides explanations related to the comparatively low ranking of the country in the matter of e-Government. The Swiss case study is here classified as a deviant one; the outcome in the matter of e-Government does not correspond to the background conditions that characterise the Swiss context. The findings show that the key factors that impact on the uptake of e-Government projects are related to organisational culture in the Swiss public administrations and to the lack of cooperation structures between different departments and levels of government. The instalment of a more innovation-friendly culture would lead to more openness toward e-Government and to the empowerment of the Swiss public sector in regard to public innovation. Due to the division of competencies defined by the Swiss federalist structures, the creation of a community that would allow for sharing innovative ideas seems to constitute the key to more cooperation and learning in the framework of e-Government projects.

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Introduction

The phenomenon of electronic government (e-Government) and in particular of the digitalisation of public service delivery has taken root in public administrations of many countries in the world. Following the spirit of philosophies such as the New Public Management (NPM) with its emphasis on the transfer of private practices into the public sector (Hood, 1991) and the New Public Service (NPS) promoting transparency and broader involvement of citizens in public decision-making (Denhardt and Denhardt, 2015; King and Stivers, 1998), new information and communication technologies (ICTs) have been recognised as important tools of public administration reform. Pursuant to the objectives of the prior reform streams, the instalment of electronic government and electronic forms of citizen participation is supposed to overcome the stereotypical perception of public administrations as rigid and inefficient bureaucracies (Bloch and Bugge, 2013). The development of electronic public service delivery has been often considered as a response to the demands of citizens and businesses who requested from the public sector the same efficiency and flexibility that they experienced in the contact with private companies (Schelin, 2003; Wirtz et al., 2017). The main objective associated with electronic citizen participation is increasing transparency and accountability of public administrations that are often considered corrupted, expensive and ignorant to citizens' wishes (Akrivopoulou and Garipidis, 2013).

The Internet has been in the last decades established as the principal channel of present-day social phenomena (Catinat and Vedel, 2000). Possibilities to interact and discuss with different publics have been expanded in an unprecedented manner in the online environment and have become a part of our everyday reality. Immediate access to information coming from different sources that the Internet facilitates has allowed for an unparalleled diversity and richness of argumentation. With e-Government, the Internet as a new communication medium has become also an instrument of public administration reform (Homburg, 2008).

Similarly as with any other newly emerging medium in the history, the use of the Internet has in the public sector been met with reluctance and concerns (Sassi, 2000). The eternal topic of introducing more citizen participation in representative democratic systems has returned to the fore, this time in the electronic environment of seemingly endless potential. Once again, it is accompanied by the clashes of ideologies related to the different visions of democracy that had been in the past expressed in the offline environment (Lijphart, 1984; Van Dijk, 2000a).

Even though e-Government has been in the last decades heading toward becoming a scientific field in its own right, the development of e-Government projects has overall not fulfilled

expectations (Almarabeh and AbuAli, 2010). Likewise, development strategies and the advancement of different initiatives have been disparate and slower than expected. Overall, it seems that barriers to e-Government still outnumber its drivers (Wirtz et al., 2017). Disparities in the uptake of new technologies are not a new phenomenon. The implementation of technological innovations has historically varied across countries and has been a function of culture, history and institutions (Castells, 1996). It is not a software or hardware alone that reforms the functioning of organisations but it is the use that is made of it.

This PhD research follows a study that I conducted in my Master thesis where I evaluated the development of a specific e-Government project in Switzerland in a comparative perspective. In the present project, I adopt a broader approach to the study of the utility and potential of e-Government in Switzerland, taking the point of view of people who are responsible for its conception and implementation: public employees. Academic studies addressing the development of e-Government in Switzerland have been scarce and e-Government has been so far studied principally in connection to specific projects (Chevallier et al., 2006; Klinger et al., 2015; Serdült et al., 2015). Switzerland has been in social and political comparative studies often considered as a “Sonderfall”, or a “special case”. For this reason, it has been often excluded from the groups of studied countries. I argue that Switzerland represents an interesting case study and that for several reasons. Firstly, its institutional system combining federalist state structure, consensual form of government and important role of direct democracy in policy-making creates a specific setting that has not been historically favourable to innovation and revolutionary reforms. Secondly, Swiss public authorities belong to the most trusted in the world and external pressures for reform are quasi inexistent. Thirdly, the role of direct democracy in policy-making is in Switzerland the most prominent in the world. For these and other reasons that will be unveiled, the Swiss case provides interesting and important insights for the study of online citizen participation and public innovations in general. Apart from the choice of Switzerland as the main case study, this research is also exceptional in its scope. It is the first time that a similar quantity of data was collected in Switzerland for the purposes of e-Government research. Apart from the review of literature and official documents related to the introduction of e-Government, all used data is original and was collected for the purposes of the present research by the author.

The question that initially sparked my interest in the topic of e-Government development in Switzerland was a seeming discrepancy between, on the one hand, the high levels of technology proliferation and private innovation and, on the other, comparative under-development of e-Government initiatives. Even though the position of Switzerland in

international e-Government rankings has improved since the beginning of this project, disparities between the lack of online citizen participation and the proliferation of traditional forms of participation still stands out. This study is one of the first ones that addresses these paradoxes and offer their explanations. The levels of e-Government development that do not correspond to the technological and innovative potential of the country are striking when compared to the previous successful implementation of NPM practices where Switzerland proved to be a rather eager adopter (Giauque and Emery, 2008). The puzzle of e-Government development in Switzerland therefore constitutes an interesting and original research topic. Given the high proliferation of technologies in Switzerland, it is evident that the main obstacles to e-Government development are not of technological nature. Previous studies have indicated that the most important factors that had impacted on the introduction of e-Government in other contexts had been those of institutional, organisational and individual nature. One of the objectives of this project is to examine whether similar explications of e-Government underdevelopment are applicable also in the Swiss context or whether other variables that have not been discussed can provide better explanations of this state of affairs.

Based on the previous reflections, I propose the following main research question:

- *What are the drivers of and barriers to e-Government development in Switzerland?*

And the following complementary research questions:

- *Why does the introduction of online citizen participation progress slower than the introduction of electronic public services?*
- *How are factors that impact on the introduction of online citizen participation different from those that impact on the introduction of electronic public services?*

Swiss public administrations have often taken comfort in the high levels of trust in government and comparatively high quality of the existing forms of public service delivery. As a consequence, they have not felt compelled to carry out important changes to their functioning. However, as March and Olsen (2008) have pointed out “modern citizens have lost some of the naive respect and emotional affection for traditional authorities and the legitimacy of competing principles and structure have to be based on communicative rationality and claims of validity” (p. 15). The findings of this research indicate that Switzerland might have so far been an exception in this regard. It seems that Swiss public authorities still often rest on their laurels and do not attach great importance to the developments in the general society where the role of technologies in people’s lives is becoming ever more prevalent. Working on the assumption that the potential of e-

Government in Switzerland has not been fulfilled, I study the reasons for the apparent delay of the Swiss public administration in the matter of e-Government and evaluate their appropriateness. In other words, I aim to show here whether the hesitant approach of Swiss public administrations is justified.

The principal study units of the present research are public administrations, which are here studied principally through the lens of the sociology of organisations (Emery and Giauque, 2014). Organisations are understood as complex social systems that “require agreement among its parts and the whole” (Bouchikhi, 1990). For this reason, it is not possible to define precise boundaries between an organisation and its environment. In this connection, different forms of constructivist theory emphasise the importance of structuration effects of organisational structures. The theory explains notably the relations between organisations (in the present case public administrations) and their environment (related principally to institutional, political and legal contexts).

E-Government research that would choose to study public officials as the units of analysis has so far been scarce. However, considering the point of view of people who are responsible for the implementation of e-Government is a necessary element of the general understanding of dynamics accompanying the uptake of different projects. The objective is in this connection to study the perceptions, attitudes and opinions of organisations’ members to consequently identify organisational, institutional and value-related factors that impact on the introduction of e-Government projects. The development of e-Government is thus measured by public employees’ perceptions that serve as a proxy. Whereas the employees of public departments are the main actors responsible for the implementation of e-Government projects, the roles of public managers and of the political centre reside principally in the formulation of strategies and guidelines. The ambition here is not to explain the decision to adopt or analyse different implementation strategies. Instead, the focus is on the organisational and institutional dynamics that accompany the process of e-Government projects’ uptake.

Principal theoretical considerations that contribute to the interpretation of empirical findings include the most important theories that explain the process of organisational change and emphasise the historical trajectories of organisations for their future development. The present research thus addresses critiques that have been made to previous e-Government studies. It has been noted that e-Government studies have suffered from under-theorisation and excessive use of quantitative methods (Bélanger and Carter, 2012). The present research shows that the process of e-Government introduction in Switzerland is driven to a considerable extent by neo-institutionalist reasoning.

In accordance with the relevant literature, e-Government is here framed as an instrument of public administration reform and a major public innovation with a sizeable impact on organisational culture. The research adopts a mixed-method approach to the study of the defined research problem. Its principal components are semi-structured interviews and an expert survey. The combination of a qualitative and a quantitative method seems to constitute the best strategy to tackling the research problem. Semi-structured interviews allow for a better comprehension of the context of Swiss public administrations in relation to e-Government reforms. The objectives of the expert survey consist in the generalisation and extension of qualitative findings whose validity would otherwise be limited to the sample of interviewees. The qualitative data provides a rich tapestry of reasons explaining the state of e-Government development in Switzerland and also the utility of different initiatives. The quantitative findings confirm a certain number of these results and provide additional insight, principally into the factors of individual nature.

The collection and analysis of qualitative data is driven by an inductive approach that is, however, moderated by a literature review that preceded the conduct of interviews. The quantitative part of the research adopts a deductive approach; the collected data is used to test pre-defined hypotheses. The significance of both types of data for the research problem is in the concluding chapter interpreted jointly. The main elements of responses to the research questions seem to be related to organisational cultural change and improved cooperation between governmental and non-governmental actors in the framework of e-Government initiatives. The objective of the final synthesis of data is, firstly, to decide what are the main factors that contribute to the advancement of e-Government in Switzerland. Secondly, the findings are used to evaluate the utility of e-Government in relation to the context of projects and discuss whether digitalisation always constitutes the right answer to issues that public administrations encounter. The ambition is consequently to offer solutions that would allow for surpassing the identified obstacles and would lead to the development of e-Government that would be compatible with the Swiss institutional and political system and its administrative culture. The contextual appropriateness of public administration reforms is the guiding principle of the present research.

Objectives of the present research might imply that modern technologies are beneficial for democratic societies in general and for public administrations in particular. Their positive effects, such as the increase in efficiency and transparency of public services, are supposed to outweigh the negative ones (Moynihan, 2004). However, even though the Internet has contributed to the democratisation of public sphere, its failure to empower the previously

disadvantaged or politically passive is just as important. It is evident that risks relative to technologies, especially to the technological security of applications, constitute real dangers. However, in my view, risks are related to every innovation and can never be eliminated. The important thing is to be able to manage them and minimise the probability of their occurrence. As a consequence, the undertaken research approach has several normative characteristics in that the objective of the study is to define causal relationships and a certain “ideal” state that is too be achieved (Sanford and Rose, 2007).

The present document is composed of five thematic chapters. The following first chapter provides the reader with an overview of the most important public administration reform movements that have been considered influential in different countries. E-Government has partly followed in the footsteps of these reforms and partly has created a new paradigm for public administrations. Further on, the first chapter provides the definitions of the most important terms and their understanding in the context of this study. A review of the most important literature that has studied the drivers of and barriers to e-Government in different contexts can be found in the second part of the first chapter. The overview of drivers and barriers related to e-Government constitutes the first step toward the construction of an explanatory framework that is further applied to the specific case of Switzerland. Each consecutive chapter adds a new layer to the framework and advances the project toward the solution of the research puzzle.

The second chapter describes the state of e-Government and e-Participation development in Switzerland. Further on, it provides the reader with an overview of the most important characteristics of the Swiss political and institutional system that impact on the uptake of public administrations reforms. The third chapter describes the epistemological foundation of the research and the most important theoretical concepts that are applied to the research problem. It thus enriches the previous overview of the influential factors with the conceptual explications of their impact. In the last part of the third chapter, links between different variables and theories, as well as preliminary research propositions formulated on their basis can be found. The studied theories are all connected to the process of organisational change, which represents the thread that connects the different aspects of this research. The proposed theories provide explanations of changes on the levels of processes, individuals and organisational culture that e-Government causes. Their links to the previously identified factors are emphasised and constitute the basis for the empirical part of the project.

The fourth chapter focuses on the empirical part of the research and provides the reader with the most important results from both qualitative and quantitative parts of the study. The

selected methodological approach is described and discussed and its limitations are presented. The previously constructed framework is concretised and expressed in the form of hypotheses based on findings from the qualitative part of the research. A concrete research model guiding the construction of an expert survey is created and tested in the context of Swiss public administrations. Therefore, whereas the qualitative part of the research is based on the research propositions formulated in the third chapter, the objective of the quantitative part is to test concrete hypotheses and thus attempt to generalise and extend the validity of qualitative findings.

The last, fifth chapter concludes this research by discussing the broader significance of qualitative and quantitative findings. The contribution of the existing literature to the explanation of e-Government development in the Swiss context is evaluated and the theoretical and empirical contributions of this study are emphasised. Whereas in the fourth chapter, the constructed research framework was applied to the specific case of Switzerland, the objective of the fifth chapter is to evaluate the broader importance of empirical and theoretical findings and link them to the previous research on e-Government.

My hope is that this study can provide leads for future research in the field of e-Government and spark more interest in the topical question of ICT usage in public administrations. The Swiss case study provides interesting research paths in this regard. The next chapters show that the innovative combination of qualitative and quantitative methods constitutes a reliable approach to the comprehensive study of e-Government. The application of theoretical concepts from the field of sociology of organisations reinforces the explanatory power of empirical findings. It is my belief that this research can encourage more inclusive studies and contribute to the broadening of e-Government research paradigms.

1 Changing landscape of public administrations

Theoretical and methodological approaches to public administration as a scientific discipline have undergone fast and paradigm-changing development since the second half of the 19th century when the first modern-era studies started to appear (Kettl, 2000). To this day, public administration as a scientific field has stayed predominantly interdisciplinary (Paquette, 2014). The ways to approach the study of public administration have differed across countries depending on, for example, the nature of relations between political and administrative spheres. In fact, the focus of public administration research has often been the study of relations between public administration and elected representatives (Hood, 2001). The most important discrepancy in the relation between the two groups lies in their dynamics in regard to external environment. Politicians often refer to changing external environment, revolutions, new economic and social challenges, etc. As a consequence, their mode of functioning is typically more prone to innovations and reforms. Whereas public administrations work on terms such as stability, durability or job security, the political world is more proactive and flexible (Emery and Giaque, 2005). The incentives to reform public administrations consequently also often differ between the two groups. Political actors tend to announce reforms to be seen to be “doing something”, which is supposed to improve their public image (Politt and Bouckaert, 2004).

The study of public administration reform started to be topical since about the beginning of 1990s. Pollitt and Bouckaert (2004) provide, in their own words, an “approximate” definition of what such a reform means: “public management reform consists of deliberate changes to the structures and processes of public sector organizations with the objective of getting them (in some sense) to run better” (p. 8). Structural changes refer, for example, to the merges or splits of different public organisations. Process-based reforms are reflected principally in the redesign of working procedures and applications (Politt and Bouckaert, 2004). Although presumably approximate, this definition reflects the most important attributes of a public management reform. The fact that a reform represents a change for the better is in this connection an important point. It implies that the change is beneficial for most of those who are affected by it. Additionally, a public management reform does not refer to a complete restructuring of public organisations, but rather to their modernisation. By replacing the term “administration” with a previously business-related word “management”, the traditional issues related to public administration and the democratic values it promoted were merged

with a logic characterised by risk-taking, flexibility and performance measurement (Pollitt and Bouckaert, 2004).

In this connection, it is important to emphasise that the concept of modernisation is much larger than the use of information and communication technologies (ICTs) in the public sector that is studied here. “The modernisation of government can be defined as the ability of government to adapt to developments in different political, socio-economic, technological and cultural environments in which a government organisation operates as well as the ability to respond to and anticipate the needs of different stakeholders in these environments, such as citizens, companies, societal organisations and other government organisations” (Bekkers et al., 2006, p. 10). It is because of the context-dependence of reforms that their uptake and form have often been the function of administrative and political systems. The “one fits all” approach has been found faulty in relation to the implementation of public administration reforms (Politt and Bouckaert, 2004). In this connection, the need for a theoretical model explaining the determinants of a continuous public administration reform in different contexts has been expressed (Kubina-Boileau, 2005). Fig. 1 below adopted from Politt and Bouckaert (2004) depicts a summary model of the most important determinants of public administration reforms on different levels.

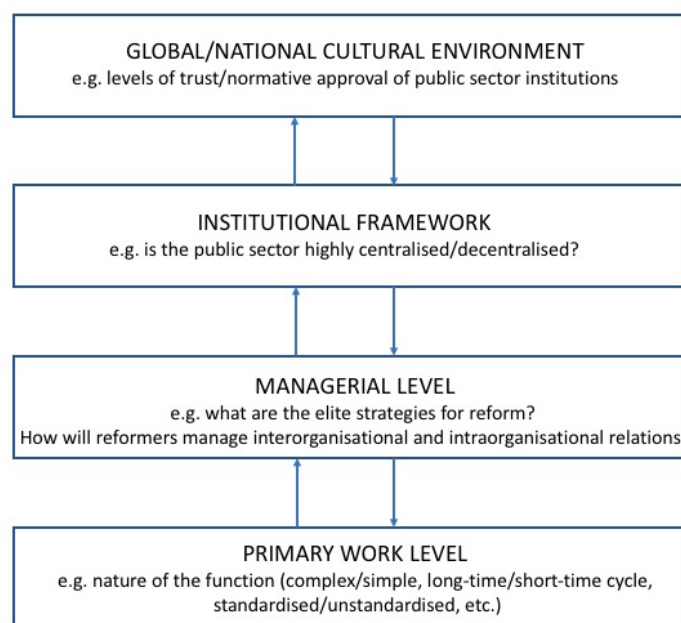


Fig. 1 Four levels of public management reform: a first approximation (Politt and Bouckaert, 2004, p. 17).

From Weberian bureaucracy to democratised public administrations

When speaking about reforming public administrations, it is necessary to define the original paradigm that is supposed to be reformed. The “traditional” perception of public administrations is essentially Weberian. The Weberian understanding of bureaucracy has been

often criticized for its rigidity and inefficiency. By rationalizing their functioning and building hierarchical structures, bureaucracies restrict manoeuvring space for individual action and innovation (Clegg and Lounsbury, 2009). Contrary to the situation at the time of Weber's reflections, successful organisations of the beginning of 21st century are those that are flexible, responsive and innovative. These qualities are seemingly contradictory to the traditional bureaucratic structure of public organisations.

The most important change causing the turnaround in the management of organisations occurred in the early 1990s with the expansion of the Internet that was made possible due the rapid progress in the development of modern ICTs. As a consequence of these new phenomena, previously purely national private enterprises with limited export possibilities became internationally and globally active companies. The following decentralisation and entry of new actors into the political realm strongly marked both private and public sectors. The emergency of the global economy and the dispersion of political centres, which were previously limited to nation states, caused changes in the composition of powerful actors in modern societies. The diffusion of political centre and the displacement of politics (Beck, 1992) had as a consequence the emergence of new or empowerment of existing influential actors and stakeholders, typically various organisations from the civil society or private multinational companies. In the liberal and globalized world, public administrations face a number of important challenges. The most fundamental one is probably the necessity to reconcile global and national pressures for the reforms of their functioning with their mission and culture. Even though the impact of globalization on the behaviour of public administrations has not been precisely measured, it is evident that globalisation has been a source of pressures related to the ability to innovate, change and use new technologies (Jreisat, 2002).

The line of reasoning advocated here is based on the democratisation of traditional bureaucratic public administrations (Chevallier, 2011). It can be said that bureaucratic administrations are also democratic in the sense that they are subordinated to politics, more precisely to democratically elected political representatives. This status of subordination of public administrations is encouraged by their strict hierarchical organisation that facilitates political control over the provision of public services and also by the docility of public officials toward political actors. The democratic character of democratised administrations such as described by Chevallier (2011) is, however, characterised rather by the manner in which decisions are made. In truly democratised administrations, public officials have the same status as any other public or private employee. They have the right to participate in the

management of services or even contribute to common administrative decision-making processes.

The tendency to replace the Weberian bureaucracy by the Chevallier's model of democratised administration nowadays seemingly exists. However, the democratised model is still often limited to the correction of bureaucratic model's shortcomings. One of the reasons for this limitation is the nature of administration-citizens relations, which are in administrative democracies based on certain rights of citizens. First of all, it is the right to information that is manifested as the right to access public documents. Second important characteristic of an administrative democracy is the emphasis on the quality of services and consequently also on the satisfaction of citizens. Another important right of citizens is the right to "good administration" that follows defined rules and codes of conduct. People are no longer subjects of public administration but become citizens that have certain rights in their relation to public authorities (Chevallier, 2011). By opening the public sphere to all layers of society and granting citizens the right to intervene in public policy-making, the shortcomings of representative democracy are attenuated and the so-called "everyday democracy" is created. It is a system where public participation becomes an everyday affair (Chevallier, 2011).

However different are current successful organisational strategies from the ones that were adopted at the time of Weber's contemplations, the tendency to copy the practices of private companies is still present in the public sector. The general paradigm is consequently diverting from the Weberian iron cage. Even though the bureaucratic management once prevailed in both private and public sector, organisations active in the former sphere were able to react and absorb new trends much more readily. The apparent reason for quicker coping strategies in the private sector is the highly competitive environment in which private organisations are pressured to respond to current market developments and assimilate their strategies to increase or maintain their profits. In comparison, public administrations work in a virtually competition-free environment. Consequently, pressures for reforms have been in the public sector much weaker (Rainey et al., 1976).

The landscape of public administrations is nowadays changing toward new roles for both governments and citizens. The role of a government has traditionally consisted in the formulation of policies and regulations. At present, the tendency in the public sector is to introduce more citizen participation, include different stakeholder groups in the policy-making process and fragment the processes of policy development and implementation. One can observe the creation of different "policy networks, each serving its own substantive interests, whether transportation, social welfare or education" (Denhardt and Denhardt, 2003,

p. 392). Along with the fragmentation of policy-making process, we are witnessing also the fragmentation of policy responsibilities. Various interests are decentralised in policy networks and the traditional hierarchical government loses control over the policy-making process. The new vision of government is the one of an entity that codifies, ratifies and legitimates decisions taken within policy networks (Denhardt and Denhardt, 2003).

Besides the mission of government, it is also the role of public officials that is undergoing significant changes. The two public administration reform approaches described in the following chapters define the main principles that are supposed to guide the public function. The first reform philosophy, summarised under the headline of New Public Management (NPM) approaches, supposes that public officials should base their decisions on economic criteria and their own self-interest. The second reform branch, the New Public Service (NPS), accentuates democratic and social criteria. Its key notions underline the role of citizens in policy-making and the importance of public interests and long-term benefits for the society as a whole (Denhardt and Denhardt, 2003).

1.1 Paradigm of private practices and renewal of citizen participation

1.1.1 New Public Management

“Vertical bureaucratic relations of command and control are substituted increasingly by **horizontal** relations of compromising and organizing **consensus** on a non-hierarchical basis. Regulation as the archetype of governmental steering is replaced by **contracting** in and out, by **co-production** arrangements, by consensus seeking configurations, by negotiation, by wheeling and dealing” (Frissen, 1997, p. 119).

The above citation of Frissen summarises the most important principles of New Public Management. The first and foremost trait of NPM is the conviction that public and private organisations are essentially identical and that the practices that in the private sector successfully guide private companies can be transferred to the public sector, where they would produce the same effects. Similarity between public and private organisations has been advocated on the grounds of identical work content and tasks that employees in both sectors perform. Whether a given organisational structure encourages or inhibits entrepreneurship will be decisive for its members being entrepreneurs or not. Based on this principle, a bureaucratic institution can therefore also be entrepreneurial (Osborne and Gaebler, 1992).

Due to differences in political, economic and social contexts, the NPM-based reforms have been interpreted in a different manner in different countries (Pollitt and Bouckaert, 2003). Apart from diverse environmental characteristics, it is also the concept of path dependency that has played its role in the different understanding of NPM concepts (Boston, 2011). The

main motivations for the uptake of NPM in different countries have been the efforts to cut costs and reduce the size of public administrations (Pollitt and Bouckaert, 2003). The flagship measure marking the arrival of private practices in public organisations is the introduction of merit pay that is supposed to increase the performance and efficiency of public employees (Simon, 1995).

One of the most well-known books on public administration reforms inspired by the transfer of private practices into the public sector, “Reinventing Government” by Osborne and Gaebler (1992), enumerates ten fundamental principles that guide the transformation of governments and administrations using the characteristics that reformed governments should obtain. These are namely:

- 1) Catalytic government: Steering rather than rowing
- 2) Community-owned government: Empowering rather than serving
- 3) Competitive government: Injecting competition into service delivery
- 4) Mission-driven government: Transforming rule-driven organizations
- 5) Results-oriented government: Funding outcomes, not inputs
- 6) Customer-driven government: Meeting the needs of the customer, not the bureaucracy
- 7) Enterprising government: Earning rather than spending
- 8) Anticipatory government: Prevention rather than cure
- 9) Decentralized government: From hierarchy to participation and teamwork
- 10) Market-oriented government: Leveraging change through the market

NPM practices represent a collection of concepts from different theories. The most important ones that are addressed here are neo-liberalism, managerialism, public choice theory, agency theory and transaction cost theory. The following overview is inspired by Boston (2011).

- **Neo-liberalism** inspired the core concepts of NPM that evolve around the transfer of private practices to the public sector. The NPM ideas such as corporatisation, privatisation and expenditure reductions concretise the overarching neo-liberal principle. “Public organisations should be subject to competitive pressures and responsive to customer preferences” (Boston, 2011, p.19).
- **Managerialism** joins the neo-liberal line of thought in that it claims that also managerial skills, methods and procedures are transferable between private and public sector. Managerialism emphasises the importance of financial incentives and urges to

“let the managers manage” by giving them discretion rather than constraints in their activities.

- **Public choice theory** evokes another dimension of public-sector privatisation. It is the emphasis on the individual character of human behaviour that is based on self-interest. Every individual strives to achieve his/her goals in the most efficient manner given the cost of information. When applied to public administrations, this principle implies that the State should be an effective and efficient one. Tendencies to short-term rent-seeking behaviour should be restrained by legislative rules and institutional constraints.
- The main principle of **the agency theory** is based on the explanation of the relation between a principal and an agent, that is to say between an owner and a field manager. Since the discretion of the agent, who works directly in the field, cannot be completely controlled, the relation with the principal depends on trust as well as on rules. The most important difference between a principal and an agent resides in access to information. In fact, information asymmetry between the two cannot be avoided since the manager, who is closer to the terrain, always has better information than the principal, who delegates the tasks. The instalment of strict rules that would completely regulate agent’s activities is not desirable since it can lead to the complete restriction of agent’s flexibility, for example, when trying to solve unforeseen problems.

In relation to the NPM, the concepts of agency theory come into play principally in relation to the out-sourcing of public services to private companies. The delegation of certain public tasks to private actors should be accepted only when the out-sourced means of production are more profitable and efficient than in-house provision. Risks associated with the principal-agent relation do not stem uniquely from the agent side. On the contrary, principals may also behave in an opportunist way.

At this point, it is useful to make a quick remark concerning the use of public-private partnerships in Switzerland. In fact, the delegation of public tasks to private companies is nothing new in the country. Already in the 19th century, there were contracts between the federal government and private agricultural organisations that provided services on its behalf. The underlying reason for these first public-private partnerships was the wish to avoid having to build a big professional administration (Linder, 2010).

- **Transaction cost economics** is, according to Boston (2001), the last theoretical concept that majorly influenced the NPM philosophy. Its contribution to the NPM

consists principally in the design of optimal structures for different types of transactions. Ideal structures should minimise aggregate production and transaction costs. For this reason, it can be in certain cases more convenient to produce services in-house than out-source them to other subjects. Similarly, it could be more efficient to conclude long-term than short-term contracts that are generally preferred in the view of the NPM theory.

The last years have witnessed the reorientation or the abandonment of NPM practices in different countries around the world that have been manifested, for example, in the re-appropriation of previously out-sourced services due to complicated monitoring and poor service quality (Ballard and Warner, 2000). In fact, monitoring costs turned out to be an important expense related to out-sourcing that had caused the out-sourcing of service delivery to be just as costly as the in-house provision (Denhardt and Denhardt, 2015).

Impact on relations with citizens

In addition to the demands of citizens and to the pressures of the present-day society defined by the phenomena such as globalisation, responsiveness and flexibility, the transfer of private practices to the public sector has been also motivated by the effort at improving relations between citizens and public administrations. The concept of “consumer democracy” created by Bellamy and Taylor (1998) emphasises the provision of public services in the best possible way in order to win over the distrustful, alienated public. With increasing levels of education and affluence, people have become less and less tolerant toward inflexible and lengthy administrative procedures (Pollitt and Bouckaert, 2003). The conception of a citizen’s role shifts to a citizen-consumer, who is more curious, demanding, requiring information and has the right to be consulted (Pateman, 2012).

As a consequence of the consumer paradigm, NPM reforms have caused a significant transformation of relations between public administration and citizens. Citizens find themselves in changing roles and are addressed as clients, customers, users or partners (Villeneuve, 2005). The perception of a citizen as a client and as a partner at the same time causes a dichotomy in that as “clients”, citizens expect efficient and quality delivery of public services and public administrations are in the position of providers of the services. As “partners”, citizens are supposed to be equals of public officials and have the right to co-produce public policies. The role of public administration changes from the one of the guarantor of efficient public service delivery aiming to strengthen the trust of citizens to the actor that entrusts citizens in the domain of political participation based on the provision of information and anticipation (Villeneuve, 2005). This double consideration of a citizen as a

consumer and as a partner redefines the conception of citizenship (Villeneuve, 2013).

Villeneuve (2013) argues that the most important element in a government-citizen relation is who holds the decisive power and thus controls the relation. Citizens in their role of partners find themselves in a more powerful position in regard to public decision-making and vis-à-vis policy-makers. The extent of their influence depends on the modalities of specific arrangements. As clients, citizens can, albeit limitedly, choose whether to consume a public service or “exit” the system. If they are to develop a new relation with citizens, public organisations have to re-organise their processes and restructure their resources in order for them to be compatible with the new nature of the relation (Villeneuve, 2013).

Criticism of New Public Management reforms

The NPM reforms have often been criticized for their leading principle of introducing private sector practices in public organisations. Because public organisations should behave as private companies in the NPM view, the principal role of public managers is henceforth the one of entrepreneurs who take decisions based on purely economically rational considerations and their self-interest, which is supposed to reflect the interests of the agency (DeLeon and Denhardt, 2000). Democratic decision-making is therefore weakened and it is the entrepreneurial skills of public managers that are of dominant importance. In this connection, it has to be remarked that the approach guided purely by self-interest of individuals contradicts the principles of accountability and responsiveness that are rooted in public administrations of democratic countries. In fact, the actions undertaken by public authorities are under much greater public scrutiny and have more significant symbolic importance than in the case of private companies. Public employees are supposed to be more honest and fairer than their private counterparts. Additionally, the decisions of public organisations should respond to the concerns of public interest.

As for the nature of private and public decisions, the principal distinction consists in their scope and impact. Public decisions are typically more diverse and vague in the sense that their precise results and the overall performance of the organisation cannot be reliably measured. Decision-making in the private sector is based on the quantification of organisational performance in terms of benefits and gained profit (Rainey et al., 1976). Rainey et al. (1976) assert that “the lack of specific and quantitative criteria is said to limit the tendency of public administrations to attempt innovations, since it is difficult to evaluate the potential impact of an innovation” (p. 240). The reluctance to innovate that can be witnessed in the public sector is in stark contrast to the private sector where innovation is the main driving force.

Public actors are supposed to be motivated by the so-called intrinsic factors that relate to the contents and mission of their work (Perry and Wise, 1990). On the other hand, employees in private companies are more likely to be motivated by extrinsic factors that involve elements that are not directly connected to the contents of their work, such as financial incentives and other material benefits. Reforms typical of the transfer of private sector practices necessitate changes in public values, which should be re-oriented toward more efficiency and individualism (Pollitt, 2001). It is evident that substantial differences between public and private organisations exist and it is therefore doubtful to claim that identical measures implemented in the two sectors lead to the same outcomes.

An alternative view of the role of citizens, who are in the NPM view reduced to “consumers” of public services, is the one of democratic citizenship that sees citizens as partners or co-producers in policy-making processes. This approach is reflected in the New Public Service and opposes the self-interest of the NPM. In the view of the NPS, people as participants in policy development should be able to take into consideration collective public interests and long-term perspective of their decisions even if these are in contradiction to their personal preferences. “On the one hand, people acting as citizens must assume personal responsibility for what happens in their neighbourhoods and their communities. And, on the other hand, to the extent that people are willing to assume the role of citizens, those in government must be willing to listen – and to put the needs and values of citizens first” (Denhardt and Denhardt, 2003, p. 8).

To summarise the major difference between the roles of the public in the NPM and the NPS view, it can be said that according to the NPM, people should be treated as customers; the approach of public managers should be based on individualism, self-interest and rational choice. The NPS puts people in the role of citizens that aim to achieve collective public good and are able to think and decide in collective terms even if the decision contradicts their own short-term self-interest.

1.1.2 New Public Service

The concept of New Public Service emerged in the beginning of the 21st century as a reaction to the New Public Management philosophy. It can be said that whereas the New Public Management is based on the “market” model of public administration reform, the New Public Service follows the “participation” model. The main premise of the latter is that public administrators make better decisions if the main stakeholders of these decisions are involved in the decision-making process (Peters, 2010). At the core of New Public Service is therefore the focus on citizen participation in policy development and in the governance of public

affairs. At this point, it is useful to establish a distinction between the terms “governance” and “government”. Whereas “government” refers to the highest executive organ and to a state administration with its demarcated circle of actors, “governance” refers to a broader understanding of public issues and implies new ways of policy-making with the participation of different actors. In a governance regime, the impossibility to demarcate the circle of important actors and their multiplication weakens the position of public officials who are no longer the sole decision-makers (Ohemeng, 2014).

Having come to the conclusion that the implementation of private practices in the public sector promoted by NPM reforms may have destructive influence on public values and public service motivation, the NPS thinkers advocate for the emphasis on democratic values and citizenship, which are supposed to create benefits in terms of building communities, involving citizens and making governments more efficient (Denhardt and Denhardt, 2015). Because policy-making is a fragmented process involving a number of different stakeholders, Denhardt and Denhardt (2015) argue that the role of public administrators should not be reduced to the one of public service providers. Instead, “public service should focus on creating opportunities for citizenship by forging trusting relationships with members of the public and working with them to define public problems, develop alternatives and implement solutions” (p. 665).

The nature of participative procedures is in this connection primordial. Critics of citizen participation often emphasise the disinterest of citizens in participation, the low quality of discussions or the one-way communication that participation mechanisms encourage. However, research suggests that responsive two-way communication with citizens does improve the relationship between citizens and public administrations, increases trust in public authorities and results in gains in terms of higher quality of decisions (Denhardt and Denhardt, 2015). “Processes in which agencies are responsive, participants are motivated, the quality of deliberation is high, and participants have at least a moderate degree of control over the process are more successful” (Beierle and Cayford, 2002, p. 74).

In their review of the most important tenets of the NPS theory conducted fifteen years after the emergence of the NPS philosophy, Denhardt and Denhardt (2015) argue that the importance of citizen participation has increased in the meantime and that the practices promoting more dialogue between citizens and public administrations have counterweighted market- and customer-oriented NPM approaches. The NPS accentuates the primacy of interests and responsibilities shared by different stakeholders, which replace the individual decisions carried out by public managers and public officials (Bozeman, 2007). Contrary to

the tenets of the New Public Management, the NPS advocates claim that spending public resources should not be based solely on the decision of managers; instead, the managers should be accountable to democratic processes and institutions, including the principles of citizen participation. Due to the complexity of most decisions related to public policy-making, these should result from the interaction of different stakeholders who bring to the table their own interests and expertise (Denhardt and Denhardt, 2015). Such a governance network composed of different actors is defined as “1) a relatively stable horizontal articulation of interdependent, but operationally autonomous actors who 2) interact through negotiations which 3) take place within a regular to, normative, cognitive and imaginary framework that 4) is self-regulating within limits sets by external agencies and which 5) contributes to the production of public purpose” (Sorensen and Torfing, 2007, p. 9). It is evident that in order for such a relation to emerge, the traditional hierarchical organisational models that still dominate public authorities have to be overcome. In the terminology of Osborne and Gaebler (1992), governments should move away from “rowing”, typical of the dominant role of service delivery, to “steering”, understood as policy development. “In the NPS, an increasingly important role of the public servant is to serve citizens and communities by helping citizens articulate and meet their shared goals rather than attempting to control or steer society in new directions” (Denhardt and Denhardt, 2000, p. 553).

Renewal of civic education

The role of civic education has progressively lost in importance in representative democracies, where people are often reduced to voters that are paid attention to in accordance with the pre-defined election cycles. However, with the NPS movement, the importance of civic education increases exponentially. “As in our culture in the past and in a good many other civilizations, the nature and quality of the public service depend principally upon systems of education” (Mosher, 1982, p. 240). If it turned out that policy-making decisions regularly depended on the votes of incompetent, uneducated citizens, the credibility of the process could be put into question (Trechsel, 2004). On the other side of the coin, even though civic education is an important factor that impacts on the quality of participative processes, the perception that “ordinary” citizens are not able to make qualified decisions has been also considered doubtful. After all, why would people be less qualified to, for example, vote in a referendum than elect their parliamentary representatives? (Papadopoulos, 1995).

Criticism of the New Public Service approach

Despite the generally critical attitude toward the hierarchy and inflexibility of bureaucratic public administrations, it is indispensable to realise the limitations that public institutions have

to face in the framework of their daily activities. The co-production of public policies together with citizens and other stakeholders may generate positive effects in terms of trust and legitimacy of public policies. However, there are also several good reasons justifying the rigidity of the public machinery. Public authorities function in a highly regulated environment and have to play the role of guarantors of this legal order. Additionally, they have to take into account public interest and community values (Denhardt and Denhardt, 2015). Environmental regulations put more constraint on procedures and on the flexibility of public employees, whose decision-making manoeuvring space is significantly restrained (Rainey et al., 1976). As a consequence, they are flexible only within limits defined by the set of regulations and standards (Denhardt and Denhardt, 2015).

The flexibility and temporariness caused by the ever-changing coalition of different interests represented in collaborative policy-making processes might cause irreversible changes in public administrations and in the society as a whole. For the defence of their interests, different entities and individuals may team up with other groups and create purely utilitarian contacts. As a consequence, the meaning of citizenship, public interest or continuity might be disrupted (Perry, 2007).

It is nowadays evident that neither the New Public Management, nor the New Public Service provides answers to all ailments of public service. There is a learning space in both theories for the lessons from the other one (Denhardt and Denhardt 2015). In my view, it is necessary for public administrations to balance rigidity with flexibility and responsiveness with continuity because neither of the two main reform streams can be ignored. Purely market or purely participation-oriented approaches are not as viable as their combinations.

1.2 Digitalisation of public services and policy-making: e-Government

More than ten years ago, Dunleavy et al. (2006) signalled the decline of New Public Management due to the negative effects of private sector behaviour in the public sector and its replacement with a new philosophy: digital-era governance. The objective of the latter is “.... to create self-sustaining change in a broad range of closely connected technological, organizational, cultural, and social effects” (Dunleavy et al., 2006, p. 467). The main objectives associated with the digitalisation of public administrations have been increased operational efficiency, better quality of services (Gil-Garcia and Pardo, 2005; Wirtz et al., 2017) and enhanced legitimacy of public policies (Fung, 2015). Since the publication of Dunleavy et al.’s (2006) paper, the advancement of public sector digitalisation has gone a long way. The impacts of ICTs have been observed in administrative culture, behaviour and political sphere. It is nowadays clear that digitisation has complex effects and cannot be

reduced to a simple digitalisation of existing processes. The main difference between the technological revolution of the last twenty years and earlier technology-related advances is the magnitude of impact. In fact, previous technological innovations never had the potential to bring about such an important transformation as is the case with the current technologies. Before the 1990s, main technological changes in public administrations were related to the automation of existing processes and did not have much impact on organizational culture (Dunleavy et al., 2006). “The advent of the digital era is now the most general, pervasive, and structurally distinctive influence on how governance arrangements are changing in advanced industrial states (Dunleavy et al., 2006, p. 478).

1.2.1 Imperfect constitution of e-Government as a scientific field

The principal consensus related to the use of ICTs in the public sector is that there are no precise and generally agreed upon definitions of the most important terms (Peristeras et al., 2009). Notions such as electronic government (e-Government), electronic participation (e-Participation), electronic democracy (e-Democracy), digital government, digital democracy, etc., still lack precise boundaries and anchoring in proper theoretical and methodological frameworks. “Academic fields have socially negotiated boundaries. These boundaries exist only if the group of scholars involved believe they exist and adopt a shared conception of their essential meaning” (Hu, Pan and Wang, 2010). At present, the discipline of e-Government has not achieved the maturity of an academic field that would fulfil the conditions enumerated in the previous citation. Blondiaux and Sintomer (2009) postulate that once a notion becomes fashionable, the ambiguity of terms related to it is inevitable. It is almost as if the ambiguity in terms was one of the conditions of success. If a notion is defined in precise terms, it is easier to present arguments in its favour and against it.

Even though precise definitions are still lacking, it is not for the lack of trying. Several authors have proposed their own views of things (Carter and Bélanger, 2005; Homburg, 2008). Certain authors consider e-Government in a narrow sense as the electronic provision of public services (Carter and Bélanger, 2005) or encapsulate e-Government and online citizen participation in the term “e-Governance” (Colombo, 2014). Other authors (Bekkers, 2013) understand under “e-Governance” a form of governance that aims to achieve the objectives of e-Government, principally increasing efficiency of public administrations and quality of public services. E-Government has been often defined in terms of its objectives or activities falling under its scope. “E-Government can be described as the use of ICTs to design new or redesign existing information, communication and transaction relationships between governments and citizens, companies and non-governmental organizations, as well as

between different government organizations and layers in order to achieve specific goals” (Bekkers, 2013). The definition of Bekkers reflects, in a way, the “current” perception of e-Government. Earlier definitions, such as the one of Carter and Bélanger (2005) who define e-Government in a narrower sense as “the use of information technology to enable and improve the efficiency with which government services are provided to citizens, employees, business and agencies” (p. 5) accentuate solely the provider-consumer dimension of e-Government. The definition of Bekkers (2013) describes e-Government as a global, multi-layer transformation of relations between public administrations and citizens. Based on the review of the previous conceptualisations of e-Government, Hu, Pan and Wang (2010) created the following exhausting conception of the field of e-Government: “e-Government is (a) the strategic initiatives of all levels of government (b) to develop (design), use (implement, adopt), and manage applications (systems, models), projects (frameworks), and technology (c) for enhancing (improving) secure and effective processing, administrating, and provision (presenting, delivery) of information (data, knowledge, policy) and e-services (e-democracy, communication) (d) through websites (Internet) in order to meet the citizens’ and businesses’ needs (requirements) (e) or to provide an approach for citizens and businesses (f) to access secure and effective information (data, knowledge, policy) and e-services (e-democracy, communication) online” (p. 590).

This study approaches e-Government as a term encapsulating both the digitalisation of public services and electronic communication with citizens (e-Participation, e-Democracy). There are two main reasons explaining this choice. Firstly, e-Participation has in the literature been understood as a part of the transformation that e-Government causes (Almarabeh and AbuAli, 2010; Andersen et al., 2010; Bekkers, 2013; Gil-Garcia and Pardo, 2005; Homburg, 2008; Moon, 2002). Secondly, in the context of Swiss public administrations, e-Government is often understood as a notion encompassing both the provision of public services and different forms of electronic interaction with the public. It seems that a reciprocal relation exists between the level of e-Government development and positive experiences with e-Government functionalities on the one hand and the use of e-Participation applications on the other. The former have been identified as the drivers of e-Participation (Vicente and Novo, 2014). The perceptions of e-Participation levels are, on the contrary, supposed to determine intentions to use government websites (Bataineh and Abu-Shanab, 2016).

Bélanger and Carter (2012) posit that one of the shortcomings of e-Government research to date has been the lack of theoretical foundations due to the fact that e-Government as a research area is relatively new and no widely accepted theories have been created. The two

authors recommend wider usage of theories coming from the fields of public administration and management. Whereas in the 1990s the research on e-Government was more practitioner-oriented, in the last two decades this has changed and more academic research aiming to establish theory and methodology for e-Government research has emerged. In line with this development, the number of articles studying e-Government development has increased exponentially since 2005 (Arduini and Zanfei, 2014). Research on e-Government has since the 1990s developed toward more explanatory studies, as opposed to the descriptive, practical-oriented angle that most studies adopted in the 1990s (Wirtz and Daiser, 2018). Earlier studies focused, in a more practical view, on the analysis of the state of e-Government in the framework of precise projects. The modernisation of public administrations was understood in terms of the automation of traditional government functions and thus perpetuated the existing social and cultural divides (Dixon, 2010). Later on, the focus shifted to the study of drivers and barriers of e-Government and its antecedents in different contexts. In regard to methodological approaches, e-Government studies have often made use of quantitative and measurable methods (Bélanger and Carter, 2012). Most of the quantitative research has focused on the study of user acceptance and adoption and comparatively less studies have addressed the issue from the point of view of service providers – public administrations. This is true particularly in regard to research on e-Government adoption, drivers, attitudes and trust (Wirtz and Daiser, 2018). In response to these trends and gaps in e-Government research, the present study adopts the politico-sociological approach. The main units of analysis are public administrations that are defined as institutions that are “invested with the necessary authority to perform some specific tasks on behalf of society as a whole” (Castells, 1996, p. 151).

1.2.2 Models of e-Government development

In their article dating from 2003 in which they early on evaluated the potential of e-Government development, Chadwick and May (2003) delineate the important characteristics of e-Government debate that proved to be accurate in later studies. The two authors talk about the e-Government “managerialism” as a way of defining the objectives and framing the e-Government debate (p. 272). Their definition of managerialism presents parallels with the New Public Management movement. It is principally the objective of increasing efficiency of public administrations, the importance of service delivery to customers and the absence of concerns for clients’ competencies that link the two approaches (Giauque and Emery, 2008). Other important objectives of public administrations that choose to introduce e-Government projects are, for example, increasing quality of public services (Sa, Rocha and Cota, 2016)

and mutual trust between them and citizens. One of the principal points that Chadwick and May (2003) emphasise is the importance of debate framing, political environment, management strategies and cultural choices for the future orientation of e-Government policies. It is not primarily the technology that determines the development of e-Government. Instead, it is the context in which it is introduced. In line with the neo-institutionalist thinking that frames also the present research, Chadwick and May (2003) claim that the processes of public administrations reforms and thus also e-Government-related choices depend on historical and ideological contexts, principally on their embedded biases and constraints. On this basis, the two authors describe three models of e-Government development.

- **Managerial model.** In the managerial type of e-Government development, the main objective related to the use of technologies is to quantitatively improve public service delivery. The flow of information is facilitated, administration becomes more responsive and flexible. The elements of e-Government related to the enhancement of democracy are disregarded. The role of the State stays unchanged and technologies accommodate to the patterns of “politics as usual”. An example of e-Government functionality that is typically developed under this model is online tax collection.
- **Consultative model.** In this model of e-Government development, the State develops new communication channels with the public through which they collect opinions on the state’s actions. The flow of information stays, however, unilinear and interaction is limited. Typical functionalities developed under this model include electronic voting, opinion polling and advisory online referendums.
- **Participatory model.** The participatory model of e-Government development promotes the use of technologies for political discussion and interaction; the emphasis is on horizontal, multi-party communication. The flow of information becomes truly multi-directive and complex between all parties to discussions. Functionalities that are introduced involve principally peer-to-peer technologies.

In the framework of the present research, the participatory model is largely understood as electronic participation (e-Participation). The consultative model is assimilated to other forms of electronic democracy (e-Democracy). The managerial model refers here principally to the digitalisation of public services. At the time of Chadwick and May’s (2003) reflections, the authors observed that most of e-Government development happening at the time followed the managerial model that was implemented in the way so as to be compatible with different administrative cultures, just as the NPM practices were in the 1990s.

In his earlier study, Park (2007) proposed a similar classification of e-Government introduction as Chadwick and May (2003). He divided e-Government development between utilitarian mode, solidary mode and participatory mode. The **utilitarian mode** is analogical to the managerial model of Chadwick and May. The main objective is the maximisation of benefits and minimisation of costs. In the **solidary mode** of e-Government introduction, the emphasis is on one-way media interaction between different users who participate individually or collectively. In the **participatory mode**, the role of the State is transformed. Activists and interest groups play the principal role in the communication of their interests to public authorities.

Yet another typology that emphasises the level of sophistication of public agencies' web presence was proposed by Schelin (2003) (Fig. 2). The first three stages of the model have in the meantime become the standards of e-Government development in the Western countries. In the last three stages of the model, e-Government becomes citizen-centric (Schelin, 2003). The last stage of e-Government development, characterised by the seamless web presence (one-stop-shop) of public agencies does not, to my knowledge, exist anywhere in the world. In this last stage, public agencies introduce an integrated portal with services from all departments and governmental levels. In Switzerland, the highest development level that has been achieved to date is the fourth one when people can pass their requests and commands online, but not in a uniform way across all departments and governmental levels.

Stage	Orientation	Services	Technology	Citizens
Stage One: Emerging Web Presence	Administrative	Few, if any	Only Web	Going it alone
Stage Two: Enhanced Web Presence	Administrative, Information	Few forms, no transactions	Web, e-mail	Links to local agencies
Stage Three: Interactive Web Presence	Information, Users, Administrative	Number of forms, online submissions	Web, e-mail, portal	Some links to state and federal sites
Stage Four: Transactional Web Presence	Information, Users	Many forms and transactions	Web, e-mail, digital signatures, PKI portals, SSL	Some links to state and federal sites
Stage Five: Seamless Web Presence	Users	Mirror all services provided in person, by mail, and by telephone	Web, e-mail, PKI, digital signatures, portal, SSL; other available technologies	Cross departments and layers of government

Fig. 2 Stages of e-Government development (Schelin, 2003)

In 2015, Park published another article that evaluated existing e-Government approaches with several years of distance from Chadwick and May's study. He postulates that cyber-optimism has been overcome and e-Government has been developed in a much more incremental way than was originally supposed. Compatibility with existing working patterns, administrative cultures and institutional systems has been the decisive element guiding its introduction. This finding confirms the vision of cyber-pessimists who claim that the use of technologies leads to the confirmation of existing repartition of powers and further cements status quo. Cyber-optimistic vision of e-Government use for e-Democracy purposes may have been wrongly involved in e-Government models and may constitute solely a cyber-utopian hype (Park, 2015). Overall, the hype around the potential use of ICTs has since 2005 shifted from the early enthusiasm and supposedly revolutionary potential of these tools to a more realistic and pragmatic approach that emphasises the importance of context and democratic values of involved actors for the use of technologies (Lindner et al., 2016).

At the time of Chadwick and May's and Park's studies, the big question was whether ICTs would perpetuate or revolutionise existing institutional and political patterns. Two main scenarios of ICTs' influence talk about the "normalisation" of technologies and technological determinism. Under the normalisation of technologies, Wright (2010) understands the perpetuation of "politics as usual". Despite the enthusiasm for the potential of new ICTs, it is

possible that their effects are mitigated by social and institutional factors. In the revolutionary view of ICTs, technological determinism posits that it is solely the technologies that determine the human behaviour with no regard to contextual factors (Homburg, 2008; Wright, 2010). In reality, it seems that the actual effects of ICTs are probably half-way between the two (Homburg, 2008). This view was supported already by Castells (1996) who found the concept of technological determinism to be a “false problem” (p. 5) because “technology is society (...) and society cannot be understood or represented without its technological tools” (p. 5). In this connection, Boeri (2016) argues in her study on the use of ICTs in an Indian rural area that technological determinism ignores the realities of “socially divisive and complex space” (p. 107). Furthermore, Castells (1996) also underlines the interconnection between societies and technologies by observing that the ability to use strategically decisive technologies to an important extent determines the success of societies. The role of the State is in this regard crucial. It is the State that can promote, lead or hinder technological innovations (Castells, 1996).

The model of e-Government that is developed in a given country also impacts on who benefits and who loses from e-Government. The incentives to introduce and use e-Government differ between hierarchical levels and groups of actors. It is plausible to assume that the daily use of e-Government is confined principally to civil servants, as opposed to elected representatives and public managers. The former may have to face additional workloads as a consequence, for example, due to the necessity to acquire new competencies to be able to work with the system. Overall, the incentives to use e-Government are likely to differ between politicians, civil servants and citizens (Park, 2015).

In the Netherlands, the government decided to introduce the so-called e-Citizen Charter that enumerated the most important rights and obligations of citizens and the government in relation to the introduction of e-Government (Poelmans, 2006). Contrary to the Swiss e-Government strategy that is limited to the definition of the framework of e-Government introduction and its most important principles, the e-Citizen Charter constitutes a binding list of commitments that the government makes to its citizens. The Charter mentions a number of important principles that have since been applied also in other contexts. Among these, one can name, for example, the free choice of communication channel with government. Further on, it is the change from supply-oriented to demand-oriented focus of e-Government and the development of seamless government that facilitate public service delivery for citizens (Poelmans, 2006).

1.3 Redefining relations between public administrations and citizens: e-Participation

1.3.1 Public involvement in policy-making

Before conceptualising e-Participation and its significance in different contexts, I address the question of citizen participation in general to which e-Participation is strongly tied. The introduction of more citizen participation in policy-making processes has in the last decade become a buzzing topic in many countries in the world. The so-called “crisis of democracy”, or crisis of traditional forms of political representation and participation (Blondiaux and Sintomer, 2009; Papadopoulos, 2013), triggered by and having as a consequence democratic deficits, has led to the abundance of studies on the importance of citizen participation, which is supposed to renew the legitimacy of public policy-making (Bekkers et al., 2006; Blondiaux and Sintomer, 2009). The main symptom of the crisis of democracy is supposed to be the growing distance between governments and citizens, who do not see their interests reflected in public policies propagated by political representatives that they had elected. Politicians are prone to elitism, which deepens the cleavage between them and their voters (Bekkers et al., 2006). Side effects include decreasing trust in the establishment and voters’ apathy (Pateman, 2012). On the principle, issues related to the perceived democratic deficit are more often present in representative democratic systems with insufficiently developed means of citizens participation in public affairs. Terms such as New Public Involvement (Thomas, 1995) and strong democracy (Barber, 1984) have emphasised the importance of the participation of different stakeholders in the development of public programs. More recently, the mantra of citizen participation has been accentuated by different concepts, such as collaborative or network governance that refer to systems where different public bodies work together in collaboration with private and public organisations (Bingham, 2010). Collaborative governance is based on the premise that deliberative public discussion is the key to a healthy public life (Manosevitch, 2010).

Although the idea of injecting more citizen participation in representative democratic systems has undergone renewal during the last several decades (Pateman, 2012), it has existed since some time. In 1984, Barber wrote that “strong democracy is defined by politics in the participatory mode; literally, it is self-government by citizens rather than representative government in the name of citizens. Active citizens govern themselves directly here, not necessarily at every level and in every instance, but frequently enough and in particular when basic policies are being decided and when significant power is being deployed” (p. 151). In his critique of the impacts of neoliberal economy on the society, Barber states that individuals have become too separated one from another. The efforts to avoid tyranny and absolute

political power have led to the alienation of individuals, who consequently become “easy targets for authoritarian collectivism” (Barber, 2003, p. 101). A solution to this problem is supposed to be a new theory of citizenship that does not define individuals in terms of abstract rights and freedoms, but instead in terms of community, which is more coherent with “the human yearning for union and for communion” (Barber, 2003, p. 112). If the latter is not fulfilled by creating “nontoxic forms of democratic community” (p. 112), individuals are susceptible to totalitarian groupings while trying to fulfil their need for community. The liberal, thin kind of democracy should therefore be replaced by strong democracy, which Barber defines as “a distinctively modern form of participatory democracy. It rests on the idea of self-governing community of citizens who are united less by homogeneous interests than by civic education and who are made capable of common purpose and mutual action by virtue of their civic attitudes and participatory institutions rather than their altruism or their good nature” (Barber, 2003, p. 117).

In accordance with Barber’s argumentation, Lijphart (1984) perceives participatory democracy a part of postmaterialist values that emerged in the 1960s and 1970s as a reaction to constructive socialism that had prevailed until then. He states that participatory democracy demonstrates the growing belief that people should have more important role in decision-making at work and in their communities. It also represents a reaction to the bureaucratic decision-making, impersonality and remoteness of people from public authorities that were typical for the previous ideology. The meaning given to citizen participation is most often defined in either the analytical and sociological terms or in the more philosophical and normative sense as a value that we strive to protect. The necessity to enlarge public involvement opportunities essentially stems from the disparity in opinions between citizens and their political representatives. If these were identical, public involvement in policy-making would not be necessary (Schmitter and Trechsel, 2004).

The last decades have also been described as the age of post-democracy defined as the period of corporate domination caused by the withdrawal of the State and the growing apathy of citizens, who thus vacate the decision-making arena to corporate interests (Crouch, 2005). This rather pessimistic vision is in contrast to the more optimistic views of Pateman and Blondiaux. Crouch writes that “public electoral debate is a tightly controlled spectacle, managed by rival teams of professionals, expert in the techniques of persuasion, and considering a small range of issues selected by those teams” (p. 4). He, however, also adds that it is necessary for a system to know where it stands and how far that is from the ideal of

democratic participation. Opportunities to modify the status quo clearly exist (Crouch, 2005) and are enlarged by the possibilities that ICTs offer (Thomas, 1995).

Contemporary justifications of public involvement in policy-making are related to different types of reasoning. Typically, the actors that are external to traditional policy-making bodies are considered a useful and needed source of information that improves the quality of decisions (Fung, 2015). A good number of societal problems that public administrations have to at present deal with can be described as “wicked”. These problems do not have straightforward solutions and constitute important challenges to the problem-solving capacity of public authorities (Bekkers et al., 2006). The State alone does simply not have sufficient capacity to find the right solutions to current societal problems. Furthermore, the importance of nation-states that have dominated the international scene for centuries is diminished in the virtual world where power lies in networks and former monopolies lose in importance (Moreira et al., 2010). New collaborative forms of governance seem to be better adapted to the realities of network societies (Blondiaux and Sintomer, 2009). The underlying justification for the inclusion of the wider public is essentially habermasian: a norm is not considerate legitimate unless it results from an inclusive and equal deliberative process. It is beneficial to collect different insights as “the unexpected conjunction of different perspectives can lead to surprising results” (Tidd and Bessant, 2005, p. 54).

Apart from the external actors who are supposed to provide public authorities with valuable information, meaningful participative processes are also conditioned by a provision of complete information on the process and, if needed, on the issues that are to be discussed. Information provision is therefore important reciprocally for all participants. In the age of advanced ICTs, online provision of information through the so-called open data platforms constitute an important means to achieving the information-related pre-requisite of participation (Bingham, 2010). With more accurate information on their hands, citizens are more confident and willing to participate, as well as able to make better decisions (Yankelovich, 1991). Apart from the reciprocal information exchange, it is also the documentation of the process for transparency and summarisation purposes that is important; it leads to evidence-based policy-making (Macintosh et al., 2009b).

Before proceeding with the conceptualisation of citizen participation in the digital environment, an important question that should be evoked is whether the public really desires to participate more. After all, people elect their political representatives and therefore give them mandate to decide on their behalf. Would the majority of the public really be in favour of more participation? Whereas e-Participation is supposed to facilitate political participation

for groups who are “willing but unable” to participate, the impact on groups who are “able but unwilling” (Sanchez-Nielsen and Lee, 2013) is limited. Another important risk related to the empowerment of citizens by new participation instruments is blame-shifting (Snellen, 2000). If a part of decision-making power is delegated to citizens and another part stays in the hands of political policy-makers, who is really responsible and accountable for decisions in such a system? Can citizen participation cause the outsourcing of political responsibility?

1.3.2 Conceptualisation of e-Participation

The research on e-Participation has become particularly topical in the last decade with the further advancement in the field of information and communication technologies and the following broadening of their potential for interaction and citizen participation (Bélanger and Carter, 2012). The principal argument in favor of e-Participation is, similarly to citizen participation in general, based on the premise that “public deliberation and discussion on political issues are critical parts of our democracy” (Macintosh et al., 2009b, p. 44). Public authorities often interact with the public on social media and other electronic platforms with the objective of increasing their legitimacy and trust in government (Park et al., 2016). The importance of the Internet for citizen participation has been often explained in terms that deliberative democrats created. In their view, the process of aggregation of preferences cannot be understood as a meaningful form of democracy (Hindman, 2009) and it is therefore necessary to introduce forms of participation that would allow for the expression of different opinions. Even though e-Participation has been often approached as a dimension of e-Government, there are also authors who consider it a scientific discipline in its own right (Susha and Gröndlund, 2012).

The definition that reflects best the spirit of electronic participation such as it is understood in the present study is the one proposed by Saebo et al. (2008) who understand e-Participation as “the **extension** and **transformation** of participation in societal **democratic** and **consultative** processes mediated by information and communication technologies, primarily the Internet. It aims to support **active citizenship** with the latest technology developments, **increasing access** to and availability of participation in order to promote **fair and efficient society** and government” (p. 400). The words “extension” and “transformation” signal that e-Participation is supposed to complement and boost existing forms of citizen participation. The concept of active citizenship that the authors accentuate refers to the active involvement of citizens in public affairs. The impact of participative ICTs can therefore be detected on the level of legally defined democratic participation and in the more informal, everyday political debates (Glasse and Leresche, 2012). Saebo et al. (2008) define the main benefit of e-Participation as

the extension of access and promotion of equality in participation processes. These effects of e-Participation are especially important in the context of Swiss democratic institutions, which are analyzed in more detail in the second chapter.

Similarly to e-Government, e-Participation is an inter-disciplinary field on the intersection of several disciplines (Zhang et al., 2014). Among these, the most important ones are political science, sociology of organizations, democracy studies, computer science and public administration. To date, studies that would reconcile the approaches of these different disciplines to e-Participation are lacking (Arduini and Zanfei, 2014). The obvious reason for this shortcoming is a relatively big knowledge- and skilled-based difference between fields such as political science, democracy studies and information technology. Approaches, as well as research methods used in the different disciplines are very disparate and it is therefore rather difficult to combine them. Due to this seeming incompatibility, the significance of e-Participation depends on the discipline of the researcher (Bélanger and Carter, 2012). Whereas political scientists are likely to study e-Participation due to its potential to improve democratic practices, computer scientists likely approach it, for example, from the angle of technological security and data protection. This heterogeneity between political and technological research on e-Participation represents one of the challenges of the current studies on e-Participation (Susha and Grönlund, 2012).

As a relative young research field, e-Participation still suffers from terminological imprecisions that are manifested in the multiplicity of terms used to describe different types of interactions, but also in the lack of a precise definition of what e-Participation itself stands for (Sæbø et al., 2008). In addition to the definitions cited in the previous paragraphs, a number of authors have proposed their own vision of e-Participation. There is, for instance, the definition of Van Dijk (2010) who accentuates the focus on citizens. Van Dijk describes e-Participation as “the use of digital media to mediate and transform the relations of citizens to governments and to public administrations in the direction of more participation by citizens” (Van Dijk, 2010). In the words of Sanford and Rose (2007), the main objective of e-Participation would be to “increase citizens’ abilities to participate in digital governance, including participation in the political process and the transformation of digital government information and services” (p. 408). Aichholzer and Strauss (2016) define the significance of e-Participation as an instrument enabling “a continuing discourse between the public sphere and the political system” (p. 93).

E-Participation is not the only term referring to technology-mediated interactions between citizens and public administrations. Similar notions involve, for example, e-Democracy or

digital democracy. The three disciplines belong to the group of “e-fields” that study different aspects of electronic interactions between citizens and public sector, as well as interactions within these groups. Hacker and Van Dijk (2000) use the term “digital democracy” that depicts well the core principle of the discipline: the use of information and communication technologies for the enhancement of democratic practices. They define digital democracy as “a collection of attempts to practise democracy without the limits of time, space and other physical conditions, using ICTs or CMC instead, as an addition, not a replacement for traditional, ‘analogue’ political practice” (Hacker and Van Dijk, 2000, p. 1). Digital democracy therefore seems to be an umbrella term for different forms of electronic democratic and participative practices. In comparison to e-Participation, e-Democracy is a more general term and can be understood as the mirror of the existing political system. To be able to implement e-Democracy, a system has to be democratic in the first place. The main objective of e-Democracy is to make democratic processes easier and more accessible. In this sense, e-Participation can be described as its fundamental principle or dimension (Bataineh and Abu-Shanab, 2016). Whereas e-Democracy relates rather to the digitalisation of the existing forms of citizen involvement, e-Participation focuses on the relations between citizens and public authorities and has been often referred to in connection to new electronic functionalities (Bataineh and Abu-Shanab, 2016).

The introduction of digital democracy can be understood as the digitalisation of already existing participation tools aimed at the correction of their imperfections, or as the establishment of a new direct democracy system that would give citizens additional decision-making powers in regard to policy-making and thus would replace representative democracy (Catinat and Vedel, 2000). The approach undertaken in the framework of the current research reflects on the first line of reasoning. Digital democracy is approached as a complement to traditional citizen participation and as an additional channel for the existing forms of participation. To secure equal and non-discriminatory treatment, public authorities cannot exclude groups of population from democratic processes because these groups are not willing or not able to use electronic channels (Brown and Toze, 2017).

In the following chapters, attention is paid principally to the study of e-Participation, which refers to the introduction of new democratic functionalities that have not previously existed or whose use has been limited. The potential of digital technologies for the extension of citizen participation has in the recent years attracted authors from different scientific fields. Sanders and Rose (2007) enumerate three most important motives of e-Participation research. The first one is the so-called **participative imperative**. It is based on the supposition that citizens have

an inherent right to participate in public decision-making. The participation of different stakeholder groups is justified by the implication of their own interests in the outcomes of the process. Citizen involvement in public policy-making is considered as one of the building blocks of a democratic society. However, the nature of democratic systems differs across countries and so do the suppositions about the appropriate dose of participation. The second approach underlying e-Participation research is based on the **instrumental justification**. In this view, the key presumption is that the participation of stakeholders in decision-making can result in more effective governance. By taking into account specific needs and requests of particular stakeholders, public policies are better targeted and tailored to the actual societal problems. In addition, direct participation of stakeholders in the decision-making process leads to wider acceptance of the policy in question. The third important approach to the e-Participation research is based on the **technology focus**, which emphasises the ability of advanced technologies to facilitate participation in political processes. Unlike traditional participation that takes place in person, by mail or, for example, by telephone, contemporary communication and information technologies enable citizens to interact with their representatives from any place at any time. With the continuous Internet access and the technological equipment at people's disposal, opening hours of offices, as well as their location, are no longer relevant. Apart from the participation itself, technologies nowadays offer also previously unimaginable possibilities in regard to the dissemination of information on public policies and on government activities in general (Sanford and Rose, 2007). In this view, technology-mediated interaction can be also perceived as a natural evolution of traditional communication between citizens and public officials (Zissis et al., 2009).

Analogically to any other new phenomenon, besides the hopes and benefits related to e-Participation, there are also question marks and risks. Overall, there are three fundamental attitudes that one can adopt towards online participation: optimistic, pessimistic and objective. It is evident that, with the optimistic attitude, emphasis is going to be on the positive experiences with electronic tools while slightly or fully neglecting their drawbacks. With the pessimistic attitude, these technologies may not even be introduced at all, or their use may be limited to very basic functions. One of the arguments of technological pessimists is that technologies magnify the existing drawbacks of political and institutional systems (Hacker, 2000). In the framework of the present research, I try to adopt the objective attitude to technologies and always consider their utility in connection to the external and internal contexts. The e-Participation "hype" created by deliberative democrats has not been lived up to and the phenomenon of e-Participation therefore needs to be realistically evaluated in terms

of both its positive and negative effects. In the words of Benkler (2006), “we need to consider the attractiveness of the networked public sphere not from the perspective of the mid-1990s utopianism, but from the perspective of how it compares to the actual media that have dominated the public sphere in all modern democracies” (p. 260). Sassi (2000) summarises the core argument in favour of regular citizen participation in policy-making in the form of a simple question: Do we want to be protagonists or spectators of the world we create? Representative democracies nowadays tend to reduce people to the role of spectators and vote casters (Sassi, 2000). Assuming that this trend is not desirable and that most citizens would like to participate in the making of decisions that directly concern them, important questions that needs to be answered are: How can the Internet contribute to reversing this trend? What modalities should e-Participation initiatives focus on? And what is the relation of e-Participation with the existing democratic practices? What is its role in policy-making processes?

Benefits of online citizen participation

1) Participation unlimited in space and time

An important difference between traditional and digital citizen participation resides in the extent and possibilities that the participation offers. Technologies allow citizens to participate in the political debate in a way that does not presupposes their presence in the same place at the same time (Smith, 2009). Whereas traditional citizen participation is typical of interpersonal interaction between participants and comprises forms such as hearings, citizen fora or community outreach, in the time of electronic participation time and space are no longer important (Aikins and Krane, 2010). The effects of the Internet do not involve uniquely the possibility to participate more frequently and faster, they also enlarge the public arena and transform the nature of democracy. In a sense, they also allow for a better participation by broadening the circle of knowledge producers and challenging the communication monopoly held by traditional media. The merit of the Internet as a communication medium has two dimensions; the one of facilitating the exchange between individuals and the other of mass information diffusion. However, the latter can be achieved only if there is certain distance between the producers of knowledge and its contents, which cannot be taken for granted (Cardon, 2010).

The occurrence of the above-enumerated effects depends on the nature of e-Participation instruments. In order for citizen participation to be truly meaningful, it needs to be of a two-way character, that is to say the public officials have to be willing to listen to and exchange with citizens (Laforest, 2014). In situations where political participation opportunities are

lacking, the people are likely to express their disagreement by means of organised protests or creation of specific interest groups. When citizens have the possibility to directly interact with public officials and bring current issues to their attention, these are more likely to be promptly addressed. Such a system might then lead to higher general satisfaction with the government (Bellamy, 2003). The participation of citizens in the process of policy-making increases the legitimacy of decisions in the eyes of citizens, but also provides assurances for public actors (Hennen, 2016). The extent of increase in the legitimacy of decisions depends on the nature of interactions (formal or informal) and the degree of citizen empowerment (consultative or binding).

2) From “security by obscurity” to transparency

Apart from the actual contribution of citizens in the form of their participation in discussions, governments become more democratic and trustworthy as they provide more information on their activities to citizens (Pasquier, 2013). Security- and transparency-related issues play an important role in relation to the use of ICTs in the public sector. It is important to realise that the success of systems such as electronic voting (e-Voting) depends on the positive perception of citizens that use it and is highly fragile when confronted with security leaks. Securing fair and accurate elections is perceived as the central task of any democratic government. In complex systems, the occurrence of a failure is almost inevitable. However, it is exactly in these situations that the transparency of government is of primordial importance and has decisive influence on the future of the system (Moynihan, 2004). A similar approach to transparency on the international scale has been undertaken, for example, in Australia with its open-source development of e-Voting technology and the exposition of its source code online with the possibility to be reviewed and commented on (Moynihan, 2004).

New technologies offer extraordinary ways for public administrations to fight the problem of incomplete or inexact information that are supplied to citizens through other media. Increasing complexity and scale of issues are nearly impossible to comprehend in the “traditional” systems of information provision. With new ICTs, public authorities gain a unique opportunity to narrow the information gap between them and the public. According to Van Dijk (2000b), the information gap is equally the main reason of the growing power of the executive branch of government at the expense of the legislative one.

3) Decreasing costs of participation and closing social divides

The digitalisation of deliberation and participation has the potential to widen access to participation for less affluent groups and for groups that were not previously politically active

(Elberse et al., 2000; Smith, 2009; Zhang and Feeney, 2017)). Online communication is more direct and immediate than its offline counterpart; it decreases economic barriers to participation and facilitates access to information. Online sources are cheaper and more readily available substitutes for other sources of information (Weare et al., 1999). With more accurate information on their hands, citizens are more confident and willing to participate, as well as are able to make better decisions (Yankelovich, 1991). Some authors have argued that elections, as well as election campaigns, would be more issue- and less candidate-oriented were e-Participation initiatives introduced more widely (Elberse et al., 2000). Furthermore, the facilitation of access to information, the informality of electronic environment and the low resource-related exigencies encourage the creation of interest groups and the plurality of attitudes. As a consequence, the former “middle men” of public policy-making, such as journalists and politicians, lose in importance as citizens may voice their demands and opinions directly (Jankowski and Van Selm, 2000).

Challenges related to online citizen participation

Apart from the arguments promoting the introduction of e-Participation and hailing new ICTs as saviours of participative democracy (Sey and Castells, 2004), technology-mediated policy-making equally faces important challenges. In this chapter, I present the most pertinent ones in relation to the research problem. Electronic participation and digital democracy tools have been depicted as “a new age of citizen participation”, evoking the revival of Greek democracy (Hacker and van Dijk, 2000, p. 2). However, according to Sey and Castells (2004), the Internet has not contributed to the emergence of more open and participatory political processes. The two authors observed that ICTs have served political processes only for the purposes of marketing and the dimensions of interaction and empowerment have been absent. They postulate that the main reason for this situation has been the reluctance of political representatives “to lose control over political processes” (p. 368). As the previous experiences with Internet-mediated participation have shown, it is rather difficult to organise meaningful participative democracy experiences online. It seems that these tend to repeat the shortcomings of democratic processes existing in the physical world. First of all, Internet initiatives seem to be able to mobilise only a fraction of concerned citizens. Secondly, it has proven extremely difficult to create a group of participants who would share similar values and thus would be able to have a fruitful debate (Cardon, 2010).

1) Information gap challenge and digital divide

E-Participation is theoretically supposed to allow all citizens to participate in public affairs. However, because it is mediated by technologies, using these channels requires specific

know-how, as well as devices that provide access to them. Following this logic, it can be said that electronic channels favour the participation of technologically skilled people with sufficient resources. “No technology is able to “fix” a lack of political motivation, lack of time, effort and skills required for full participation in democratic activities. No technology can dissolve the social and material inequalities that appear to be so strongly related to differences of participation” (Hacker and Van Dijk, 2000, p. 210). It is evident that it will not be possible in the near future to replace traditional, or face-to-face participation tools with electronic ones because such an approach would risk to disqualify numerous participants due to the lack of skills or access to technologies (Bingham, 2010).

The question of whether e-Participation further empowers the already privileged emerges (Sanford and Rose, 2007) and is enforced by the mass media system of information distribution, which tends to primarily facilitate access to information for well-off socio-economic segments. For this reason, the information gap between different social groups risks to widen with the expansion of electronic information provision (Tichenor et al., 1970). The impact of e-Participation can follow the so-called mobilization hypothesis or reinforcement hypothesis (Büchi and Vogler, 2017). In the view of the former, e-Participation applications mobilise the previously disadvantaged and politically inactive groups of population. The latter, reinforcement hypothesis, claims that the Internet perpetuates the traditional patterns of political participation and even strengthens them because of the skill-demanding nature of online participation. The supporters of this second view suppose that online communication merely transfers existing communication patterns to online environment and engages people who are already politically active (Hill and Hughes, 1998). The data on the usage of the White House computer-mediated communication system confirms that the Internet communication was mostly used by more educated, younger and politically active male Americans (Bonchek et al., 1996). In addition, its users were more likely to be people who profited most from the system.

Weare et al. (1999) signal the development of “information elite” that has higher income, better education and technical skills and is therefore more likely to search for information online or directly interact with administrations electronically. Castells (1996) argues that the use of technologies “is a revolution developing in concentric waves, starting from the higher levels of education and wealth, and probably unable to reach large segments of the uneducated masses and poor countries” (p. 360). The principal risk related to the information gap is the creation of information inequalities, which could lead to the further marginalisation of certain groups. In the extreme scenario, electronic participation channels could lead to the

exclusion of certain groups of people from the public life or create ranks of first-, second- and third-class citizens. To prevent such consequences of the information society from happening, solid social and information policies are necessary. First of all, access to public information cannot be discriminatory; the information must be provided freely via both traditional and electronic channels. Secondly, the population has to be trained in the use of computers and in the importance of civic participation. Thirdly, electronic applications must be user-friendly and intuitive to not to represent a barrier to access in themselves (Van Dijk, 2000b).

Even though risks related to the uneven information distribution could seriously undermine e-Participation efforts, it has been argued that information asymmetries would dissipate by time. The invention of radio, television, or video recorders first favoured people who were able to afford them. However, these cleavages disappeared with the more general diffusion of these technologies within the population (Van Dijk, 2000b). An opposite risk to information gap is the one of information overload. The main point to be emphasised in this connection is that the provision of a great amount of information does not necessarily increase transparency or participation literacy (Aichholzer and Strauss, 2016).

2) Civic education

The question of empowering those that are already privileged is connected to the type of democracy that exists in any given country. In this sense, e-Participation tools probably have more negative impact in representative democracies with established distinction between policy makers and citizens where people do not have the habit of being frequently implied in policy-making and therefore lack experiences with a more regular involvement in public affairs. Analogically to the New Public Management reforms that aim to teaching people to be customers, digital democracy strives to teach them to be active citizens. The two most important points in this regard are “the learning of political behaviour and the long-term nature of socialization and learning” (Hacker, 2000, p. 122). The development of meaningful online participation is conditioned by the belief of public institutions that people are competent and willing to discuss public issues. “Digital-era changes inside the government machine would be closely meshed with and run strictly in parallel with increases in citizens’ autonomous capabilities for solving social problems” (Dunleavy et al., 2006, p. 489).

The division between participants and non-participants is not related only to e-Participation. On the contrary, certain ways of practising politics are entrenched in the society where particular groups or actors dominate others. To change such culturally and socially rooted habits, it is not sufficient to introduce new communication policies. Measures aimed at

changing such patterns of behaviour have to be life-long learning projects that educate people on their role of citizens (Van Dijk, 2000b).

Before any form of citizen participation can fully take root, public organisations need to encourage people to express their opinions and statements so that all societal groups feel concerned. Programmes aimed at stimulating communication should not target influential economic actors and their market interests, but promote democratic values. The larger the number and the more diverse the background of participants in a debate, the more creative ideas result from discussions. Public actors have to convince people that their opinion matters. Communication produces knowledge, reduces uncertainties and creates relationships. However, simple everyday social interaction does not foster democracy. Democracy is cultivated when political interactivity is increased, when citizens are shown that their opinions matter, when they can meaningfully communicate their concerns to their representatives and receive an engaged response (Hacker, 2000). Participation events involving groups from different spectra of society lead to higher approval of policies. As a consequence, the implementation of policies is also less costly because the occurrence of future problems becomes less likely (Catinat and Vedel, 2000). On the other side of the coin, the more actors participate in the process, the more points of view need to be reconciled and the more complex issues become. The issue at hand is also more likely to be captivated by powerful interest groups and individuals (Cain, 2016; Peters, 2009).

The access to information that is facilitated on online channels is supposed to enable participants to make informed, rational decisions. In this connection, however, an important question that should be answered is what one understands under the notions of rational decision or rational voter. Additionally, what would be the profit pursued by the voter? Would it be rather self-gain or collective gains for the community? Would a rational decision be based on the weighing of costs and benefits such as the economic analysis teaches us? Public participation should always be guided by considerations related to public interest. Participants should be able to think in long term and do not follow only their self-interest. To guarantee conformity to these principles, citizens have to be taught the significance of their participation. Even if discussants are interested in and knowledgeable about the issue at hand, it is difficult to recognise whether the outcome of discussion reflects public interest or is rather a sum of individual interests (Miller, 2012). The capacity to take into account other perspectives, identify common points and explain one's interests to others is not generally inherent to people. Especially the involvement of one's ego can do significant damage to an informed discussion and decision-making. Because the comparatively less-educated people

have lower exigencies regarding debate quality, they may evaluate debates that they participate in higher than better-educated people (Reykowski, 2006). Based on the success of mini-publics, Pateman (2012) argues “ordinary citizens, given some information and time for discussion in groups of diverse opinions, are quite capable of understanding complex, and sometimes technical, issues and reaching pertinent conclusions about significant public matters” (p. 9). She goes on to define the elements necessary for the success of participatory democracy. Among these can be found the necessity for individuals to interact within democratic authorities and the creation of participatory society.

The Internet is today perceived by younger generations not as a separate universe, but as an integral part of their everyday lives (Cardon, 2010). However, the abundant amount of information coming from different sources necessitates analytical and critical capacities. Being able to distinguish between disinformation, truthful and pertinent information becomes a necessity. Whereas in the pre-Internet era, the selection of information was the task of journalists and media outlets that held the information monopoly and adhered to certain codes of good conduct, today the task is up to the users. The distinction between the professionals (journalists) and amateurs (large public) used to resemble the distinction between political representatives and the represented. On the Internet, this separation fades away. However, the question of whether the producers of content on the Internet should be subjected to the same codes as journalists in the “real” world has not been answered and often has come into conflict with the freedom of expression (Cardon, 2010). On the one hand, the Internet was founded on ideas such as equality and liberty. On the other hand, the freedom of expression should not be absolute; it cannot come into conflict with the right to personal data protection and valid legislation.

3) Preparedness to share decision-making powers

The electronic empowerment of citizens by means of electronic participation tools, which enable them to be continuously involved in public debates, demands from politicians to constantly take citizens’ wishes into account. As a consequence, the regular waves of political engagement based on the election cycle are no longer sufficient and the nature of interactions between citizens and public authorities becomes more regular and constant. In the electronic environment, citizens can interact with public officials in a more informal way via means such as discussion fora or blogs. The nature of interactions therefore becomes more horizontal and egalitarian, instead of vertical and bureaucratic. As a consequence, the introduction of new technologies represents equally a major political question and an important challenge to the continuation of “politics as usual”. “Citizen participation implies a readiness on the part of

both citizens and government institutions to accept certain pre-defined civic responsibilities and roles” (Milakovich, 2010, p. 2). The more power is delegated to citizens, the less power stays in the hands of politicians and representatives. This might constitute a problem for elected officials, who therefore have less powers than people who elected them originally supposed (Peters, 2009). If the citizens’ preferences are of predominant importance in a decision-making process, the role of elected representatives is reduced from the one of leaders to the one of followers. Consequently, there is no longer a need for politicians, but only for administrators and executioners of decisions (Korac-Kakabadse and Korac-Kakabadse, 1999).

It is likely that this change is more difficult to carry out in representative democracies with a strong position of government, where the political centre can be easily distinguished. In participatory democratic systems, interactions between citizens and public officials are already more horizontal and egalitarian and therefore disrupt the dominant position of governments in regard to policy-making (Zouridis and Bekkers, 2003). In representative democracies, the crucial government success factor is its legitimacy in the eyes of the public.

If digital democracy were to become the dominant channel of communication, an important change in the very nature and traditions of public administrations would follow. To this date, politics stays a largely verbal affair. Negotiation and management skills of public officials are of preeminent importance. With the ascension of digital communication channels, politicians would have to rethink their strategies and focus on obtaining a different skill set. In the digital environment, it is no longer the verbal routine that dominates, but rather technical and intellectual capacities (Van Dijk, 2000a). In addition, a professional politician or a professional public manager should be guided in his/her actions by the principles of civic awareness and purpose (Sullivan, 2005). It is evident that such a radical change cannot occur overnight. It is also likely that the politicians themselves, who might fear for their position and skills, would oppose it (Van Dijk, 2000a).

Another challenge related to citizen participation, and more largely, to the empowerment of citizens, is the necessity for the administration to truly accept and value the newly established role of citizens. The risk is that, despite the formal introduction of participation initiatives, public authorities are not willing to concede decision-making powers to citizens and the participation tools are used for the consolidation of government’s powers. One of the most important problems with the existing e-Participation tools seem to be the lack of responsiveness from the side of public actors. Because it is not certain whether citizens’ input is taken into account and in what way, it is also unsure if a process of mutual learning between the different sides to the discussion is present. Studies on e-consultation experiences

to date have come up with mixed results (Aichholzer and Strauss, 2016). Public debates preceding the decision itself contribute to the legitimation of public policies. However, a problem that comes into play in representative democratic systems is the separation of decision-making phase and the deliberation moment itself, which in representative democracies often takes place in a parliamentary session (Chevallier, 2011). In order for digital communication to generate positive effects enumerated previously, it is necessary that public officials adopt an approach based on the principles of responsiveness, as well as the personalisation of reactions. It is not desirable that public institutions send automatically generated responses or answer citizens' queries within lengthy time periods (Hacker, 2000). New e-Participation functionalities have to be integrated in the existing political system. If this is not the case, they will probably not lead to the real enhancement of democracy (Aichholzer and Strauss, 2016).

4) Lack of safeguards

Another issue related to all kinds of digital communication is the lack of safeguards that is present in the online environment where everybody can express himself/herself in whatever way without any constraints. The question of accountability for contributions to a discussion stays without a clear answer. The consensus seems to be on the identification of users and moderation of debates as necessary components of discussions (Bingham, 2010; Macintosh et al., 2009b; Smith, 2009). In addition, successful e-Participation channels seem to necessitate rules and regulations regarding the contents of discussions (Smith, 2009). If this is not the case, the discussion risks to be dominated by certain individuals and groups that would prevent other opinions from entering the arena (Docter and Dutton, 1998).

1.3.3 Typology of e-Participation

E-Participation initiatives can be fundamentally divided according to four key criteria (Porwol et al., 2016):

- 1) participation areas;
- 2) stages in policy-making.
- 3) levels of engagement;
- 4) stakeholders involved.

In the following paragraphs, I provide the overview of the most important elements related to each of the distinction criteria.

1) Participation areas

With the advancements in the field of ICTs, the possibilities for digitalised citizen participation became more sophisticated and more “participative” than any participation tools that existed before. The most important progress has occurred in relation to the extent of citizen participation in the actual decision-making. Whereas e-Participation tools such as e-Petitions, RSS feeds or opinion polls are essentially equivalent to existing participation tools and do not require important changes to organisational structures, discussion fora, virtual communities or chat rooms are necessarily related to changes in the organisation’s decision-making processes and therefore also to its structure and hierarchy (Carrizales, 2008). The type of interactions, which is particularly important in connection to the research question, involves primarily such contacts between citizens and administrations where the former group is implied in the consultation or discussion of a public policy.

There does not exist an e-Participation tool that would be universally applicable and useful for all purposes. Advantages and disadvantages of each tool have to be considered in relation to the particular purpose and situation (Zissis et al., 2009). Zissis et al. (2009) elaborate in their article on the strengths and weaknesses of the most important e-Participation instruments. Overall, the different forms of e-Participation differ principally by the level of interaction that they allow for and by the amount of decision-making power they delegate to citizens. The table below (Fig. 3) provides an overview of different electronic methods that allow citizens to be informed on public decision-making or to participate in it.

e-Participation area	Definition
e-Activism	Spontaneous political activity or agitation mediated by ICT.
e-Campaigning	Political campaigning on the Internet.
e-Community	ICT applications shaping the instantiation of communities with a political focus, such as local political discussion forums.
e-Consultation	Stakeholder consultation with government in the policy-making process.
e-Deliberation	Participative consideration of a topic through reasoned discussion online.
e-Inclusion	Examination of the availability of e-Participation to citizens across social boundaries, particularly in relation to access to technology.
e-Petition	Specialized form of participation in support of a particular proposition.
e-Politics	Participation in party and groups political processes.
e-Polling	Surveys of opinions using sampling techniques.
e-Voting	Participation through voting over the Internet or by other electronic means.

Fig. 3 Overview of e-Participation areas (Sanford and Rose, 2007).

2) Stages in policy-making

The use of e-Participation in different policy-making phases can be distinguished particularly by the type of deployed applications and by their purpose. It can be said that the use of particular types of instruments is a function of the phase of policy-making process (Aichholzer and Strauss, 2016). The five main phases of the process include agenda-setting, policy preparation, decision-making, policy execution and policy evaluation (Van Dijk, 2012). In the phase of agenda-setting, it is mostly one-way information provision that is carried out with the use of electronic channels. The information provision can be initiated by public administrations and politicians that address the public with the objective of deciphering which topics should be put on the political and policy agenda. The information can, however, also originate in the public; the most emblematic examples of such e-Participation use in this phase are e-Petitions that inform public authorities about issues that are of interest to the public.

In the policy preparation stage, using electronic communication allows public authorities to consult the upcoming policies with the public. Specifically, it allows them to collect opinions on different aspects of the upcoming policy and modify the proposal accordingly. In this way, they may attenuate possible resistance and address important issues. A risk associated with this type of interaction is that the role of civil servants changes from the one of executioners of government policies to the one of politicians (Van Dijk, 2012). E-Participation in the decision-making phase is conducted principally through electronic voting applications. Furthermore, e-Campaigning activities also fall under the scope of the decision-making phase. Whereas voting is an act performed by citizens, campaigning is conducted by politicians.

While it may seem that in the policy execution phase, there is not much space for citizen participation, it can be useful for the government to use citizen participation as “an extra pair of eyes”, watching over what is happening in the society. In this connection, Van Dijk (2012) writes about the popularity of snitching sites for reporting offences and transgressions. However, this type of sites can constitute a two-edged sword for public administrations and turn against them if citizens report offences conducted by public officials. The use of electronic applications in the phase of policy evaluation is the fastest growing area of e-Participation. It allows public authorities to obtain feedback on the quality of public services and discern their shortcomings. Apart from the evaluation of government services, citizens can use these applications to assist them in making their private decisions, for example, on where they are going to live (Van Dijk, 2012).

To date, most e-Participation experiences have been conducted in the stages of agenda setting and policy preparation, followed by policy evaluation. Participation in the other two stages, decision-making and policy execution have been much scarcer and more controversial (University of Siegen, 2010; Van Dijk, 2012). Although the proliferation of e-Participation instruments has not yet advanced to the status of common co-production means, their use is important due to the stimulation of demand for well-informed, educated citizens that they incite (Hennen, 2016).

Phase in the policy process	Application of e-Participation
Agenda setting	<ul style="list-style-type: none"> • Open online consultations (governments and public administrations) • ePetitions and eActivism (citizens)
Policy preparation	<ul style="list-style-type: none"> • Online plan consultations (governments) • Online forums for policy making (citizens) • Online knowledge communities and social media serving policy making (citizens)
Decision making	<ul style="list-style-type: none"> • eVoting (governments, election committees) • eCampaigning (citizens, politicians)
Policy execution	<ul style="list-style-type: none"> • eMaintenance of the law (by citizens invited by governments) • eGovernment services following the needs of citizens and including participation (government initiative) • eGovernment services with participatory user-design (government initiative) • eComplaints and eSurveillance (initiated by citizens)
Policy evaluation	<ul style="list-style-type: none"> • Quality panels and individual evaluations of online public services (government initiative) • Citizen control sites and information services for public or government policy (citizen initiative)

Fig. 4 Overview of e-Participation applications used in different policy-making phases (Van Dijk, 2012).

3) Levels of engagement

In this chapter, I present the repertoire of the most pertinent typologies of public engagement for the present research. The first thing that one notices is the possibility to superpose the levels of participation described in different models in the way that these correspond to the three key stages of public involvement: information provision, consultation, active participation (empowerment). In fact, many classifications of citizen-public administrations relations resemble each other in that they scale the nature of relations starting from information provision through different types of interaction to the empowerment of citizens in regard to policy-making. One of the most well-known typologies of citizen participation that preceded the dawn of electronic citizen participation was created by Arnstein (1969). Arnstein's classification was evidently constructed for the purposes of traditional, offline participation. The author argues that there is a distinction between "false" and "real" participation. The so-called "participation ladder" starts with the lowest stages of participation that are classified as false and involve manipulation and therapy, and climbs up all the way to the real participation and empowerment if citizens with its last rung being "citizen control of public affairs" (Arnstein, 1969).

To date, the use of electronic devices for the purposes of public involvement is still mostly restricted to one-way information provision from public authorities to the public (Aichholzer and Strauss, 2016). The other two key stages of e-Participation – consultation and active participation – are much scarcer. In the consultation phase, the public is invited to participate in discussions on given topics and can present their view of things. However, public authorities are not obliged to take the expressed opinions into account. In the third stage, active participation, the public is again invited to present their arguments on a given topic. The difference vis-à-vis the consultation stage consists in the composition of actors with decision-making powers. The active participation stage is typical of the empowerment of the public in regard to decision-making; their remarks and comments have to be taken into account and deliberation phase may be even partially or completely in the hands of the public. Analogically to the previous three-step typology of interactions, Tsagarousianou (1999) divides the types of public involvement into 1) obtaining information, 2) engaging in deliberation and 3) participating in decision-making. Lindner et al. (2016) add to the three-stage model the differentiation of the three phases by their degree of formality. They call the first stage “e-Public” and state that the provision of information is typical of a low degree of formality. The second stage is called “e-Participation”; it is typical of a medium level of formality depending on the nature of instruments that are used. The third stage is e-Voting, typical of a high degree of formality (Lindner et al., 2016).

Yet another typology (Zissis et al., 2009) also distinguishes between three stages of electronic participation: information acquisition, formation of an opinion and actual participation in decision-making. The information acquisition and the formation of an opinion stages fall under to scope of e-Participation while the participation on decision-making is identical with the act of electronic voting (Zissis et al., 2009). The main limitation of this typology is therefore the narrow perception of electronic decision-making, which is restrained to the deliberative process itself. In addition to the classification of e-Participation tools by their purpose, one can equally create a scale measuring three different attributes of an e-Participation tool: feedback, interactivity and reciprocity (Hacker, 2000). The forms of participation that can be enhanced by e-Participation include, but are not restricted to: co-planning, co-design, co-commissioning, co-managing, co-delivering, co-monitoring, co-evaluating (Bovaird et al., 2009).

4) Stakeholders involved

The importance of actors taking part in an e-Participation initiative can be described principally in terms of who should be engaged and by whom (Macintosh, 2004). Three

principal groups of stakeholders involved in e-Participation that have been identified in the literature are government and administration, citizenry and collective actors such as NGOs, lobbies, etc. (Susha and Grönlund, 2012). The latter often have the role of experts on a given policy issue (Macintosh, 2004). More finely, the three groups can be further divided between (Tambouris et al., 2007):

- elected representatives, government/executive, political parties.
- citizen groups, academics, researchers.
- non-governmental organisations, civil society organisations, think tanks, industry.

The topic of stakeholders that are involved in e-Participation initiatives emerges particularly in connection to the necessary changes in mind-set on the side of administration and citizens that condition the introduction of e-Participation (Susha and Grönlund, 2012). An important distinction related to the different groups of actors is whether they are internal or external to the government and what responsibilities they hold in the context of the given e-Participation activity (Macintosh, 2004).

Frequently studied forms of electronic participation

The most frequently studied form of electronic participation to date has been the interaction between public authorities and citizens on social media. The latter are likely to become the most important e-Participation platforms in the foreseeable future (Vicente and Novo, 2014). The potential of social media use for public authorities has been assimilated to the ideal public sphere such as designed by Habermas (Connolly Knox, 2016). Connolly Knox (2016) draws attention to an issue that public administrations face; they have to balance legal constraints and discretion imposed on their activities with the flexibility that interactions on social media require. Furthermore, if social media were to become the Habermasian ideal public spheres, the role of public administrators would have to change from the one of professionals who know “best” to collaborators with citizens who share their power and information and moderators of discourse (Connolly Knox, 2016).

Interactions that take place on social media are likely to be influenced by existing regulations and rules. Mergel and Bretschneider (2013) divide the presence of public authorities on social media into three development stages. In the first phase, **intrapreneurship and experimentation**, the social media presence is rather informal and not based on a precise strategy. It is the individuals who have previous experiences with the use of electronic channels who are the main users and advocates of social media in their organisation. The main drivers of social media use are therefore innovative individuals who see potential in the

activity. As a consequence, it is likely to be decentralised, less hierarchical organisations that are more likely to experiment with social media first. Furthermore, in this first phase, the objective of social media use is to focus on activities that are “easy wins” and bring obvious benefits. In the second stage, **order from chaos**, organisations strive to shape the use of social media to their specific needs. In this phase of the process, organisational culture and structures are of predominant importance. Whereas some organisations are likely to keep their social media presence rather formal and limit the interaction angle, other organisations are more innovative and open to intermediate communication. In this connection, the impact of path dependency is discernible. It is in this second phase that organisations start to create the first standards for their social media presence. The progressive formulation of extra-organisational standards of social media use likely leads to the reduction of risks and broader adoption. In the third phase, **institutionalisation**, the use of ICTs is incorporated in the organisation’s identity based on standardised protocols and precise strategies. Mergel and Bretschneider (2013) state that the main mechanism accompanying the standardisation of social media use is the one of organisational change. This premise is in accordance with the main thesis of this study’s theoretical model; I understand the uptake of ICTs in the public sector primarily as a question of organisational dynamics.

Agostino and Arnaboldi (2016) divide interactions between public authorities and the public on Facebook between public communication and public involvement according to the type of activity that public authorities pursue. Public communication translates into one-way information provision; public involvement includes a two-way flow of information. Evidence shows that public authorities are still much more likely to use social media for the purposes of public communication than of public involvement (Agostino and Arnaboldi, 2016). Agostino and Arnaboldi (2016) provide a classification of the Facebook presence of Italian municipalities in regard to the two types of activities.

- City administrations that act as **ghosts** show low levels of public communication and involvement, their Facebook presence is not based on a clear strategy. They should rethink the very purpose of their presence.
- **Chatterboxes** are city administrations that provide a lot of one-way information, but do not practice a lot of public involvement.
- **Engagers** are city administrations that show high levels of public involvement and low levels of information provision. In the analysis of the two authors, this type of city administrations is the scarcest.

- **Leaders** are city administrations that show high levels of both information provision and involvement.

Overall, the presence of public authorities on social media should always be based on a clear strategy and objectives. If this is not so, the activity is not likely to achieve the set objectives and may be even harmful (Agostino and Arnaboldi, 2016). Even though the public may be more interested in information on public authorities' activities, the participatory dimension of e-Government should not be neglected either (Andersen et al., 2010). Andersen et al. (2010) find that the participatory online efforts of public authorities have been so far met with mixed or rather negative results and the potential of online citizen participation has therefore not been fully taken advantage of.

1.4 An inventory of e-Government and e-Participation terminology

The ambiguity of terms and definitions related to the digitalisation of public administrations that is discussed in chapters 1.2.1 and 1.3.2 is, in my opinion, counter-productive and efforts should be made toward to the clarification of different notions. My objective here is not to increase confusion in e-Government terminology by adding yet another definition of e-Government or its dimensions; the ambition is rather to propose a framework for the discipline. The plethora of terms that have emerged since the beginning of the 21st century and are supposed to accentuate the rapid developments in the field by rejecting previous terminology increases confusion and complicates the categorisation of e-Government studies. Notions such as Smart City, Smart Government and e-Governance have all been in the literature used as successors of the term “e-Government” that was coined in the 1990s. In practice, however, their delimitation is not unified and often leads to the fragmentation of research and assignment of studies to other research fields. In some cases, the terms have been used as synonyms, in others they have been considered distinct. I prefer to adhere to the term “e-Government” or “electronic government” that has first defined the concept of digitalisation in the public sector. A similar notion would be the one of “digital government” that could be, indeed, considered synonymous to electronic government. However, I further opt to use the former term because it has been in the literature used more widely than the latter one. A search conducted on the well-known “Web of Science” platform for mentions of both terms during the same time period returns 307 references for “digital government” and 7072 references for “e-Government”.

Another notion that has been used as a denomination of the research field is “e-Governance”. The meaning of the term is very similar to the one of “e-Government”; e-Governance seems to refer to a broader understanding of public processes that involves new ways of governing

initiated with or without the participation of governmental actors. It is due to this last point that I prefer the term e-Government over e-Governance. I suppose that e-Government initiatives should be principally understood as projects initiated by or in cooperation with official government structures. The status of unofficial initiatives founded by citizen groups and other actors external to the government is often unclear and their impact is difficult to evaluate. In a sense, e-Governance as a term is also more revolutionary than “e-Government”; the forms of policy-making that it advocates have been rare.

The core question that has not been clearly answered and that may be at the source of the fragmentation of terminology is whether e-Government should be a discipline in its own right or should be a part of other scientific disciplines (notably of political and computer sciences). Even though e-Government research touches on different scientific fields (Hu, Pan and Wang, 2010), it does not really belong to any. Due to its impact on such different disciplines as computer and political sciences, which both constitute its crucial dimensions, it is difficult to justify its assignment to either of them. Both political and computer scientists would probably argue their point of view and not pay enough attention to the other aspect of e-Government. For these reasons, I suppose that it would be more useful for e-Government as a discipline to develop its own tenets, research methods and theoretical foundations. If this is not the case, it is likely to remain problematic to overcome the one-dimensional studies of e-Government that ignore its political, organisational or technological aspects according to the expertise of the respective author.

Every discipline undergoes developments over time; these do not, however, usually lead to the questioning of its main notions as has been the case with e-Government research. With the objective of solidifying its foundations, my ambition in this place is to propose a framework of e-Government that could act as an umbrella rationale for the discipline. The framework of a scientific discipline should be relatively timeless and, at the same time, general and specific enough to convey the most important tenets. I suppose that the following conditions constitute important building blocks of the discipline:

- If “e-Government” is to be a notion englobing the whole discipline, it should refer to both the electronic delivery of public services and the digitalisation of democratic practices. These two dimensions constitute the first categorisation of the discipline. Different inherent notions can be further specified within each dimension.
- The second typification of e-Government initiatives that should be underlined is between the digitalisation of public services and democratic practices that exist already and the digitalisation of new services and practices that exist only in the digital

environment.

- The third distinction of e-Government research consists in the angle from which e-Government is studied. Researchers can essentially choose to study the side of suppliers of public services (public administrations) or the side of their receivers (citizens and companies).
- The last distinction that I propose is based on the recipients of e-Government services. The terms that have been coined in the literature divide e-Government interactions into those taking place between: Government and Citizens (G to C), Government and Businesses (G to B) and Government to Government (G to G) that includes internal transactions between different public entities (Gil-Garcia, 2013). The distinction between these types of interactions is useful notably in regard to the frequency of contacts between a respective public department and each of the three populations.

In this place, I return to the previously cited definition of e-Government proposed by Bekkers (2013): “E-Government can be described as the use of ICTs to design new or redesign existing information, communication and transaction relationships between governments and citizens, companies and non-governmental organizations, as well as between different government organizations and layers in order to achieve specific goals”. I suppose that this conceptualisation of e-Government depicts best the most important elements of e-Government research and could constitute THE definition that most authors could agree on.

Electronic public service delivery

This first dimension of e-Government refers to different concepts related to the digital channels of public service delivery. It includes notably the digitalisation of existing services and the introduction of new ones that are made possible with the transfer to the digital environment. Two terms related to the digital delivery of public services that have received a lot of attention in the last years are “smart city” and “open data”. Smart city refers to a concept of a city whose “infrastructure enables political efficiency and social and cultural development”, where there is “an emphasis on business-led urban development and creative activities for the promotion of urban growth” and whose “natural environment constitutes a strategic component for the future” (Albino et al., 2015, p. 13). In other words, it is a city that “enhances the quality of urban services such as energy, transportation and utilities in order to reduce resource consumption, wastage and overall costs” (Techopedia, n. d.). The objective of a smart city is to facilitate the lives of people with the use of information and communication technologies.

Open data projects are not directly related to public service delivery, the objective of open data is to put government data at the disposition of the public free of charge. Even though open data has been in the literature connected to the practice of democracy (Huijboom and Van den Broek, 2011; Ruijter et al., 2017), I argue that the relation between the two concepts is not as straightforward. Open data translates into the provision of raw information that cannot be supposed to enhance democracy by providing people with information on government's activities. The objective of open data is rather business-oriented than participative; open government data allows individuals and companies to develop new "smart" applications and boost their businesses.

Electronic democratic practices

The second dimension of e-Government includes, analogically to the other dimension of e-Government, the digitalisation of existing practices and introduction of new ones that fulfil the objectives related to electronic communication between the public on the one hand and public officials on the other. I propose to use "digital democracy" as the umbrella term for this dimension of e-Government and divide it between electronic democracy (e-Democracy) and electronic participation (e-Participation). In accordance with the relevant literature, I define e-Democracy as the digitalisation of existing democratic practices and e-Participation as new electronic functionalities that enable the public to participate in public affairs. An emblematic e-Democracy project is electronic voting. An example of e-Participation is an electronic discussion forum where different parties can discuss different topics with political and public officials.

In the realm of digital democracy, the present project focuses on the study of e-Participation, which is the more revolutionary one of the two concepts. I suppose that its categorisation as an own discipline that has been promoted by certain authors is not desirable. E-Participation clearly relates to e-Democracy and, more broadly, to the use of ICTs in the public sector. Without taking into account the specificities of the political system in the given context, it is not possible to determine the potential of e-Participation. For this reason, I argue that e-Participation should constitute a part of the scientific discipline of e-Government.

E-Participation functionalities are new to both representative and participatory democracies and are therefore linked with important challenges for all participants; citizens, companies and public officials alike. I suppose that the different definitions of e-Participation that were discussed in the chapter 1.3.2 all capture a part of what e-Participation is supposed to be. The multiplicity of types of e-Participation initiatives supports the fragmentation in definitions. The conceptualisation of e-Participation that could be widely applicable would have to be

quite general to capture the variety of e-Participation types. In this case, I suppose that the need for a unified definition is not as strong; the crucial point is to be able to categorise e-Participation in a broader scientific discipline.

1.5 Drivers of and barriers to e-Government development in different contexts

The present chapter reviews factors that have been found influential in the process of e-Government development in the previous studies. For simplification reasons, each factor is considered separately even though in practise the effects are often reciprocal or cumulative. The study of factors that impact on the introduction of e-Government belongs to the most important topics of e-Government research. The identification of drivers of and barriers to e-Government in different contexts is necessary for better understanding of differences in the uptake of e-Government projects (Zhang et al., 2014). Ingrams et al. (2018) found that the drivers of e-Government did not differ significantly across different stages of projects.

In accordance with the previous clarification of terminology related to the phenomenon of e-Government, the following overview of influential factors include both studies that evaluate the determinants of e-Government understood as the digitalisation of public services and of e-Participation or, more broadly, digital democracy. The drivers of and barriers to e-Government development concern, for the most part, also e-Participation initiatives. Distinctions between the types of initiatives is made when relevant. Overall, public administrations around the world seem to have for the most part embraced the digitalisation of public service delivery. However, the uptake of e-Participation has been considerably slower.

The key point that previous studies on e-Government agree on is the context-dependence of e-Government (Feeney and Welch, 2016; Zhang and Feeney, 2017). Researchers have understood that main challenges to e-Government introduction do not reside in the technological complexity or incompatibility, but relate to the institutional, organisational and political environment (Gil-Garcia and Pardo, 2005). The contextual embeddedness of e-Government initiatives is also one of the most important principles of the present research. E-Government is understood here as a part of an institutional, organisational and technological redesign of public organisations (Homburg, 2008). “Success [of e-Government] is not only about selecting the right technology, but also about managing organizational capabilities, regulatory constraints, and environmental pressures” (Gil-Garcia and Pardo, 2005, p. 193). In her historical overview of e-Government research, Carter (2015) emphasizes the need to focus future e-Government research on the study of success and failure in different contexts, to promote transparency via open government, to utilize social media to increase citizen participation and to minimize the digital divide.

In their review of e-Government literature, Zhang et al. (2014) divide the factors that impact on the diffusion of e-Government between those of technological, organisational and environmental nature. Technological antecedents are related principally to physical access to technologies. Organisational antecedents include the type of government, agency size and structures, available resources, IT workers' skills, leadership and centralised versus decentralised nature of decision-making. The environmental factors are divided between macro-, meso- and micro-environmental antecedents. On the macro level, it is principally the institutional environment and culture that impact on the introduction of e-Government. On the meso level, it is, for example, the city size. On the micro level, organisational cultural environment can exercise certain influence on the uptake of e-Government projects. Similar distinction of e-Government-related factors can be found in the e-Government literature review of Savoldelli et al. (2014) who divide the antecedents of e-Government development between their technological-operational, managerial-organisational and political-institutional dimensions. Further on, they analogically distinguish three key periods of e-Government research. They find that between 1994 and 2004, the main barriers to e-Government development were related to the lack of infrastructures, IT skills and institutional support. Between 2005 and 2009, the focus was rather on operational costs and maintenance of e-Government systems that acted as barriers to its future development. Other issues typical for this period involve the lack of integration across government systems, lack of citizens' trust, resistance to change on the side of civil servants and digital divide. During the most recent period that the authors studied, between 2010 and 2013, the emphasis shifted to citizens' point of view, transparency issues and open government. In this context, institutional and political barriers to e-Government started to be more pertinent than before. The most important factors related to this third generation of e-Government barriers are digital divide, lack of legal bases, lack of policy cycle management, lack of measurement and evaluation, lack of citizen participation and lack of trust and transparency (Savoldelli et al., 2014). Public administrations need to further focus on conceptual innovations that allow for the development of new views and challenges to existing assumptions and systemic innovations that translate into new or improved ways of interacting with stakeholders and citizens as sources of knowledge (Savoldelli et al., 2014).

E-Government constitutes the most common form of public innovation in Europe. According to the report mandated by the European Commission (Leon et al., 2012), European public innovations seem to target principally the issue of restricted budgetary resources by increasing efficiency of administrations and public service delivery. The most important drivers of public

innovations in Europe are political ambitions, public demand and available resources. Furthermore, the report emphasises the role of leadership, organisational strategy and innovative capacity for the likelihood of public innovations (Leon et al., 2012).

Weare et al. (1999) defined a range of context-related factors that increase the likelihood of technology adoption. These are namely: 1) larger populations (lower average costs of provision increase the demand for a public good); 2) a greater number of Internet users (greater network benefits increase demand, and greater familiarity with technology decreases residents' personal costs of using it); 3) wealthier citizens (income increases the demand for a public good); 4) larger governments (organization size increases adoption); 5) higher fiscal capacity (both residential demand and organizational slack would be higher in fiscally strong cities); 6) a higher concentration of social elites (elites are early adopters); 7) a higher registration in third parties (greater demand for information-based public good and greater compatibility between values and technology increases adoption); 8) greater experience with interactive communication technologies (existing technological paradigm supports adoption of Internet technologies).

Savoldelli et al. (2014) argue that there exists an important cleavage between the supply and usage of e-Government services. In other words, the supply significantly exceeds the posterior usage. In the past, e-Government research tended to focus on technological and operational factors, neglecting other antecedents of e-Government such as those of institutional and political nature (Savoldelli et al., 2014). Heeks and Bhatnagar (1999) claim that the most important reason for the failure of technology-related reforms is the so-called conception-reality gap. The latter is understood as the incoherence of proposed reforms with organisational reality. Many technological reforms are based on the principles of rationality and do not take into account political and cultural values. Even if particular concepts and techniques are successfully applied in a certain country, the same reforms do not necessarily produce the same results in a different political and cultural environment. The success or failure of reforms depends on the level of (in)compatibility between the reform concept and the objective reality (Heeks and Bhatnagar, 1999). The solution to this problem is double; either changing the reform concept so that it would be adapted to the organisation or adjusting organisational characteristics so that they would correspond better to the reform proposal. Such assimilations between technologies and organisations are time-consuming and relate to different dimensions. It is therefore rather difficult for a new technology to be institutionalised (Heeks, 1999b).

The main areas in which ICTs have been used in the realm of citizen participation has been the provision and diffusion of information (Smith, 2009). The literature suggests several explanations of this state of affairs, such as the antipathy of public officials toward public participation (Thomas, 1995), which de facto obliges them to share their powers with the public. Strong democracy requires public officials to see their role as the one of “professional citizens” (Cooper, 1984). Representative democratic institutions, which have constituted the cornerstone of democratic systems in many countries around the world, are seemingly not compatible with the active forms of citizenship that involve regular participation of citizens in policy-making and policy programs’ development. Chadwick and May (2003) argued that the reason why managerial model dominated over participatory and consultative usage of technologies was due to the way the use of technologies was framed in the 1990s. The environment of public administrations has historically not been considered appropriate for public involvement, which was supposed to be reserved for the political sphere (Goodnow, 1900). Similarly, the accountability of public administrators was to be indirect, through their position of the de facto servants of elected officials. However, despite this formal distinction between policy makers and policy implementers, public managers are often involved in policy-making (Taylor, 1995).

Vicente and Novo (2014) apply the resource theory to the study of e-Participation antecedents. In the view of the resource theory, participation is impacted on by four types of resources: 1) individual resources and socio-economic characteristics, 2) political views and attitudes, 3) group resources and 4) institutional and political contexts. The more resources people have, the more likely they are to participate. Socio-economic characteristics refer principally to age, gender, education level, income and employment status. Political views involve, for example, political interest and feelings of civic duty. Group resources are related to the actor’s social capital. Political context impacts on participation via its open or closed nature. It seems that systems where several actors share decision-making power are more participative (Vicente and Novo, 2014). The importance of social capital and active civil society for participation is related to the need to combine weak and strong publics. Strong publics are typically represented by official authorities such as parliaments and governments. If social capital and informal civil participation existing separately from official institutions are high, formal responsiveness to current problems is faster and more legitimate because non-government channels are able to exercise pressure on the official policy-making bodies (Hennen, 2016).

Lindner et al., (2016) conclude that the most important contextual factors impacting on the success of e-Voting are history and background, motivation, legal context, organisational context and socio-political context. Even though e-Voting does not cause power transfers between politicians and citizens, its introduction seems to be impacted by party cleavages and differences in perceptions of what the act of voting should look like (Goos et al., 2016). The party cleavages are related principally to possible gains and losses of votes that may occur with the generalisation of e-Voting. E-Voting can potentially lead to more votes for parties that are supported by younger, digitally skilful groups of population and less votes for parties supported by older population living in rural areas. Alvarez and Nagler (2001) claim that electronic voting would be advantageous principally for groups with higher socio-economic status and the outcome of elections could be therefore biased in the direction of votes cast by these groups.

Analogically to the literature reviews referenced above, I divide the following overview of the most important antecedents of e-Government according to their character between technological, individual, organisational and institutional factors. The overview of influential factors was created based on a literature review that included pertinent publications related to e-Government initiatives in different countries. For this reason, the selected antecedents of e-Government are not specific to the case of Switzerland. The objective is to provide the reader with the first insight into the context of e-Government in different countries and explain the importance of different variables that are studied in the empirical part of the project. Because the antecedents of e-Government are sometimes analogous to the antecedents of public administration reforms and innovations in general, a distinction is made between factors that are typical for the introduction of e-Government as a specific public administration reform and factors that could be applied to a broader range of public reforms and innovations.

TECHNOLOGICAL AND OPERATIONAL ANTECEDENTS OF E-GOVERNMENT

For a long time, the main barrier to e-Government development was formulated in terms of access to technologies. The focus on technological antecedents of e-Government development and the omission of other factors has often been the reason of project failures (Verdegem and De Marez, 2011). At present, the consensus seems to be that the technological context no longer poses problems in the countries of Western Europe and North America (Bertot et al., 2010; Meijer and Zouridis, 2006). Van Dijk (2000b) observes that it is normal for a new medium to be first adopted by certain groups of the population, who are “fast adopters”, and only later by others who are labelled “late adopters” or “laggards”.

The main issue related to technological and operational dimensions of e-Government development currently consists in the lack or inequality of digital skills and the connected digital divide. The divide is no longer understood only in terms of physical access to technology, but in terms of skills that are necessary for using it (Hindman, 2009). The use of advanced communication technologies requires precise skills and knowledge. It is therefore necessary for e-Government applications to be designed in the most intuitive and user-friendly way to minimise barriers related to the skill gap. In the case of applications such as electronic voting, however, public authorities have to strive to create a compromise between user-friendliness and complexity of the system so that technological security and personal data protection would be guaranteed. The inequality in digital skills could be solved, for example, by introducing more courses on the use of ICTs in school curricula. It is evident that enlarging physical access to technologies alone is no longer a sufficient strategy for closing the digital divide (Moreira et al., 2010).

At present, digital skills seem to be important particularly for the successful uptake of e-Participation (Arduini and Zanfei, 2014; Vicente and Novo, 2014). They can be described in terms of four specific types of skills: 1) operational skills to operate new media, 2) formal skills to handle new media, 3) informational skills to search and choose relevant information, 4) strategic skills to use the obtained information for achieving a certain goal (Van Deursen and Van Dijk, 2009). Related to digital skills is the awareness of security and data protection risks. Data protection issues arise in situations where different departments electronically share information concerning concrete individuals with the goal of making service delivery faster and more efficient. One of the solutions to this type of risks is the so-called “informational self-determination” (Rouvroy and Poullet, 2009). In accordance with this concept, administrations should require previous agreement of individuals with the processing of their data. Several cantons in Switzerland have also introduced a similar system. For example, the canton of Neuchâtel requires that each user of their one-stop-shop signs a contract in which he/she agrees to their personal data processing for pre-defined purposes.

Related to digital skills is the question of generational and social divides. It seems that once an individual identifies himself/herself as an Internet user (and therefore feels confident about the level of his/her digital skills), differences in terms of age or income are no longer significant for online citizen participation (Feezell, 2016). Daglio et al. (2015) claim that “employees who feel less capable to complete tasks will be less motivated to undertake them, while those with new skills will be keen to put them to use” (p. 15).

The technological antecedents of e-Government can be considered e-Government-specific; other major reform movements (such as NPM and NPS) did not require public employees to require new skills that would so profoundly change their work-related routines. Furthermore, a similar generational cleavage such as is discussed in the last paragraphs of this subchapter was not manifested in relation to other public administration reforms.

INDIVIDUAL ANTECEDENTS OF E-GOVERNMENT

The individual antecedents of e-Government are related principally to the attitudes of public managers and politicians toward the new functionalities. As such, they are also applicable to a broader range of public administration reforms and innovations. In the following paragraphs, it is ascertained that every innovation needs its champions, that is to say, people who believe in its positive impact for the organisation. Furthermore, innovations need its champions also due to their possible resource-intensity that might provoke opposition within the organisation. An element that is here discussed together with the importance of public leadership for the uptake of e-Government is “computer fear” that relates to the insufficiency of digital skills discussed in the previous paragraphs. As such, it is specific to the uptake of e-Government and impacts to a lesser extent on other public innovations.

Stance of politicians and public managers

Pioneer experiments in technology-mediated citizen participation were typical of the trial and error strategy. They were often propagated by “believers” who were convinced of the validity of ICTs’ potential for democracy (Van Dijk, 2000a). To give an example, in the United States the uptake of e-Government is closely connected with the administration of president Clinton. In fact, Clinton was at the time the only presidential candidate that used computer technologies during his presidential campaign. Having introduced the White House Computer-mediated Communication system (WHCMC), the Clinton administration believed new technologies would enhance interest in political participation and would bring the government and citizens closer together by creating more informed and less disaffected electorate (Hacker, 2000). The National Information Infrastructure Advisory Council called the communication via Internet an unprecedented opportunity to enhance participatory democracy (Hacker, 2000). Despite being overall optimistic about the potential of the system for democracy, the White House analysts equally supposed that it would take at least one generation until more punctual political participation became regular practice. However, already in the 1990s, more than a half of WHCMC users claimed that they felt more involved in important issues and found government more accessible and personal (Hacker, 2000).

Conclusions pointing at the crucial role of innovation leaders are presented also by Weare et al. (1999) who observe that the adoption of technologies depend on its internal support. The authors claim that the adoption of technologies “frequently requires a champion within the organization who advocates for the technology” (Weare et al., 1999, p. 23). Following the interviews that were conducted in the framework of their research on the diffusion of municipal webpages in California, the authors state that city employees develop most webpages in their free time due to specific interest in Internet technologies. Verdegem and De Marez (2011) add that the relative advantage of technology use is more apparent for innovators and early adopters. In line with these observations, Pascual (2003) confirms the crucial role of strong leadership for the success of e-initiatives since it “ensures the long-term commitment of financial resources, personnel and technical expertise in the design, development and implementation of e-Government projects” (p. 29).

The impact of leadership on e-Participation introduction differs from its impact on the digitalisation of public services and the uptake of public innovations in general; in the framework of e-Participation projects, it is not only attitudes to the use of technologies that count, but also actors’ views on citizen participation. “Changes in leadership, policy and governance are needed in order to make government information more accessible and usable, to make government more consultative, participatory and transparent, to build a culture of online innovation within the public sector and to promote collaboration at all levels” (Bonson et al., 2012). Several research studies have confirmed the crucial importance of public actors’ attitudes for the uptake of e-Participation. One of the conclusions of Aikins’ and Krane’s (2010) research carried out in five American Midwestern states is that politicians have not fully taken advantage of the potential of new technologies because of their preference for traditional participation tools and the related lack of belief in Internet-based participation. They define the readiness to deploy resources for the introduction of Internet-based participation as a function of population, per capita income and belief in Internet-based citizen participation (Aikins and Krane, 2010). The results of their research affirm the need for politicians to change their attitudes toward new technologies and embrace them not only as means of reducing costs of public services, but also as tools enabling broader citizen participation.

Similar findings are stated in the study of Carrizales (2008) who accentuates the role of public managers for the introduction of e-Democracy. Carrizales bases his empirical analysis on the assessment of the role of municipal managers in New Jersey, USA, and evaluates several indicators such as their views on e-Democracy, privacy or security. He claims that the

introduction of e-Participation and e-Democracy constitutes rather an ideological than a functional innovation and as such, the faith in its positive effects is primordial (Carrizales, 2008).

Yang and Callahan (2007) observe that the three most important motives to introduce more citizen participation involve: 1) the presence of pressure to do so from external stakeholders; 2) the nature of managerial attitudes regarding the value of participation; and 3) perceived obstacles, including resource, capacity, and structural barriers. If the motivation on the side of managers is lacking, participation instruments are not successful and can be even harmful. However, when public managers have a rather critical attitude toward the traditional means of citizen participation and instead favour more responsive and immediate interaction, their approach is more likely to have positive effects on decision-making, citizenship and governance (Denhardt and Denhardt, 2015). The difference between the factors 'belief in Internet-based participation' and 'nature of managerial attitudes regarding the value of participation' consists in the instrument that mediates participation. The belief in Internet-based participation involves both the belief in citizen participation in general and the belief in the technology-mediated technology, the underlying supposition is that technologies will enhance the possibilities of citizen participation.

Zhang and Feeney (2017) studied the impact of managerial beliefs about participation and perceived needs for participation on the introduction of electronic civic engagement. They found that high perceived needs reinforce managerial beliefs, but low perceived needs could not trigger managerial beliefs. Managers seem to be ambivalent in regard to electronic engagement because the latter disrupts their routines. Their beliefs about citizen participation are a function of their background, professional ethics and motivation. Furthermore, it seems that even in situations when managers are in favour of more engagement, they are held back by previous negative consequences, for example, in terms of increased workload (Zhang and Feeney, 2017). Furthermore, the provision of information to the public, which is at the core of e-Government, risks to be opposed by public employees for reasons related, for example, to organisational or political loyalty (Snellen, 2000).

Role of public leadership

The support and clear vision of e-Government projects promoted by politicians, public managers and public employees is an important factor that impacts on their success (Bataineh and Abu-Shanab, 2016). Whereas politicians usually define e-Government strategies, public managers and employees are responsible for their concretisation and implementation. Leadership is thus one of the most important drivers of e-Government efforts. Public leaders

need to have “the political savvy to identify and organize allies in the endeavour, and the perseverance to see the enterprise through” (Fung, 2015, p. 520). The ability to manage changes that accompany public organisations’ re-organisation depends in the public sector to an important extent on the skills of public managers. Due to the lack of market pressures, profit-related incentives and embeddedness in an institutionalised environment, organisations in the public sector are more resistant to change than the private ones (Meijer and Zouridis, 2006). “The need for a new breed of organizational leaders has never been more compelling. Such leaders have to revitalize organizations, define the content and direction of desirable change, mobilize commitment to new visions and secure needed resources. These leaders also face employees’ worries about internal organizational politics in implementing policies. Employees are suspicious of their managers and leaders and often resist suggested changes” (Jreisat, 2002, p. 102).

The introduction of e-Government and especially of e-Participation constitutes a turning point for public administrations in that the latter requires that public employees apply a completely different skill set. For this reason, the division between its proponents and opponents tends to lead to strong pro and con arguments. Van Dijk (2000b) states that a lack of basic skills and ‘computer fear’ are one of the most important obstacles to establishing an information society. Computer fear stems principally from the people’s lack of objective assessment of the complexity of electronic applications due to insufficient experience with them. Because fear is essentially subjective, its sources are emotional factors, such as the fear of exclusion and consecutive negative attitudes to technologies (Van Dijk, 2000b). If digital channels were to become the dominant means of communication, an important change in current political and administrative practices would ensue. In a digital environment, it is no longer the verbal routine that dominates, but rather technical and intellectual capacities (Van Dijk, 2000a). Previous experiences with the use of digital media and positive attitudes toward these channels seem to increase the intention to use electronic public services. Likewise, experiences with electronic public service delivery increase the chances for its future use (Van Dijk, Peters and Ebbers, 2008).

Political commitment and the existence of a well-defined communication plan are identified as e-Participation success factors by Panopoulou, Tambouris and Tarabanis (2010). The role of political leadership has been found to be an important motivator for the introduction of e-Government, for example, in the South Korean context (Ahn and Bretschneider, 2011). Political support is comparatively more important in federalist countries where local authorities decide themselves on the introduction of e-Government projects than in unitary

countries where the uptake of projects is centralised and of more top-down character (Kassen, 2018). Sey and Castells (2004) add that the future development of citizen-public administrations relations in the virtual realm will depend on the willingness of politicians to change the role of citizens and delegate more control over political processes. The importance of political “sponsors” of public innovations is also accentuated by Crosby and Bryson (2005).

The approach of public leaders to ICT-based reforms can be summarised by the following classification (Heeks and Davies, 1999). The strategies that are adopted can be described in terms of four Is:

- 1) Ignore: public officials are ignorant of ICTs.
- 2) Isolate: public officials lack the necessary computer literacy. ICT-related reforms are delegated to IT experts and are not systematically involved in reform projects.
- 3) Idolise: public officials have some computer skills and consider ICTs as a means of transforming the government. However, they still lack the important awareness of wider effects of ICTs.
- 4) Integrate: public officials become computer- and information-literate. The ICTs are considered as a means of achieving a certain objective instead of being objectives in themselves.

ORGANISATIONAL ANTECEDENTS OF E-GOVERNMENT

Factors related to internal structures and work processes in public organisations represent the key challenges that impact on the introduction of new technologies. Organisational characteristics such as its culture, mandate and structure are important antecedents of e-Government uptake. More finely, it is the attitudes toward risk, change, failure and perceptions of barriers to e-Government that are crucial in this connection (Daglio et al., 2015; Kattel et al., 2013; Potnis, 2010). Similar factors condition also the uptake of innovations in general. It can be said that it is the openness of organisational culture to innovations that conditions the acceptance of e-Government and not the organisational characteristics themselves. As a consequence, the uptake of e-Government is not determined only by technological, but to an important extent also by organisational readiness (Wirtz et al., 2017). Schelin (2003) observes that the public sector has historically been less reactive and lagged behind private companies in regard to the use of technologies. The lag in adoption has ranged between ten and fifteen years. The organisational inertia and embeddedness in legal environment belong to the most important reasons explaining this situation (Schelin, 2003).

The attitudes to transparency that are discussed in the second part of this subchapter are an important factor that has influenced the introduction of previous public administration reforms and innovations. Its impact is therefore not limited to the phenomenon of e-Government. However, its importance might be comparatively more significant in the case of e-Government. One of the principles of a successful e-Government is the seamless offer of public services across different departments and level of government. Another principle posits that the efficacy of e-Government is guaranteed only if different departments share common databases that prevent them from having to collect the same data repeatedly. As a consequence, the exigencies regarding the transparency of individual departments seem to be more significant for e-Government than was the case with previous reforms.

Culture-related changes and re-engineering of processes

An important point that public organisations seem to often have neglected in the past is the necessary re-organisation of organisational structures and processes that accompanies the introduction of e-Government functionalities. An underlying reason for the digitalisation of a process would typically be its less than optimal functioning. However, if the process is not optimised and redesigned already before the digitalisation process, the previous inefficiencies risk to be transposed to the digital version of the process. “If you automate a mess, you get an automated mess” (Meijer and Zouridis, 2006, p. 222). For this reason, the digitalisation of work processes should be accompanied by their redesign and refinement (Homburg, 2008). Already Castells (1996) wrote that the investments in ICTs had not been successful because the technologies were used for the automation of existing processes, which were no longer up to date. “Realizing the potential of information technology requires substantial re-organization” (Castells, 1996, p. 197). However, it should also be kept in mind that technologies are not introduced on a clean slate and organisations cannot fully realise their potential unless these technologies are adapted to the existing context (Brown and Toze, 2017).

The issue of process reengineering is related to the ability to ask for advice and admit that one does not always know best. Public administrations do not always have at their disposal all the important information and competencies that would allow them to implement the most efficient and effective electronic public services. As Noveck (2009) points out, public administrations do not typically have in their DNA the ability to admit that “they do not know”, that they do not have all the necessary knowledge and resources that would allow them to take the best and most beneficial decisions. Additionally, uncertainty about innovation outcomes that public managers experience can further prevent them from

undertaking innovative enterprises because they are not used to solving problems that do not have a pre-defined solution (Mergel, 2018). “A shift from the mind-set of ‘expert’ to that of a learner” (Daglio et al., 2015, p. 27) is a necessary condition for the instalment of a culture that is open to innovations.

The necessary change in organisational culture from a hierarchical, highly-regulated paradigm to an open, innovative one is a lengthy procedure (Mergel, 2018). For instance, when public administrations want to establish a successful, legitimate social media presence, they have to first change their work routines and organisational culture. If the internal cultural change does not come before the establishment of online interactions, these efforts may lead to decreased efficiency and increased distrust of government (Connolly Knox, 2016).

The Swiss case seems to constitute an exception in regard to the importance of perceived quality of public services. In fact, an important factor that differentiates Switzerland from other e-Government adepts is the positive perception of existing forms of public service delivery and democratic practices. Uzochukwu and Thomas (2017) studied the antecedents of participation in the framework of processes related to the coproduction of public services. They tested hypotheses supposing the influence of personal efficacy, public service motivation, sense of civic duty and perceived needs for new or improved public services on the likelihood of engagement in coproduction. The findings from exploratory interviews that I conducted with cantonal electronic voting managers during Spring 2015 point at the importance of their argument. In Switzerland, the perceived need to improve public services or enhance citizen participation seems to be relatively low as their quality is considered comparatively high. Uzochukwu and Thomas (2017) find that social and psychological factors are more important than perceived or real needs for the likelihood of engagement in coproduction. Furthermore, they claim that it is necessary to employ different strategies for engagement in different forms of coproduction. There is no “one best way” approach (Uzochukwu and Thomas, 2017). If different forms of engagement require different strategies, it is plausible that electronic forms of engagement require their own strategies that would be additionally compatible with their external context. Thomas (1995) proposes the application of the Effective Decision Model, which confronts the needs for quality and acceptability of the particular decision. He stipulates that if the need for quality is higher than the need for acceptability, public involvement is not necessary. However, if the need for acceptability surpasses the need for quality, public involvement is highly desirable. The model thus posits two important characteristics of decisions (quality and acceptability) and explain the relative need for public involvement in relation to them. Even though it is

probable that the involvement of more stakeholders in decision-making slows the process down, this does not necessarily have to be a negative point because such decisions are also more likely to last.

Attitudes to transparency

The establishment of working principles that would make public organisations more open to public scrutiny and suggestions is closely related to their attitudes and mandate concerning transparency and accountability. The principles of transparency, participation and accountability are considered the cornerstones of open and democratic government with transparency being a precondition of participation and accountability (Harrison and Sayogo, 2014). Transparency has been considered an important factor for successful innovative processes in the public sector (Leon et al., 2012). One of the main objectives of both NPM and e-Government-centred reforms is to increase transparency of public administrations that, in turn, is supposed to increase trust in public authorities (Grimmelikhuijsen, 2012). However, in order for the reforms to produce these effects, organisations have to be ready to change their working patterns so that these correspond to the new values. In the realm of e-Participation, transparency of public authorities is important particularly due to the impact of information provision on the quality of decisions and discussion (Harrison and Sayogo, 2014; Karamagioli, 2013; Mabillard and Paquier, 2016). The more information people have access to, the better decisions they are able to make. The public sector is at present the biggest collector, retainer and processor of information (Heeks, 1999a).

Regular provision of well-structured information on government's activities is at the core of transparent and democratic policy-making. In fact, transparency allows citizens to evaluate realistically the capacities of their government and assign accountability directly to responsible actors (Northrup and Thorson, 2003). This perception of transparency is in contradiction to the provision of information that governments sometimes use and whose primary objective is to improve their public standing. Government's proclamations about transparency cannot be fulfilled without accompanying changes in organisational culture. Such changes are often difficult to introduce because increased transparency implies new benefits and costs for supporters of different interests. In the words of Rauh (2016): "... transparency will be typically a low-level concern unless it causes a manager to be concerned for their own well-being" (p. 292).

In the framework of e-Government processes, transparency and openness have been often associated with the instalment of the so-called open data platforms. The impact of open data on transparency and accountability is considered its most important effect (Fig. 5). Two most

important principles of open government are transparency and public participation (Meijer et al., 2012).

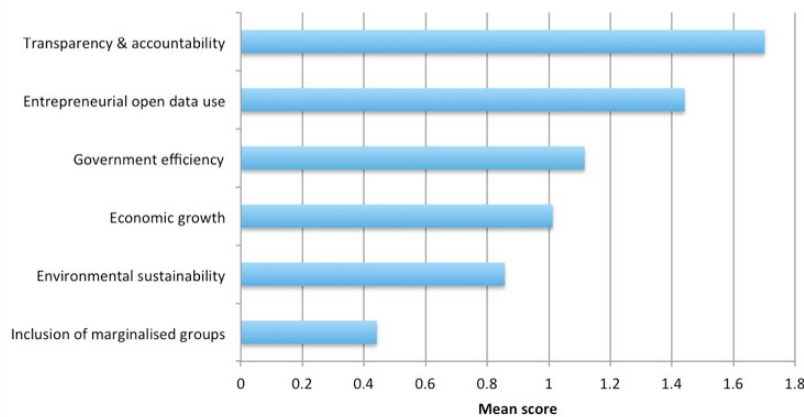


Fig. 5 Open data impact (Open Data Barometer, 2013).

Heckmann (2011) distinguishes three type of ICT use for transparency purposes:

- Minimal use of ICTs: ICTs serve uniquely for a more efficient application of the law on the freedom of information through advanced options for stocking, collection, publication and processing of information.
- Revolutionary approach to the use of ICTs: ICTs are used as a support for the introduction of participative democracy where citizens can participate directly in policy-making basing their decisions on objective and easily accessible data.
- Progressive transformative use of ICTs: political representatives and public managers are responsive to the information obtained online and to the exchange of ideas conducted online. An example would be a politician that reads commentaries and blogs to find out public opinion on a specific issue.

Even though the primary objective of open data is increasing transparency, the two terms can be by no means considered synonyms. Firstly, because open data promotes the publication of raw data, which does not yet constitute information, its provision is not always straightforward user-friendly. Whereas open data does create value in areas such as transparency and participation (Pereira et al., 2015), its impact is not immediate and automatic. The meaningful use of open data for participation and entrepreneurial purposes necessitates skills related to its interpretation and comprehension. In fact, there is a difference between raw data and information that is drawn from them. If public transparency is limited to the provision of data, which necessitates an additional transformation to become useful information, the significance of government's openness decreases. To ensure egalitarian

conditions of participation, it is necessary to provide all citizens with the same objective information (Karamagioli, 2013).

The modern perception of transparency emerges with technological advances that redefine the possibilities for transparent policy-making. Transparency thus becomes closely connected to good governance and the de-centralisation of politics. The purpose of transparency changes to the one of an additional mechanism that increases trust in government in the conditions of important space-time distance of policy-making. In contrast to the “traditional perception of transparency” practiced in smaller communities where everybody can directly observe the activities of others, modern transparency is indirect and mediated. Its effects involve the reduction of uncertainty and rationalization of society (Meijer, 2009).

The perception of transparency depends on the very understanding of democracy that is practised in a country. Consequently, the design of open data platforms should be context-sensitive, especially in regard to the nature of democratic procedures practised in the given context (Ruijter et al., 2017). Ruijter et al. (2017) distinguish between three democratic processes that can be targeted by open-data projects: monitorial, deliberative and participatory. In each kind of process, they attribute a different role to public administrations and citizens. In monitorial democracy, citizens act as watchdogs and monitor government behavior. In deliberative democracy, they are partners in dialog with public authorities. In participatory democracy, they are partners in collaborative processes. The latter two phases constitute an important shift in the nature of relations between public administrations and citizens in the direction of citizen empowerment (Ruijter et al., 2017).

Swiss perception of transparency

Even though I address the specificities of the Swiss political and institutional system principally in the second chapter of this thesis, it is useful to outline here the most important tenets related to the perception of transparency within the Swiss public administration. Bertot et al. (2010) present two principal success factors leading to the instalment of transparent and open government. It is, firstly, the culture of transparency embedded within the governance system and, secondly, transparency readiness defined as technology penetration, capabilities and social and technology readiness of the population. In Switzerland, it has been historically rather the principle of secrecy than of transparency that has guided the actions of public authorities. To this day, certain services have not seized the shift from secrecy to transparency (Cottier, 2013). Pasquier and Villeneuve (2007) cite the general culture of secrecy as one of the traditional reasons for public administrations retaining information. The fear of public scrutiny represents one of crucial obstacles to transparent public administrations. With the

emergence of new media and the constant electronic access to information, public actors cannot escape the scrutiny of their failures (Kubina-Boileau, 2005). To protect their resources, avoid admitting their mistakes and safeguard their competitive advantage in regard to other organisations, administrations are unwilling to diffuse information on their functioning (Pasquier and Villeneuve, 2006).

Contrary to competitive party systems, it is evident that in Switzerland where the government is composed of the representatives of the strongest political parties and therefore government opposition is less pronounced than, for example, in majoritarian government systems, it is not primarily political parties that demand access to documents. Additionally, Switzerland constitutes an exception in that the objective of increasing trust in public authorities is not high on the agenda. In fact, Swiss government already belongs to the most trusted in the world (OECD, 2017).

The slow and uneven spread of open data initiatives in Switzerland is marked by the historical independence of individual regions and even of different public departments. Whereas in the United States, Obama's Open Government Directive obliged all federal agencies to provide their data in open format and develop an open government plan within a pre-defined time frame (Bingham, 2010), the diffusion of open data culture in Swiss public administrations happens solely through nudges and incitation.

INSTITUTIONAL FACTORS

It has been argued that the impact of institutional factors in the framework of e-Government introduction is by no means negligible (Meijer and Zouridis, 2006). In the view of Meijer and Zouridis (2006), e-Government is even primarily an institutional innovation. In this subchapter, institutional factors are understood as those constituting a part of institutional environment of public organisations and include principally the impact of political system, state structure and regulatory frameworks. The impact of these institutional aspects is not limited to the phenomenon of e-Government, but is applicable also to other public administration reforms and innovations. The importance of institutional factors is related to the capacity to coordinate the diffusion of reforms on different level of government. In federalist states, it is a priori harder to guarantee the coherent diffusion of initiatives due to the autonomy of local administrations. In unitary states, the coordination is easier due to the top-down character of decision-making. The importance of legal factors that are discussed in the second part of this subchapter is also not unique for the case of e-Government. Each reform that requires a modification in legal regulations in order to be enforced encounters the same

obstacles. In relation to e-Government, legal regulations often have to be modified to explicitly permit the digital form of executing a public task.

State structure and coordination issues

Coordination and communication between different levels of government and administrative units have proven to be important for the diffusion of e-Government initiatives. Several studies have identified the form of state structure (centralised or decentralised) as a factor impacting on the speed of e-Government introduction (Astrom et al., 2013; Dekker and Bekkers, 2015; Ifinedo, 2011). Public agencies often work in silos (stove pipes) and do not pay close attention to the activities of other agencies or administrations (Gil-Garcia and Pardo, 2005). However, successful diffusion of e-Government initiatives presupposes improved collaboration and communication between different departments and levels of government (Gil-Garcia and Martinez-Moyano, 2007). In order for technologies to truly facilitate access to public services for citizens and companies, different departments have to efficiently connect their systems, share information and coordinate the management of questions and requests. This cooperation on the level of “back office” represents an important condition of transformational e-Government. Different departments have different priorities and it is often difficult to arrive to the same understanding of e-Government importance (Homburg, 2008).

The introduction of e-Government in Switzerland is typical of a high number of partners and initiatives that are fragmented across different federal, cantonal and municipal departments. One of the main challenges is the creation of a database that would regroup existing projects and thus help avoid the re-invention of new technologies serving the same purposes due to the simple lack of awareness that similar projects already exist elsewhere. In the process of e-Government development, cantons tend to be considered as “pockets of innovation”. Even though this approach allows for choosing the best-fitting systems, it also demands sizeable resources. Mergel and Collm (2010) have observed that the state of e-Government adoption in Swiss municipalities is linked to informal communication between the representatives of these municipalities. Even though contacts with other municipalities do contribute to e-Government diffusion, the two authors also find that over one fifth of studied municipalities do not have contacts with any other municipality and almost a half of them can name only a handful of municipalities with which they maintain contacts. Two of the municipalities are named as a point of contact by most of other municipalities; possibly because they are considered the most innovative ones.

The study of Kassen (2018) provides interesting insights concerning the uptake of a specific e-Government project (open data) in unitary and federalist countries. Federalist countries are usually associated with concentrated political power and corporatist decision-making based on consensus. Political power in unitary states tends to be dispersed and employ adversarial decision-making (O'Toole & Meier, 2014). Unitary states with majoritarian governments are characterised by the allocation of political power within a limited circle of actors. Because the decision-making power resides in the hands of a well-defined number of people, public policies encounter less opposition than in systems that strive to reconcile a wide range of interests. In the federalist states with consensual government and consequently with high number of veto players, it is lengthier and more complicated to introduce public policies on the national level since it is necessary to include different interests in the final decision.

The impact of federalist state structure, which Kassen (2018) describes principally on the example of the United States, seems to be reflected in the separate development of open data projects on the federal, local and even municipal levels. Identical tendencies can be observed also in Switzerland, which constituted one of the countries studied by the author. The installation of open data platforms on the local and municipal levels is highly context-dependent and advances simultaneously with the uptake of the federal open data project. Local open data projects are developed and promoted independently according to the preferences and legal frameworks of local administrations. Likewise, the direction of projects, as well as their funding are determined by local authorities. The author claims that such an approach to open data implementation can render the development of a unified platform very difficult or plainly impossible (Kassen, 2018). In unitary countries, open data strategies tend to be centralised, the development of platforms advances in a unified way on all governmental levels and is therefore faster, albeit less democratic (Kassen, 2018). Institutional aspects, such as form of government, administrative tradition and territorial division therefore constitute important factors that impact on the uptake of e-Government projects.

Legal regulations

Legal frameworks define roles, responsibilities and their limits in the context of different public organisations. The existence or lack of a legal regulation to a certain extent determines whether a public organisation is able to develop a specific e-Government or e-Participation project. The lack of legal regulations that permit the electronic ways of public service delivery have complicated the uptake of e-Government in different countries (Meijer and Zouridis, 2006). March and Olsen (2008) claim that states have limited capacities for redesigning institutional arrangements. Even though the democratic ideal would have us believe that

citizens and political representatives should be able to modify existing institutions whenever they like, this is rarely the case in reality principally due to restrictions that legal regulations impose on public institutions. One of the most important challenges related to a reform of election process such as the introduction of e-Voting represents is its necessary conformity with the existing constitutional framework (Goos et al., 2016).

Modifications to the legal framework represent a part of the reengineering of existing processes that conditions the development of meaningful e-Government (Park, 2015). Digital interaction instruments require significant changes to legal regulations that were conceived for the “offline” era. Certain challenges gain in importance in the digital environment; typically it is the data protection issues and the exploitation of public information. Contrary to the silo-based organisation of agencies promoted by the NPM, digital government is based on the “ask once” principle where data coming from different sources is stocked in a central database that helps avoid its repetitive collection (Dunleavy et al., 2006). Laws on the freedom of information usually consist of regulations concerning rights to information access, obligations of publicity, pricing policies and commercialisation policies (Catinat and Vedel, 2000). These have to be adapted to the new technological environment in which publicity, transparency and accountability become commonplace because they constitute important preconditions for the existence of meaningful e-Participation. It seems that services that do not require significant inference with existing procedures and legal frameworks are digitalised faster than services that require a more profound redefinition of internal or external environment of public administrations (Arduini and Zanfei, 2014).

Models of democracy

An important point on which e-Government and e-Participation drivers and barriers diverge is the importance of the type of democracy that is practised in the given country. Additionally, when discussing digital democracy, one needs to place the concept in the context of national political systems and cultures. The key contexts that need to be taken into account are the institutional forms of representation, the role of political parties, current and past roles of mass media (especially in regard to public broadcasting systems), political culture, legal and policy environment and attitudes toward technology (Hagen, 2000; Koppenjan et al., 2010; Tambouris et al., 2012). The more extensively the promoters of digital democracy take into account theories of democracy and actual political systems, the more likely do such concepts become guiding principles for the democratic usage of ICTs in the information age (Hagen, 2000). Likewise, the benefits and challenges related to e-Participation have to be evaluated

with reference to the systems of governance within which they are supposed to co-exist (Linder, 2010; Tambouris et al., 2012; Van Dijk, 2000a).

In regard to the attitudes to citizen participation and to e-Participation, the most important difference in the democratic models of governance can be found between majoritarian and consensual democracies. Whereas democracies that are based on consensus are often associated with citizen participation in public decision-making, majoritarian democracies are based on the principle of representativeness where decision-making power is delegated to elected politicians and to public officials. Additionally, whereas majoritarian democracies are based on the “winner-takes-all” principle, consensual democracies function on power-sharing principle and strive to make everybody a winner in decision-making processes (Linder, 2010). The importance of citizen participation is viewed differently in the two systems due to the very principle of governance that underlies them. While the majoritarian systems promote “politics for the people”, consensual democracies emphasise the importance of “politics through the people” (Linder, 2010). An important challenge to the uptake of digital democracy instruments resides in the definition of the role of new participation instruments in the existing institutional system.

In their contribution, Catinat and Vedel (2000) cite the results of a Eurobarometer survey conducted in 1999 that aimed to evaluate which electronic services were the most solicited ones by citizens. On the top of the list are tools eliminating the necessity to physically go to a public office by allowing people to directly access or download administrative documents. Digital democracy tools, in particular those enabling people to communicate with politicians, were rarely demanded. Based on this result, the authors claim that “direct electronic democracy is neither and operational nor a credible concept in the near future for the European citizens” (Catinat and Vedel, 2000, p. 200). However, such an observation is significantly simplified. It is evident that the need/desire to use digital democracy depends on the type of democracy practised in the given country (Van Dijk, 2000a). Because most European countries are representative democracies with comparatively weak role of direct citizen participation, it is likely that the population does consider it common to directly interact with its representatives.

Several authors have attempted presenting a typology of e-Participation initiatives that are likely to be introduced in different institutional settings. Van Dijk (2000a) proposes a classification of types of democracy and of e-Participation instruments that correspond to them. According to Van Dijk, democracies differ in their definition of goals and means and consequently also in the purpose that e-Participation tools are supposed to fulfil. The latter

can be essentially divided between objectives related to opinion formation and decision-making where opinion formation can be perceived as the input and decision-making as the output of democratic processes (Van Dijk, 2000a). The six most important types of democracies such as defined by Van Dijk (2000a) are legalist, competitive, plebiscitary, pluralist, participatory and libertarian. Of these, pluralist and participatory democracies are more likely to implement e-Participation tools for opinion formation purposes, legalist, competitive and plebiscitary democracies for decision-making purposes and libertarian democracies for both.

Legalist democracy

Legalist democracies are typical of the importance they attribute to the rule of law, to written legal regulations and to the constitution. State power is typically divided into legislative, executive and judicial branches. Equilibrium of different powers is secured by a system of checks and balances. Direct decision-making power of people is not practised. The most important purpose of ICTs for legalist democracies consists in the provision of information. Because direct democracy is not practised in legalist democratic regimes, the e-Participation tools that are likely to be introduced are mostly information systems aimed at a one-way supply of information from public authorities to citizens.

Competitive democracy

The defining characteristic of competitive democracies is reflected in their name; it is the constant competition between different political parties for the favour of the public. Competitive democracies are typically presidential or two-party systems, which are reinforced by the traditional media. In such circumstances, technologies that are sought after involve principally instruments used in election and information campaigns. Direct democracy measures can be sometimes present but are often more of an illusion of participation. Their real purpose is to increase the popularity of political candidates and parties.

Plebiscitary democracy

In plebiscitary democracies, most decisions should be taken by citizens and as few as possible by public authorities. ICT tools that are preferred focus on the registration of votes and opinions of citizens. To reduce the risks of individualisation and oversimplification of issues, two-way interaction applications can be sometimes added.

Pluralist democracy

Pluralist democracies are typical of the strong role of the “third sector”, which is represented mainly by the associations of civil society. Political sphere is decentralised and resembles a network with many power and administration centres. It is not the majority that holds power in its hands, but rather the changing grouping of minorities. Pluralist democratic systems combine representative and direct democracy. Whereas the representative part is reflected principally in regular election cycles, the direct democracy part is represented by discussions in different organisations of civil society that exercise strong influence on public authorities. Preferred e-Participation instruments in pluralist democracies are interactive communication networks for political information and discussion where each organisation can express its opinion.

Participatory democracy

Participatory democracies aim at strengthening the role of citizens in public affairs through collective discussion and education. The most important element of this type of democracy is therefore informed citizenship. Consequently, e-Participation tools that support this type of democracy are principally platforms aimed at informing, or “educating”, citizens and discussion fora that allow for the active participation of informed citizens in policy-making.

Libertarian democracy

Libertarian democracies are inspired by the teaching of neoclassical economic theories and emphasise autonomous citizen politics. The politics takes place in associations using horizontal communication capacities of information and communication technologies. Therefore, libertarian democracies fusion characteristics of both pluralist and plebiscitary democracies. In an extreme view, they may be considered anti-political because the institutional politics becomes obsolete and is replaced by the networks of autonomous politics. The Internet democracy and free-market economy are supposed to replace obsolete representative politics. E-Participation applications that are likely preferred in libertarian democracies are used in all three stages of a democratic process such as defined by Zissis et al. (2009): to be able to take part in autonomous politics, citizens have to be well informed. After obtaining the necessary information, citizens take part in discussions and consequently also cast their votes and express opinions electronically.

Van Dijk’s classification indicates that the type of democracy that is practised in a given country influences the nature of e-Participation tools that the country gives preference to. In line with this assumption, Hacker (2000) ponders the basic character of democracy and its

compatibility with electronic interaction between governments and citizens. Internet platforms, as well as most forms of direct democracy, are typical of their individualism when citizens typically participate in public affairs without directly discussing the issues in question publicly. However, democracy is not supposed to reflect individual choices of individual citizens, but rather constitute an outcome of a public discussion. Hacker (2000) suggests that people should first be educated in being active members of their communities before being allowed to participate. Although it is likely that the type of democracy does influence the nature of e-Participation forms, the pre-determination of the correspondence of a certain e-Participation instrument to the given type of democracy should not be considered as the absolute rule. The question that should be asked is what benefits can a particular e-Participation initiative bring in a specific country (Hacker, 2000).

Koppenjan et al. (2010) present contextual characteristics that, in their view, drive and hinder network governance. Network governance is typical of its reliance on collaborative relations, as opposed to hierarchical decision-making and control (Koppenjan et al., 2010). Unfavourable conditions for network governance involve, for example, winner-takes-all nature of political system, unitary state, highly politicized culture, individualistic culture and policy tradition of planning and control. Favourable conditions are typically policy tradition of negotiation and bargaining, multiparty system, federalism, consensus culture and egalitarian culture. It is evident that the overlap of Koppenjan et al. (2010) observations with the characteristics of the Swiss context is much more significant than in the case of the previously mentioned Van Dijk's typology. This might mean that whereas the Swiss system is prone to being collaborative and participatory, it is also rather conservative and cautious about the transposition of participation to the electronic environment.

Following his model of the six types of democracy, Van Dijk distinguishes also three corresponding types of digital democracy. The first of these is the so-called **Internet model**. In this model, citizens are able to communicate and discuss current issues online. The information on the discussed topics is also provided electronically via dedicated sites. Van Dijk states that the Internet model is likely to be preferred by plebiscitary or libertarian democracies. However, he also admits its potential for pluralist and participatory systems, which attribute strong role to the State and institutional politics, contrary to the other two systems. As a consequence, participatory systems are more likely to use Internet communication channels to involve that part of population in politics that previously did not participate on public affairs.

The second model of digital democracy is the **marketing model**. Its main characteristics are the accentuation of political advertisement and promotion. The marketing model relies on the principle of information provision to citizens with the aim of promoting governmental politics, political candidates and civil society groups. **Infocratic model** is the last digital democracy scheme classified by Van Dijk. Its purpose is to support traditional bureaucracies and to become their successor. The most important objective is consequently the control of the organization and of the market. In the infocratic model, digital tools serve the purpose of extending the traditional bureaucratic practices (Van Dijk, 2000a). At the first sight, the most important difference between the three models is in their level of interactivity. Whereas the marketing and infocratic models involve only one-way communication, the Internet model is the most interactive one and includes a two-way interaction between citizens and public administrations. Even though the Van Dijk's typology is rather straightforward, its validity has not been confirmed in practise. Ingrams et al. (2018) have observed that there had not been much research on the relation between democratic characteristics of country and its development of transactional and interactional dimensions of e-Government.

Another distinction of electronic deliberative tools is the one proposed by Manosevitch (2010) who distinguishes between the views of deliberative democracy that underlie their functioning. She particularly differentiates the so-called conveners and hosts. Whereas conveners are based on the idea that it is the organisation that administers the website that should choose the topic and modalities of deliberation, hosts are websites that provide space for online deliberation, but do not interfere in the deliberation process itself. The approach of conveners is therefore institution-centric and the approach of hosts is user-centric. The two types of initiatives differ equally in their goals. Conveners are likely to aim for informed public opinion and impact on public policies. The objectives of hosts, on the other hand, are, for example, educating the public or launching an informed public discussion (Manosevitch, 2010).

RESIDUAL FACTORS

Apart from the four groups of factors that were addressed previously, there are also other, more situational and irregular factors that impact on the uptake of e-Government projects. One of the important factors that seems to influence the adoption of e-services is, for example, the availability of sufficient financial and human resources (Connolly Knox, 2016; Macintosh et al., 2009a) that smaller municipalities and departments cannot always invest. It has been shown that most services that have been digitalised are those that generate income for public administrations (Homburg, 2008). Besides the necessity to invest substantial funds at the

beginning of the process, public administrations have to wait for the positive effects of projects to be produced. Cost-reduction and increased efficiency are usually demonstrated only in a longer time horizon.

The size of the territory and population are non-negligible factors that impact on the importance and potential of e-Government and e-Participation (Ingrams et al., 2018). The bigger the country and the lower the population density, the higher the potential utility and significance of electronic service delivery. This argument is evidently more of practical than of ideological nature. It is evident that in large countries with unequal population density, such as Canada or the United States, it is more important to be able to communicate with public administrations and political representatives online, especially in remote areas. In Switzerland, it seems that municipalities often adopt the “wait-and-see” strategy in regard to the instalment of e-Participation functionalities and monitor the development in bigger municipalities or abroad (Klinger et al., 2015). Weare et al. (1999) show that municipalities in California that first developed websites were typical of larger populations, higher revenues, higher numbers of urbanized residents, and overall higher educated and wealthier populations. The crucial importance of the population count can be explained by the fact that access to information is more difficult in larger cities, which are consequently in a direr need for an informative webpage. The city size is cited as an important factor impacting on the adoption of municipal websites also by Moon (2002).

The size of territory and resource-intensity of projects are not factors that would be unique to e-Government, but play the decisive role in the framework of many other public innovations. In the public sector where budgets are limited and replenished principally from tax revenues, the question of budgetary priorities is especially important. An e-Government project or a public innovation in general may be of greater or lesser importance to different political and public actors.

An overview of the most important drivers of and barriers to e-Government development that were discussed here can be found in the following table (Fig. 6). This recension of influential factors is further used for the development of the empirical part of the project.

	Drivers	Barriers
Individual level	<p>Leadership, personal support</p> <ul style="list-style-type: none"> - Aikins and Krane (2010) - Bataineh and Abu Shanab (2016) - Bonson et al. (2012) - Carrizales (2008) - Pascual (2003) - Roman et al. (2018) - Weare et al. (1999) - Zhang and Feeney (2017) <p>Previous experience with electronic public services</p> <ul style="list-style-type: none"> - Van Dijk, Peters and Ebbers (2008) <p>Political support</p> <ul style="list-style-type: none"> - Ahn and Bretschneider (2011) - Crosby and Bryson (2005) - Fung (2015) - Kassen (2018) - Moon (2015) - Panopoulou, Tambouris and Tarabanis (2010) 	<p>Lack of digital skills (digital divide)</p> <ul style="list-style-type: none"> - Daglio et al. (2015) - Feezell (2016) - Moreira et al. (2010) - Van Deursen and Van Dijk (2009)
Organisational level	<p>Redesign/optimisation of processes</p> <ul style="list-style-type: none"> - Castells (1996) - Homburg (2008) - Meijer and Zouridis (2006) - Roman et al. (2018) <p>Accommodating changes in organisational culture</p> <ul style="list-style-type: none"> - Connolly Knox (2016) - Mergel (2017) - Noveck (2009) <p>Availability of resources</p> <ul style="list-style-type: none"> - Connolly Knox (2016) - Macintosh et al. (2009) 	<p>Resistance to change</p> <ul style="list-style-type: none"> - Meijer and Zouridis (2006) - Van Dijk (2000b) - Wirtz et al. (2016) <p>Lack of transparency</p> <ul style="list-style-type: none"> - Karamagioli (2013) - Leon, Simmonds and Roman (2012) - Meijer et al. (2012) - Snellen (2000) <p>Hierarchy and bureaucratic culture</p> <ul style="list-style-type: none"> - Mergel (2017) - Wirtz et al. (2016)
Institutional level	<p>Accommodating changes to legal frameworks</p> <ul style="list-style-type: none"> - Arduini and Zanfei (2014) - Catinat and Vedel (2000) - Goos, Beckert and Lindner (2016) - Kassen (2018) - Park (2015) - Mergel (2017) - Wirtz et al. (2016) <p>Models of democracy</p> <ul style="list-style-type: none"> - Manosevitch (2010) - Van Dijk (2000a) 	<p>Lack of coordination</p> <ul style="list-style-type: none"> - Gil-Garcia and Pardo (2005) - Mergel and Collm (2010) - Salleh et al. (2011) <p>Decentralised state structure</p> <ul style="list-style-type: none"> - Astrom et al. (2013) - Ifinedo (2011) - Kassen (2018)

Fig. 6 Relevant literature on drivers of and barriers to e-Government

1.6 Chapter summary

This first chapter set the scene for the following theoretical and empirical parts of this project. A brief historical excursion at the beginning of the chapter provided the reader with the understanding of the importance of e-Government for the larger topic of public administration reform. The definition of the most important notions that followed was necessary for the understanding of the research puzzle and its repercussions in the Swiss political and institutional context. Having delineated the fundamental concepts, an overview of models and types of e-Government development was developed with the objective of classifying its state in Switzerland. The particularities of the Swiss case are addressed more in detail in the following second chapter.

The review of literature on factors that have impacted on the uptake of e-Government in

different contexts, which constitutes the major part of this chapter, is further used for the development of concrete research propositions and also provides an important foundation guiding the collection of qualitative data. As such, it constitutes the first phase of the research design that is detailed in the third and fourth chapters. The initial review of drivers of and barriers to e-Government will be adapted to the Swiss context with the objective of evaluating the correspondence of findings to the reality of Swiss public administrations and deciphering their particularities. Based on the theoretical notions developed in this chapter, in the following second chapter I discuss which model of e-Government development describes best the approach undertaken in Switzerland. I suppose that a number of drivers and barriers related to e-Government development are a function of the Swiss political and institutional system. An overview of its most important characteristics is provided in the last part of the next chapter. The particular role of direct democracy for the introduction of e-Participation is underlined.

2 Swiss system of e-Government and its repercussions

With reference to the theoretical concepts developed in the previous chapter and the overview of different models of e-Government development, I will in this chapter focus on the e-Government strategy employed in Switzerland. Switzerland represents an interesting case study in that even though it belongs to the most economically and technologically developed countries in the world, the level of e-Government (notably of e-Participation) development does not correspond to this potential. Among Swiss e-Government priority projects, there is only one falling under the scope of e-Democracy or e-Participation: e-Voting. The other eight projects focus on the optimisation of online public service delivery to individuals and companies (e-Government Suisse, 2017). According to the European Union scoreboard, the government effectiveness in Switzerland belongs to the highest in Europe with a slight decrease between the years 2000 and 2010. Additionally, progress in the availability of online public services in Switzerland between the years 2007 and 2010 was one of the highest of all European countries. The total availability of online public services belongs, however, to the lower ones (European Union, 2013). The following subchapters provide preliminary clarifications concerning the state of e-Government and e-Participation in Switzerland and link them to the characteristics of the Swiss political and institutional system that are discussed in the second part of this chapter.

2.1 Swiss model of e-Government development

The main document guiding the introduction of e-Government in Switzerland is “eGovernment Strategy Switzerland” that was elaborated jointly by the three governmental levels (federal, regional = cantonal, municipal) (eGovernment Suisse, 2017). Furthermore, many Swiss cantons (regions) have elaborated their own strategies guiding e-Government development on the cantonal level. For this reason, the coherent implementation of e-Government technologies necessitates significant coordination efforts between different governmental levels. The eGovernment Strategy Switzerland is a short document defining the main principles and objectives of e-Government in Switzerland. The strategic objectives that are enumerated in the third section confirm the focus of the Strategy on electronic public service delivery that is supposed to facilitate access to public services in cases when the electronic way of service provision makes most sense (eGovernment Suisse, 2017).

Whereas the guiding objectives of the Strategy focus on improvements in the quality and effectivity of public service, the impact of e-Government on relations between public administrations and citizens and the potential of e-Government for citizen participation are

completely omitted. It can be said that the eGovernment Strategy Switzerland follows the managerial model of e-Government development defined by Chadwick and May (2003).

An important document that evaluates the development of e-Government in Switzerland and lists opinions of different actors on its future is the audition report published in 2015 (eGovernment Suisse, 2015). The consulted actors involve federal departments, cantons, municipalities and other, principally expert actors. Across all groups of actors, the agreement seems to be that e-Government is important for the future of Swiss public administrations. One of the main conclusions is the necessity to reinforce coordination between different levels of government. However, only a minority of respondents is in favour of a stronger institutionalisation of e-Government, for example, in the form of a law. Similarly, the complete electronic integration of processes across all life situations is not supported. The main proponents of this solution are extra-governmental organisations. The main opponents are the cantons and municipalities. The report overall shows disparate visions of cantons and municipalities on the one hand and of federal offices and non-governmental organisations on the other. Several comments recommend to focus on the elaboration of a precise schedule and of measurable objectives of projects (eGovernment Suisse, 2015).

There are four e-Government projects that are currently on the agenda of Swiss public administrations that I principally refer to in the present research. Firstly, it is the “guichet unique” project that aims to regroup all services provided by public administrations (predominantly on cantonal and municipal levels) in a single portal that would serve as the main entry point for administrations’ customers. Secondly, it is the electronic voting (e-Voting) project that is being tested on the level of cantons. Thirdly, it is the Open data project that aims to render data related to the activities of public administrations publicly and freely accessible on a common electronic platform. Fourthly, it is the introduction of unified electronic identification that would allow people to access different electronic public services. The “guichet unique” represents a project that focuses principally on the digitalisation of existing services. E-Voting is a project whose aim is to digitalise an existing democratic participation mechanism and Open data is an initiative that has not existed before and implies significant changes in the approach to transparency and public communication of public organisations. The electronic identification project represents an initiative that necessitates coordinated approach of different governmental levels and that thus shows the limits of Swiss federalism in regard to e-Government development. In a way, the four projects represent four different types of e-Government initiatives. One of the objectives here is to evaluate whether the novel nature of a project changes significantly the drivers and barriers to its introduction

or if, for example, projects that relate to the democratic rights of citizens are considered more controversial than others.

2.2 State of e-Participation in Switzerland

The question of e-Participation use in Switzerland constitutes a seeming paradox between, on the one hand, high levels of Internet usage (UN, 2018) and traditionally strong role of citizen participation in policy-making that would seem to pre-destine Switzerland to be a fast adopter of new participative tools and, on the other, the comparative underdevelopment of e-Participation initiatives (UN, 2018). Although an official report presenting the vision and objectives of e-Participation and e-Democracy was elaborated by the Swiss Federal Chancellery in 2011, it has not been updated since and the envisaged projects are mostly on stand-by. The most important e-Democracy projects that are envisaged in the 2011 report are the electronic collection of signatures and the digitalisation of legislative consultation procedure that could mean either solely the digitalisation of the existing process or include also its reengineering, for example, by introducing more interactive elements. Even though a pilot technology for electronic consultation was developed on the order of the Federal Chancellery, the project has not yet been tested and its future is uncertain. The report underlines that the digitalisation of consultation procedures is potentially possible; the electronic form is not legally excluded. In regard to e-Participation, the report notes that even though the technologies needed to introduce active electronic participation are present, there does not exist any model that corresponds to this vision of citizenship (Federal Chancellery, 2011).

One of the questions that the 2011 report poses relates to the compatibility between the existing citizen participation system and the trends in today's society. "Are existing participation possibilities for citizens and public authorities sufficient for elaborating acceptable and durable solutions to political problems or is it necessary to develop them further with the use of ICT?" (Federal Chancellery, 2011, p. 4). In this connection, the report accentuates that e-Participation channels are not supposed to replace the traditional ones; they are supposed to give people the option to decide which channel they want to use (Federal Chancellery, 2011).

The report further mentions five most important benefits of citizen participation:

- 1) Information acquisition necessitating relatively little effort;
- 2) Anticipation of resistance early in the process and the related possibility to plan upcoming policies in a more realistic manner since the beginning;

- 3) Higher legitimacy of decisions;
- 4) Broader acceptance of decisions by its opponents due to their inclusion in the participation process;
- 5) Reduction of future opposition and lower risk of judicial appeal.

The study of Klinger et al. (2015) provides a number of interesting findings regarding the use of e-Participation channels by Swiss municipalities. The authors state that the high levels of offline participation and political culture predestine Switzerland to be a fast adopter of online participatory functionalities. “One could argue that, if city governments do not see multiple reasons to implement such tools in a country with long traditions of direct democracy, broad access to high-speed Internet, an affluent population, and (varying local) legal regulations that oblige administrations to communicate via dialogue, then perhaps our expectations of participatory online communication are disproportional or wrong” (Klinger et al., 2015, p. 1929). However evident the previous statement seems to be, the authors further show that the existing forms of participation prevent the instalment of online participation. Whereas the existing participation is formalised and legally binding, the significance of online participation is yet unclear as these forms of participation have not been formally institutionalised. Similar challenge related to the unclear role of non-electoral public participation for official democratic institutions has been observed also elsewhere (Fung, 2015).

Referring to the previous classification of social media uptake developed by Mergel and Bretschneider (2013) and in accordance with the findings of Klinger et al. (2015), Swiss municipalities find themselves in the first stage of social media use. This claim is supported by the finding of the three authors who state that the presence of municipalities on social media is often attributable to the initiative of concrete persons. Interaction with the public on social media is in Swiss municipalities seen as an activity that is fashionable and associated to the concept of a modern administration, but whose benefits are not certain. On the contrary, however, its costs in financial and human resources terms are very real. Apart from the uncertain benefits, Swiss municipalities are also discouraged from using online channels for political participation due to the low (quasi inexistent) external demands for this type of activity (Klinger et al., 2015). Additionally, the focus on information provision can be explained by the plethora of offline citizen participation that Switzerland offers (Moreira et al., 2010).

2.3 Characteristics of Swiss policy-making processes

To improve the understanding of the impact of different factors on the introduction of public administration reforms in Switzerland, it is useful to provide the reader with a brief overview of the most important particularities of the Swiss institutional and political system, which impact on the Swiss national identity, political culture and also on the attitudes of political elites and citizens (Linder, 2004a). Links to the past and historical context in which federalist Switzerland was founded are particularly strong. Especially the portrayal of Switzerland as a Sonderfall (special case) of a country that built its success on its political neutrality and consensual decision-making has a particular ring to it. Since the beginning of the 1990s, the Swiss institutional model has undergone a transformation that is reflected in the growing importance of the role of parliament in the legislative process and the weakening of the previously all-important pre-parliamentary phase. This development is accompanied by unstable coalitions and unpredictable outcomes of decision-making processes (Sciarini, 2015a).

Historically, Swiss decision-making has been described as slow and reform-adverse. Processes have been mostly started due to external pressures. When a process resulted in a decision, it has likely led only to an incremental and minor change. Due to the consensual nature of government, the compromise solutions accepted by all parties have tended to be close to the status quo and innovations have been scarce (Sciarini, 2015a). The first major external incitation to carry out reforms was the economic recession of the 1990s. However, the nature of reforms was still impacted by path dependency and institutional constraints (Mach and Trampusch, 2011).

There is currently a number of trends pointing toward changes in the Swiss policy-making process. Firstly, it is the increasing number of governmental and non-governmental actors that are involved in the process. Secondly, with problems becoming more complex, it is difficult to find their solutions in the traditional federalist scheme of power division. Challenges that the present-day society generates can often no longer be dealt with in the national arena and instead often require global, multi-actor negotiations. As a consequence, the need for coordinated programmes is reinforced (Schenkel and Serdült, 2004). The transformation of the Swiss political system could weaken the unprecedented stability and continuity of Swiss public authorities, increase conflict and decrease trust of people in their representatives. These three effects would be particularly dangerous in the Swiss context where trust in government has historically been exceptionally high and the occurrence of open conflict exceptionally low. It would mean the disruption of the very building blocks of the Swiss success story.

2.3.1 Swiss federalism

Swiss policy-making process reflects the most important characteristics of the Swiss political and institutional system: consensual government, bottom-up federalism and direct democracy. It was due to the combination of these three systemic characteristics that the Swiss political system achieved a high level of integration, political stability and efficiency over approximately the last 150 years (Linder, 2010). Whereas these three characteristics of decision-making processes are not exceptional by themselves, their combination creates an institutional environment that explains Swiss policy responses in social and economic fields (Mach and Trampusch, 2011).

Switzerland is a federalist country composed of 26 regions (cantons). The defining characteristics of Swiss federalism such as consensual decision-making, power sharing and subsidiarity provide safeguards for all parties to the policy-making process that their interests are taken into account. The system prevents both the tyranny of majority and of minority by sharing policy-making powers in multi-party governments and giving citizens opportunities to intervene in policy-making with direct democracy instruments. The repartition of power between local and central governments is carried out in the bottom-up manner and follows the principle of subsidiarity. It has traditionally been the cantons and the municipalities that decided to delegate powers to the central government, usually because it was more effective for the central government to carry out these tasks (Kriesi and Trechsel, 2008). The principle of subsidiarity states that all powers that are not specifically delegated to the federal government stay within the authority of local governments. Cantonal and municipal authorities have vast competencies in different policy areas, as well as in regard to their organisation and institutional system, the local specificities of which reflect cultural differences between regions. Each canton has also its own Constitution. The only exigency anchored in the Federal Constitution that relates to the political organisation of cantons is that cantonal parliaments must be elected democratically. Probably the most striking example of the extent of cantonal autonomy relates to the fiscal area; every canton and even every municipality can define their own tax rates (Ladner, 2011). The right to impose taxes according to own needs is the most important characteristic of cantonal and municipal autonomy (Linder, 2010).

Swiss federalism has strong cooperative character in that its functioning depends on the cooperation between the three government levels (Ladner, 2011). Whereas it is the federal government and parliament that hold legislative powers on the federal level, it is up to the cantons to implement federal laws and policies. Due to the insufficiency of resources that are

needed for the implementation of certain federal regulations on the cantonal level, central government loses in efficiency because it cannot oblige the cantons to implement its policies in the way that it imagines. “The inefficiency of central government is due to variation in the efficiency of cantonal administrations” (Armingeon, 2000, p. 117). While vast cantonal autonomy is one of the most important traits of Swiss federalism acting as a safeguard against the power of central government and against the dictate of majority, the insufficiencies in the administrative capacity of cantons represent one of its shortcomings. A shift from “executive” to “cooperative” federalism would address this problem by tailoring programmes to different economic and social conditions based on a learning curve and cooperative arrangements (Knoepfel et al., 1997).

The traditionally autonomous nature of cantons is important also in regard to the identity of the Swiss people who often distinguish themselves based on their cantonal, rather than national identity. Being composed of four different language groups, Switzerland lacks a clearly defined national identity. The exceptionally extensive autonomy of cantons can be explained by the rationale that guided the foundation of the Swiss federation and the rise of Swiss nationalism in the late nineteenth century (Kriesi and Trechsel, 2008). The creation of the Swiss state was justified on the basis of the rationality of decision to create an alliance of independent cantons that would prevent them from perishing or from being absorbed in the neighbouring nation states. Whereas German and Italian regions consolidated in the 19th century and created nation-states based on the common language and culture, Swiss cantons were autonomous entities that differed in their culture, tradition, language and religion. Because the union of Swiss cantons was purely rational, the identification of people from different cantons as “Swiss” had to be endorsed by the creation of myths and symbols that would bind them to the Swiss, rather than their cantonal origin (Kriesi and Trechsel, 2008). The model of federalism that was developed in Switzerland was therefore defined by the historical experience, socioeconomic challenges and culture of the country (Linder, 2010). The de-centralised federalist system guarantees the protection of cultural regional specificities (Linder, 2004a).

The positive points of the system are counterweighted by negative consequences that are often side-effects of the very building blocks of the Swiss success story. The well-known consequence of the consensual, multi-party decision-making that is typical for the Swiss system, is the lengthy and complicated consultation and negotiation procedure that accompanies all policy-making processes. Although the Swiss institutional system is often thought to promote innovation due to the possibility to “test” public policies on regional scale

in different cantons before implementing them on the federal level (Armingeon, 2000; Papadopoulos, 2001), these lengthy policy testing processes have often hindered innovations (Sciarini, 2015b). Although the introduction of women's right to vote is not strictly an innovation, the lengthy process that accompanied it and stretched for decades shows the limits to innovation in the Swiss system. It took fifty years for the women's right to vote to be introduced on the federal level. It was in 1991 that the last canton was forced by federal authorities to enact women's right to vote on the local level (Linder, 2010).

As a rule, cantons are usually opposed to the delegation of additional powers to the federal government (Linder, 2010). The trend towards centralisation in different policy areas has become more pronounced in the last decades. One of the means of fighting centralisation has been inter-cantonal cooperation, for example, in the form of inter-cantonal conferences of directors or the conclusion of treaties on different topics between two or several cantons (Germann and Klöti, 2004). Similar anti-centralisation reactions can be observed also in regard to the introduction of e-Government in Switzerland. In fact, there is a striking difference between the position of the federal government, which overall prefers the top-down introduction of e-Government, even though its attitude in regard to intergovernmental cooperation is based on voluntary adherence, and the position of cantons, which are in favour of a more fragmented introduction guided by different cantonal strategies (eGovernment Suisse, 2015).

Based on the previous, it can be said that the key characteristics of the Swiss institutional system are in conflict with the conditions of efficient e-Government. Principles such as interoperability, standardisation and data sharing between different government levels and between administrations on the same governmental level demand top-down coordination that is highly problematic in the Swiss environment.

2.3.2 Swiss political system

Due to the prominent role of direct democracy, the Swiss political system is characterised by a high number of veto players. The threat of referendum hanging like a Damocles' sword over every government's decision has led governments on both federal and cantonal levels to adopt consociational character and incorporate representatives of the strongest political parties with the objective of attenuating the possibility that their decisions are challenged in a popular vote (Papadopoulos, 2001).¹ Lijphart (1984) classifies Switzerland as an exemplary case of a

¹At this point, it is useful to establish a convention in regard to the notions of consociational and consensual government. The two terms are used mostly as synonyms even though the notion of consociational government is more complex because it defines a concrete form of government characterised by grand coalition, segmental autonomy, proportionality and minority veto. Consensus, or consensual democracy, is a broader term understood as the opposite of majority democracies.

consociational democracy and emphasises the suitability of consensus-based regimes in plural societies that are culturally and structurally diverse. In fact, consociational democracy with its multi-party and multi-interest government composition reduces the risk of posterior referendum by including all important stakeholders in the decision-making process. Additionally, antagonism between parties of different political orientation is attenuated because the composition of coalitions tends to be issue-specific. Groups that oppose each other on one issue may find themselves to be allies on a different topic. This variation has contributed in Switzerland to the development of tolerant and plural political culture (Linder, 2010).

The Swiss federal government, the Federal Council, is composed of seven members that represent the strongest political parties with the cumulated support of about seventy percent of the electorate. Each member of the Federal Council is also the head of one of the seven ministries – federal departments (Foreign Affairs, Interior, Justice and Police, National Defence, Finance, Public Economy, Transport, Communication and Energy). Altogether, the departments constitute the federal administration. They are further divided into offices and decentralised entities. Each department has a secretariat that oversees the coordination of its activities. Members of the Federal Council cannot at the same time hold a seat in the Federal Assembly (Lüthi, 2004). The one-year mandate of the Swiss president is exercised by Federal Council's members based on the principle of rotation (Lindner, 2010). Because the federal government is composed of members of different parties that do not share the same political programme, the guiding principle of its functioning is the one of collegiality. For this reason, the government avoids intervening directly in the affairs of different federal departments (Giauque and Emery, 2008).

The number of seats held by each party in the Federal Council was constant between the years 1959 and 2003. However, a change in the attribution of government seats occurred in 2003 when the Swiss People's Party gained one more seat, at the expense of the Christian Democratic Party. This change followed the Swiss People's Party success in 1999 and 2003 federal elections. Apart from the 2003 exception, general elections that take place every four years do not impact on the governmental "magic formula"; voters decide only on the composition of the national parliament (Federal Assembly), which is bicameral. It consists of the National Council where each canton holds the number of seats proportionally to its population, and of the Council of States where each canton has one or two representatives. The composition of the Council of States where each canton holds the same number of seats with no regard to its size contributes to the protection of minorities by over-representing small

cantons. The bicameral composition of the Swiss federal parliament was inspired by the United States' system and was anchored already in the first Swiss federal constitution of 1848 (Lijphart, 1984). The elections of the National Council are held in the proportional voting system whereas the Council of States is elected in the majority system. The Federal Councillors are elected soon after federal elections by the new parliament. The character of civil function is in Switzerland exceptional in that the members of parliament have traditionally exercised their public service jobs alongside their regular jobs. This so-called "Milizsystem" of public function had as a consequence its semi-professional character (Ladner, 2011). Keeping a regular job alongside the public one is no longer possible in the federal administration and in big municipalities where the public function has been, for the most part, professionalised. However, the "Milizsystem" still exists in the administrations of smaller municipalities (Linder, 2010).

Due to the decentralised federalist structure of the country, Swiss political parties often act separately on the national and local level. In fact, regional fractions of parties exist in each canton and even in some municipalities. Therefore, national party sections have the substantial task of coordinating their activities and overseeing the nation-wide coherence of party programmes. Whereas on the national level parties' activities have strong ideological character, on the local level they are more pragmatic and oriented on solving practical problems (Ladner, 2011).

2.3.3 Phases of policy-making and decision-making processes

The Swiss policy-making process is in reality naturally more complex than is presented here. Because the focus is on highlighting the characteristics of the system that set it apart from representative democracies and are important for the introduction of e-Government, I omit the detailed description of individual policy phases. The two most important phases of the policy-making process for the present research are the consultation and direct democracy phases. I suppose that it is in these two phases that digital democracy instruments can bring the most important benefits. The other two phases, parliamentary and implementation, are of a more technical character and their course depends on the outcome of the consultation and direct democracy phases.

Consultation phase (Pre-parliamentary phase)

With the objective of lowering the risk of opposition to a public policy and the subsequent referendum, Swiss public policy-making processes start with a consultation phase aimed at negotiating consensus on the upcoming policy among the most important stakeholders

(Papadopoulos, 2001). The process is started by the Federal Council that nominates the range of experts and representatives of different interest groups that are likely to be affected by the future bill. The group's purpose is to identify the most important alternatives to the upcoming legislation and outline the bill. After being consulted by different federal departments, the final draft of the bill is sent to cantons, interest groups and other stakeholders for consultation and commenting (Sciarini, 2004). In the final proposal, administration tries to include all the most important objections and comments expressed in the consultation and thus gain sufficient support for the bill's acceptance by not leaving any group worse off than before (Linder, 2010).

Consultation phase represents the lengthiest and the most important part of the Swiss policy-making process. In the 1970s, the average length of a decision-making process was five years. In the 1990s, it was only slightly lower. Out of the five years, approximately three on average are dedicated to the pre-parliamentary phase (Sciarini, 2004). In this connection, it has been observed that the length of the process had been extended principally by the administration that managed the process. It seems that the conduct of consultations is often impaired by the limited capacity of public administration rather than by the process of consultation itself (Poitry, 1989). It is also for this reason that the simplification of consultation phase of decision-making process has become one of the goals of the Federal Chancellery (Sciarini, 2004).

The consultation process, seemingly highly democratic because it enables every citizen and group to express their opinion on the upcoming legislation, lacks democratic control (Bühlmann et al., 2015) because it is not clear how different opinions are integrated in the final version of the bill. Switzerland has been described as liberal democratic corporatism (Katzenstein, 1984), which has proved highly resilient over time (Sciarini, 2015a). The corporatist arrangement is reflected principally in the crucial role of small number of interests in policy-making. Among these, one finds principally economic associations, the Federal Council, the main state agencies and governing parties (Sciarini, 2015a). The influence of interest groups over the legislative process has been even more significant than of political parties (Sciarini, 2015s). Despite the attenuation of the phenomenon in the recent years, Switzerland continues to be a corporatist country where interest organisations hold an important position (Armingeon, 1997).

It seems that the consultation processes present certain shortcomings that could be smoothed with digital democracy instruments. In fact, it seems to be the pre-parliamentary phase where digital democracy has the most potential in Switzerland. While theoretically

giving the opportunity of expression to everyone, consultation process suffers from three kinds of selectivity bias (Sciarini, 2004). Firstly, it is the bias in reputation, since not everybody is equal in the process. The most important role is held by the most powerful actors. Secondly, it is the organizational bias. In fact, not all actors have equal capacities and resources to organize themselves in the defence of their position within the defined timeframe. Thirdly, it is a professionalism bias because comments on the consulted bill are solicited from the directors of organisations with no regard to the preferences of organisation's members, which might not be identical (Sciarini, 2004). Furthermore, the consultation procedure does not allow participants to discuss their propositions with each other or comment on the propositions of others (Federal Chancellery, 2011).

The proceedings of consultations with different political, economic and civil society actors are on the principle not publicly accessible. As a consequence, this traditionally important part of the Swiss policy-making process stays in obscurity (Pasquier and Villeneuve, 2006) and interests of individual stakeholder groups, such as powerful economic lobbies, are not known (Transparency International, 2012). While acting as a limit to transparency, the concealment of underlying power games and bargains between different stakeholders is justified on the grounds of its benefits for the achievement of consensus. In the last years, there have been tendencies to “streamline the process” of pre-parliamentary consultations (Kriesi and Trechsel, 2008, p. 118) and reduce the number of consultation procedures.

The digitalisation of the consultation process could increase its transparency and accessibility. At the same time, it would decrease access barriers and potentially make the process less costly. With the increasing number of popular initiatives that Swiss public authorities have to manage, it would be possibly more beneficial to try to involve more interests and suggestions in consultation processes. Such an approach could potentially diminish the burden related to the management of popular initiatives. If the consultation process was to be conducted electronically, it could potentially also shorten the time needed for its accomplishment.

Parliamentary phase

The main actors of the parliamentary phase are the Federal Council and the Federal Assembly. Apart from them, it is also the Swiss people that have the legislative power due to the instrument of popular initiative. The National Council and the Council of States are equal in their legislative powers. If either of them proposes a bill that does not obtain the majority approval in the second chamber, a conciliation procedure is put into place during which changes to the bill are carried out. The objective is to gain majority support for the bill in both chambers (Linder, 2010). Whereas it has traditionally been the parliament that has initiated

most of the bills, in the recent years it has been observed that this role has been overtaken by the Federal Council. The principal legislative power therefore shifts from “the legislative arena to the executive arena” (Sciarini, 2004, p. 513).

The pre-parliamentary phase of the policy-making process has generally been more important than the parliamentary one in that the parliament often accepts objections and preferences expressed in the consultation phase. The principle that guides the consultation phase translates into the “governmentalisation” of opposition forces. However, the consultation phase still cannot always exactly predict the development of the parliamentary phase. In some cases, the parliamentary phase turned out to be controversial even though it was preceded by extensive pre-parliamentary consultation (Papadopoulos, 2001). As a rule, if a proposal is controversial in the consultation phase, it is likely to stay so in the parliamentary arena. Consultations therefore do not always secure smooth passing of the bill in the parliament. Similarly, consultation phase has no effect on the probability that the law will be challenged in a facultative referendum (Sciarini, 2004). Does this fact prove that not all important interests get to be expressed in the consultation phase? Or is it simply not possible to take all interests into account?

Direct democracy phase

Direct democracy phase has the primordial role in the Swiss policy-making process. Direct democracy is the most valued Swiss political institution (Linder, 2004a) that hoists the Swiss people to the role of one of the three most important decision-making bodies (Linder, 2004b). Although the tradition of direct democracy clearly belongs to the pillars and building blocks of the Swiss political system, it should be specified here that the Swiss political system is a semi-direct and not a direct democracy. Because the system combines elements of representative (parliament with proportional representation) and direct democracy, it cannot be considered a typical example of either. In addition, debates on participatory democracy often take place in an institutional framework that is shaped by representative democratic institutions (Voutat, 2005). For the purposes of simplification and also in accordance with the denomination customarily used in Switzerland, the term “direct democracy” is used here when talking about citizen participation in Switzerland. The direct democracy dimension of the Swiss political system was originally introduced with the aim to protect minorities and to avoid risks associated with the “government for the people” found in representative democracies. Instead, the Swiss introduced the “government through the people” and, at the same time, realised that letting citizens decide on every issue was not going to be feasible.

Citizen participation in decision-making is required for the most important decisions concerning the Constitution, state sovereignty or foreign policy (Linder, 1994).

The absolute and constant responsiveness of governments to people's wishes is an unattainable ideal. The closeness of democracies to the ideal can be measured in terms of the closeness in "the correspondence with the wishes of relatively many of their citizens for a long period of time" (Lijphart, 1984, p. 2). Switzerland fulfils all eight conditions of a reasonably responsive democracy such as defined by Dahl (1971): freedom to form and join organizations, freedom of expression, the right to vote, eligibility for public office, the right of political leaders to compete for support and votes, alternative sources of information, free and fair elections, institutions for making government policies depend on votes and other expressions of preference.

The most important direct democracy instruments that are enumerated in the Swiss Constitution are popular initiatives, obligatory and facultative referenda. The principal distinction between a popular initiative and a referendum consists in their position in the policy-making process. Whereas a popular initiative starts the legislative process by placing an issue on the political agenda, a referendum intervenes at the end of the process and its aim is to challenge a law that had already been passed by the parliament (Dardanelli, 2005). If an obligatory or a facultative referendum is to take place, it happens in the legally defined time frame before the law comes into force. In this place, it is important to point out that whereas citizens and different interest groups have the opportunity to challenge a law in a referendum, the practise of judicial review that allows the courts of justice to declare a federal law unconstitutional, is not recognised in Switzerland (Lijphart, 1984). Obligatory federal referenda are organised for the matters of complete or partial revisions of the Constitution, for questions concerning the adhesion of Switzerland to certain international treaties and for legislation that is declared urgent.

Facultative referenda aim to challenge laws that were already approved by the parliament and can be launched by an individual or by a group of individuals that manages to collect the legally defined number of signatures within the legally defined time frame. Direct democracy thus constitutes the last veto point of a parliamentary decision (Kriesi and Trechsel, 2008). Popular initiatives start the policy-making process in that they propose that a certain issue be regulated in a certain way. In order for a popular vote to be held on the federal level, organisers of initiatives also have to collect a legally defined number of signatures within a limited time frame. The topics of popular initiatives range from political, often strongly mediatised topics, such as the Swiss army, immigration policy or relations with the European

Union, through questions concerning political rights such as women's right to vote or the augmentation in the number of signatures needed to trigger a popular vote, to issues considered as societal problems, such as policies in the domains of drug control and abortion.

The diversity of topics that can be the objects of a popular vote has as a consequence, and is also caused by, the variety of actors that use direct democracy instruments. Actors that initiate popular votes are usually representatives of interest groups, political parties, social movements or cartels of organisations (Voutat, 2005). Initiatives can be submitted in the form of a general request or as a specific proposal. Initiators most often tend to choose the latter since the proposition of a concrete text excludes the possibility for the parliament to modify the text (Linder, 2004b). Successfully approved initiatives are incorporated in the legislation in the form of constitutional amendments. As such, they restrain much more than referenda the operational margin left to policy-makers. Even if an innovative initiative is rejected, its significance for policy-making consists in the enlargement of "the realm of the politically thinkable and feasible" (Linder, 2004b, p. 117). Because the Swiss Constitution is modified following the acceptance of a popular initiative, it is not a rigid historical text, but rather a book that is open to the amendments that each generation deems necessary (Linder, 2010). Whereas in the past popular initiatives were mainly used by the political Left that thus managed to enforce the instalment of welfare state, since the last several decades they have become the weapons of the Right for the promotion of interests in the spheres of economy and immigration (Sciarini, 2004).

Direct democracy is in Switzerland used on all three governmental levels (federal, cantonal and municipal). However, the exact rules guiding its use differ among the central government, the cantons and the municipalities. Cantonal autonomy stretches to issues related to voting rights and the modalities of citizen participation. The collection time limit and the number of signatures necessary for launching a vote also depend on particular cantons. Direct democracy is, in fact, more frequently used on the local than on the national level. On the local level, referenda are often obligatory for public projects necessitating the investment of a certain amount of financial resources. In regard to the results of popular votes, the most important difference between cantonal and national votes is in the approval rate. Whereas on the cantonal level, thirty percent of votes are successful, on the national level, the rate barely exceeds ten percent (Federal Council, n.d.). This gap is caused by the nature of issues subjected to vote, which is in general less controversial on the local level. Additionally, the bigger part of referenda on the local level are of mandatory character and aim to confirm decisions rather than contest them (Ladner, 2011).

I suppose that the potential of digital democracy for the Swiss direct democracy consists principally in two projects that are on the agenda of the Federal Chancellery: e-Collecting and e-Voting. The electronic collection of signatures (e-Collecting) for referenda and popular initiatives is likely to shorten and streamline the process as well as render it less costly. Electronic voting (e-Voting) would offer another voting channel that interested voters could choose to use.

Implementation phase

In regard to the implementation phase of policy-making processes, I restrict myself to repeating that the implementation of federal laws and policies is in Switzerland often the task of cantonal administrations. It can be fully delegated to cantonal administrations or conducted in cooperation with para-governmental and private organizations (Kriesi and Trechsel, 2008). It is typically in this phase when the role of public administrations is the most important. It is also for this reason why public administrations are the main units of analysis in the framework of the present study. Even though I study also contextual factors that involve institutional, political and policy frameworks, the main elements that impact on the success or failure of e-Government programs seem to be those related to organisational antecedents. The organisations in question include notably public administrations that are charged with their implementation and use. Public administrations often participate in the formulation of policy objectives and deploy resources for their achievement.

2.3.4 Importance of direct democracy for the uptake of online citizen participation

Based on the classification of Van Dijk (2000a) describing the relation between models of democracy and types of digital democracy, I suppose that the existing tradition of citizen participation impacts in Switzerland on the nature of digital democracy channels that are or will be introduced in the country. In this chapter, I provide an overview of the main effects of direct democracy on the institutional and political systems of countries that make use of it. Further on, I describe the development and significance of direct democracy tradition in the Swiss context to finally evaluate its impact on online citizen participation.

To assess the influence of direct democracy as an explanatory factor of the underdevelopment of online citizen participation in Switzerland, it is necessary to decide which is the dominant perception and purpose of direct democracy in Switzerland. Precisely, the aim is to define purposes that direct democracy has fulfilled in Switzerland and how these have changed over time. The objective of this approach is to determine if these contribute to the explanation of the reluctance of public administrations to further empower citizens, for example, with

electronic participation tools. If the purpose of direct democracy is not perceived primarily as the right of citizens to participate in policy-making, it could explain the mistrust of public actors towards regular citizen participation in policy-making. The supposition that Swiss public actors should be in favour of citizen participation based on the existing tradition of direct democracy would be therefore false.

Conflicting approaches to the significance of direct democracy

Direct democracy mechanisms in the form of referenda and popular initiatives can be considered a compromise between, on the one hand, large populations and sizeable territories of contemporary states and, on the other, the necessary effort to make citizens participate in public decision-making (Papadopoulos, 1995). Saward (1998) has described the importance of referenda in terms of “equal effective inputs into the making of binding collective decisions in a given political community [which] is the most defensible guiding principle in politics” (p. 2). Attitudes toward the types of democracy can be essentially divided between “elitist” and “participatory”. Supporters of the elitist approach emphasise the importance of representative type of democracy for good governance. They accentuate the incompetence of an ordinary citizen in regard to political decision-making and his egoism when it comes to decisions on moral or societal problems. They claim that it is impossible for ordinary citizens to grasp the importance and complexity of issues.

Direct democracy practised through yes/no referenda necessarily fragments complex topics into single dimensions that do not offer global solutions (Papadopoulos, 2001). Popular votes are therefore more susceptible to being manipulated by one-sided campaigns of interest groups with substantial resources (Dardanelli, 2005). The inequality in access to resources causes the incompatibility of the Swiss practice of direct democracy with the habermasian ideal (Papadopoulos, 1995). In regard to the influence of campaigns preceding a vote, it seems that the Swiss are able to perform a “self-censorship” and refrain from voting on issues that they consider too complicated (Trechsel, 2004). Whereas the role of political parties is important in the process of search for consensus in the Swiss parliament, their influence in regard to the results of popular votes is limited. In fact, the voting recommendations of parties have but a marginal influence on the outcome of the vote (Trechsel, 2004).

Participatory approach, as opposed to the elitist one, promotes the ideal of an enlightened citizen that direct democracy helps create. The proponents of this approach perceive direct democracy as a civilising process that politically educates citizens. In this view, referenda and popular initiatives enable minorities to bring their particular issues to the attention of political representatives. In addition, public policies confirmed by a popular vote are more legitimate

in the eyes of the citizens. Whereas the participatory vision of direct democracy perceives it as an instrument that allows minorities to put their issues on the political agenda, the elitist vision is opposed to this idea and claims that direct democracy leads to the tyranny of minorities. According to the participatory approach, direct democracy therefore partly serves the purpose of correcting the shortcomings of representative democracy by involving broader categories of stakeholders in the decision-making process and giving citizens opportunity to outvote faulty legislation. It can be said that direct democracy compensates for shortcomings in the representativeness of representative democracy. The introduction of e-Participation can be regarded either as a response to the shortcomings of the “input” or the “output” side of the public sector. Reforms of the input aim at compensating for the imperfections in responsiveness to citizens’ demands. The output side reforms are based on the supposition that the public administrations are no longer able to efficiently meet the demands of the citizens (Hagen, 2000).

The changes to representative democracy that digital democracy causes can be assimilated to the effects of direct, or participatory democratic regimes. The introduction of direct citizen participation in public affairs causes changes on at least three levels. Firstly, it is on the level of relations between organised groups, such as political parties and interest groups. Secondly, direct democracy redefines the rules of political competition. Thirdly, it changes the relation to political affairs. In the extreme scenario, direct democracy may cause the de-politisation of politics. In consociational multi-party governments, political competition between parties is attenuated because the government’s composition does not change significantly over long time periods. Additionally, because all policy-related decisions are based on consensus, the promotion of a specific party programme is not possible (Füglister & Wasserfallen, 2014) and government members have to be relatively flexible and able to compromise to reach a decision that members from all parties agree on. Due to the dual nature of the Swiss federalism and high cantonal autonomy, Swiss political parties are fragmented and their organisation requires substantial coordination efforts between federal and cantonal fractions. In opposition to the de-politisation effects of direct democracy, the evolution in the use and meaning of popular initiative caused in Switzerland also the (re-)politisation of many issues (Voutat, 2009). Popular votes are nowadays often accompanied by massive campaigns of “yes” and “no” camps. Due to the binary nature of the vote, policy-makers and other stakeholders adapt their strategies and arguments with the objective of convincing the greatest possible number of voters (Smith, 2009).

In regard to political competition, direct democracy changes the rules of the game in that different stakeholders that have the capacity to provoke popular initiatives or referenda have to be involved in the negotiations on a public policy since the beginning to avoid their opposition later on. Consequently, the role of political parties and of the political centre is reduced and it is outside of the parliamentary arena where the most important decisions are made. Papadopoulos (2001) observes that one fourth of legal regulations that were rejected in a popular vote had the support of all parties represented in the governmental coalition and were opposed only by marginal nationalist-populist parties. The dynamics of citizen participation change in a similar manner; citizens are empowered in regard to the shaping of political affairs in the country and are regularly invited to participate in public affairs (Voutat, 2009). As a consequence, policy makers have to adapt their behaviour to make it compatible with the effects of direct democracy (Papadopoulos, 2001).

Origins of direct democratic tradition in Switzerland and its state in the 21st century

The understanding of the significance of Swiss direct democracy for the introduction of other forms of citizen participation and its meaning in the Swiss institutional system is conditioned by the awareness of its origins and circumstances in which it was originally institutionalised. The role of direct democracy in the Swiss political and institutional system is crucial. The modern Swiss state was built on the principle of transferring important political rights to citizens that existed on the cantonal level before the formation of the unified Swiss federation. Direct democracy is considered more than a citizen participation tool, “it is a fundamental concept of the state, based on the sovereignty of its citizens, and a statement against extending the competences of the authorities” (Ladner, 2011, p. 199). Apart from the emphasis on concerns related to the sovereignty of citizens, an important “raison d’être” of direct democracy was the wish to give a voice to interests and political parties that were not represented in federal and local parliaments and assemblies. Until today, direct democracy is used more frequently in cantons where more important parts of political spectrum are not represented in the governing bodies (Ladner, 2011). During the second half of 19th century, the institution of direct democracy started to be considered to a larger extent as a means of responding to different dynamics and power constellations between cantons and federal government (Voutat, 2005).

Based on the previous, Switzerland can be classified as a country that has already at least partly accomplished the ideals of democracy and citizen participation. With direct democracy instruments that they have at disposition, Swiss citizens can launch or thwart a policy-making process. With reference to the by far highest number of popular votes per year world-wide,

the Swiss myth of direct democracy claims every Swiss citizen has at his or her disposition channels that allow him/her to express his/her interests or put particular issues on the political agenda. However, there is a number of reasons that make this perception of direct democracy in Switzerland imprecise.

The effective participation measured as voter turnout has historically been very low in Switzerland and has further decreased during the last decades (Ladner, 2011). Popular votes usually mobilise about forty percent of voters (Voutat, 2005). The effective participation figure becomes much lower if we calculate the percentage of people that are allowed to vote in Switzerland. It is often the case that the decision taken in a popular vote is, in fact, the decision of only a fraction of the Swiss population. The role of popular vote is in this regard more symbolical; it legitimates the decision (Linder, 1994). It seems that low voter turnout levels have been common in regions where direct democracy is frequently practised. It is the emotive and controversial topics that attract the highest number of voters (Smith, 2009). The abstention from voting in referenda has been often explained in terms of the high complexity of issues. For this reason, the votes with high abstention rates are in Switzerland often decided by well-educated upper and middle classes (Linder, 1994). In this connection, an interesting question to ask would be: What is actually the perception of Swiss citizens toward direct democracy? Direct democracy is still one of the most appreciated traits of the Swiss political system (Linder, 1994). However, when considering the low voter turnout, direct democracy system seems to be perceived more as a safeguard than a civic duty. Furthermore, the same flair for participation cannot be detected in other spheres of life. In terms of education or of work environment, the Swiss are not more participative than other countries (Linder, 2010). Is direct democracy primarily perceived as a guarantee that government will not be able to make important decisions against the will of citizens?

Over the years it has become clear that instead of replacing parliamentary politics, direct democracy has in Switzerland the role of its complement. Popular initiatives have become powerful instruments used to oppose government's decisions and the political elite in general. The outcome of popular initiatives has often become hard to foresee and initiatives started to be used for other goals than they were originally conceived for (Linder, 1994). By having public programs approved by a popular initiative, its initiators avoid the lengthy procedure of consensual decision-making. Swiss political parties have often used the popular initiatives to advance issues that were primordial to their program with the goal of increasing their electoral gains. The main purpose is often not to win the popular vote but increase the political capital of initiative's supporters or the visibility of particular issues, especially those with a broad

societal impact that are characterised by a contradiction between official political stance and majority opinion. Such topics are typically associated to the issues of immigration or foreign policy. The question one can ask is whether such ways of using direct democracy are legitimate and credible. It is evident that they are not compatible with the original spirit of Swiss direct democracy; they diminish its purpose as the “weapon of the people”. Furthermore, the collection of signatures for initiatives is nowadays quasi professionalised and remunerated. The argument that achieving to collect the necessary number of signatures means that the issue merits to be voted on is therefore weakened (Smith, 2009).

The legitimacy of direct democracy use is not internally associated to the system; it is its symbolic power that is expressed in the ways it is used (Voutat, 2005). Instruments of direct democracy are never neutral, they always exist in a certain constellation of actors that hold decision-making powers. For this reason, it is more appropriate to define direct democracy on the basis of ways in which it is used (Lacroix, 1994). Whereas the decisions taken by the parliament tend to be consensual and based on compromise, the cleavages between different political parties are much more visible when it comes to issue-specific questions that are subjected to a popular vote. It can be said that while the parliamentary arena attenuates inter-party cleavages, popular votes on divisive issues fuel them. “Parliament and direct democracy represent two different arenas” (Linder, 2010, p. 125).

Direct democracy is nowadays in Switzerland sometimes considered as out-dated due to the slowness and rigidity of policy-making processes that it causes (Papadopoulos, 2001). Striving to achieve the broadest possible consensus on every major issue on the political agenda is an extremely time-consuming task. According to Voutat (2005), the complexity of the Swiss direct democracy system can be considered a proof of high democratisation or, on the contrary, as a cause of structural incapacity to innovate. The rigidity of policy-making processes that direct democracy causes constitutes an obstacle to every major innovation in the public sector because it demands lengthy consultation and negotiation with major veto players that have to agree on the principal points of the reform to not to threaten to block its introduction later on. Sciarini (2015b) writes that “we may assume that the existence of a residual opposition [which is marginalised in the Swiss system] is the price to pay for an innovative output” (p. 256). Uncertainty and “blackmail” effects that direct democracy produces in Switzerland often lead to the abandonment or “watering down” of innovative (albeit at the same time controversial) propositions (Papadopoulos, 1995). There is no universal formula for the appropriation of different opinions in decision-making processes; different actors follow different strategies when trying to avoid the threat of referendum

depending on the particular situation or project in question. The existence of direct democracy evidently complicates significantly the straightforwardness of policy-making processes. In this connection, I suppose that it is possible that direct democracy already causes so much uncertainty for policy-makers that they are opposed to introducing further means of citizen empowerment that would further complicate policy-making processes.

Papadopoulos (2001) relates the low innovative capacity of Swiss public authorities with the increasing number of popular votes. He observes that the number of popular initiatives has doubled since the 1970s and goes on to argue that “it (...) illustrates the limits of systemic adaptiveness: fewer issues are being adequately addressed by public authorities” (p. 49). The increasing number of initiatives has led to the overload of Swiss authorities. The “barriers to access” to direct democracy have to be low enough to secure sufficiently easy access to its instruments, but also high enough to not overburden public authorities with “an endless stream of propositions” (Smith, 2009, p. 137). The initial solution that aimed to stabilise the number of new initiatives was increasing the necessary number of signatures. However, this solution was not compatible with the spirit of Swiss direct democracy (Papadopoulos, 1995). It is also for this reason that I enquire here about the real significance of direct democracy for the future of citizen participation in Switzerland. Firstly, the digitalisation of public services and of citizen participation are important innovations that might be hindered by the restrained innovation capacities of Swiss authorities. Secondly, the myth of direct democracy promotes the vision that citizen participation in the country is already at its best and further citizen empowerment is neither needed nor demanded. “What looks like a voter democracy in the first place turns out to be more participatory, deliberative, and non-majoritarian in the Swiss context. In any case, it can be argued that the existence of direct democracy makes the need for more participatory democracy less salient” (Ladner, 2011, p. 215). In this connection, Papadopoulos (1995) states that the existence of direct democracy does not imply the uptake of other forms of participation. It can be argued that because the existing empowerment of citizens is already significant, the electronic empowerment is not needed and the pressures for its introduction may therefore be low. In this connection, the question that is to be answered is whether “traditional” direct democracy is the price to pay for the Swiss underdevelopment of digital democracy? “(...) it is perhaps pertinent to ask oneself to what extent a political system ought to be sensitive to the pressures emanating from its environment. (...) where do we set the limits between responsiveness and accountability on the one side, and demagoguery and populism on the other?” (Papadopoulos, 1995, p. 426).

Based on the primary assessment of the Swiss political system, I assumed that the electronic

empowerment of citizens would in Switzerland have more potential than in other countries and would also encounter comparatively less obstacles. However, after looking further into the origins and current state of citizen participation in the country, I could quickly declare my original assumption false. Based on the study of literature on Swiss direct democracy and the findings of exploratory interviews, I got to understand that the fact that Swiss direct democracy is already well developed hinders rather than drives the development of digital democracy. Even the e-Voting project whose objective is to digitalise an already existing form of political participation encounters sizeable opposition. The arguments against are often expressed in terms of technological security. However, some of them also relate to the disruption of democratic practices. It is interesting to observe that similar kinds of arguments were in Switzerland used already at the time of the introduction of voting by post. The generalisation of postal voting took over thirty years and the fears that accompanied it included, for example, the possible abandonment of voting offices that were until that time the main points of signature collection for popular initiatives (Chancellerie fédérale, 1999). It could be argued that for groups with little resources this development might have had negative consequences in terms of the feasibility of proposed initiatives. With the arrival of e-Voting, it is the inverse arguments that come to the fore. Collecting signatures online may be much faster than physically in the street. For this reason, there have been voices demanding that the introduction of the electronic collection of signatures be accompanied by an augmentation in the number of signatures.

When one abstracts from issues related to technological security, which are, however, very important, it seems that barriers to e-Voting development are also psychological and factual. The incorporation of e-Voting in different national traditions brings different challenges. These are related, for example, to the notion of “digital citizens” and the impact of electronic voting on the central act of modern democracies. It is not clear whether citizens who were previously not only voters, but also scrutineers of votes would be willing to delegate these responsibilities to autonomous machines (Maigret and Monnoyer-Smith, 2002). At this point, it is also worth emphasising that trust constitutes an important factor that impacts on the decision to introduce e-Voting. It was in the first place countries that already allowed voting by mail that introduced e-Voting (Maigret and Monnoyer-Smith, 2002).

Some practical elements of policy-making processes in Switzerland

An important element that has to be taken into account in regard to the political decision-making system in Switzerland is the way in which the issue in question is formulated. This process, during which the perception angle of the problem is established, can be separated

from the problem-solving phase. The so-called “agenda-crafting” (Braun, 2009) refers to the shaping of the problem comprehension with the goal of finding a solution that would convene to interested parties and would accomplish the project in an acceptable time frame (Braun, 2009). In the case of the constitutional reform that Braun describes, agenda-crafting was marked by a number of decisions, such as the engagement of economists whose thinking was similar to that of the administration and the omission to include scientists from other fields. This measure was supposed to increase the probability of reform project acceptance later on (Braun, 2009).

Braun’s analysis of the process of constitutional change in Switzerland is important for the present research because it explains how policy-making in Switzerland can work in the environment typical of a number of veto players whose preferences have to be taken into account. This is especially true and more complex in the case of reforms on the constitutional level, such as was the case in Braun’s study. Braun (2009) refers to the so-called “focal point”; a principle that guides the reform and that enhances the willingness of actors to discuss risky topics. The focal point serves as a safeguard for different actors, it is a point that they all agree on. In the case of digital empowerment of citizens, the focal point could be, for example, “the institution have the last word” (contrary to citizens), or “there are certain fields where citizens cannot have the last word”. The important point in the policy-making process is the necessity to provide advantages for all sides.

2.4 Chapter summary

This second chapter provided the reader with an overview of the state of e-Government and e-Participation development in Switzerland. It thus built on the theoretical notions presented in the first chapter and applied them to the Swiss case study. Both the development of e-Government and of e-Participation in Switzerland is hindered by issues related to its institutional and political system. The significance of the Swiss system of direct democracy for the introduction of e-Participation constitutes in this connection a particularly interesting research question that is here further enquired about. The particularities of Swiss policy-making that impact on the introduction of e-Government were addressed in the last part of this chapter.

The objective of the following third chapter is to situate findings drawn from the literature into a theoretical framework that would contribute to the solution of the research puzzle. The combination of practical knowledge obtained from previous academic studies and theoretical concepts allow for the formulation of concrete research propositions guiding the empirical analysis.

3 Key theoretical concepts and their application

The present project addresses the question of ICT use in public administrations, public policy-making and for the purposes of citizen engagement. The principal objective of the review of the following selected theoretical concepts is to root the impact of different factors from external and internal organisational environments on the development of e-Government projects in a framework that links it to the previous research and thus guarantees certain continuity. Collecting arguments from different research angles seems to be the most complete way to approach the question of e-Government introduction since the field itself lies on the intersection of different disciplines. The choice of theoretical approaches detailed in the following subchapters was made based on their suitability to the nature of the research problem. The preceding review of the most important factors that impact on the introduction of e-Government in different contexts contributed to the refinement of the theoretical framework. It can be said that each one of them constitutes a piece of the puzzle that is the response to the defined research problem. What the theories that are presented here have in common is the emphasis on the embeddedness of organisations in their environment and the self-reference to own organisational rules that cause them to focus on continuity and stability instead of evolution and change.

Because one of the objectives of the project is the study of factors that exercise influence on the introduction of e-Government that, in turn, significantly changes the ways in which public administrations interact with the public, it is useful to consider different approaches that institutions assume toward changes. The management of change is a crucial process in the digital environment; its unstable nature requires constant adaptation to ever-changing circumstances (Brown and Toze, 2017). I work with two well-known theories that propose different explanations of organisations' reactions to changes in their external environment: contingency theory and (neo-)institutionalist theory. The use of new information and communication technologies in the public sector is, in accordance with the literature, understood as a trigger of organisational changes related to organisational functioning, actors' behaviour and organisational culture. Based on the results of the empirical analysis, one of the goals of the project is to determine which theory describes better the process of e-Government introduction in Switzerland, i. e. whether the impact of external environment on organisational behaviour corresponds rather to the approach advanced by the contingency or neo-institutionalist theory. This clarification contributes to a more precise explanation of the underlying causes for the comparatively slower uptake of e-Government and e-Participation in Switzerland.

The uptake of new technologies and their impact both in private and public organisations can be in general explained in terms of two key paradigms. The supporters of the first one, technological determinism, claim that people's lives become more and more driven by technologies to whose effects they have to unilaterally adjust. Other authors contradict the deterministic nature of technologies and claim that cultural and social environments influence the way in which technologies are used and understood in a society (Hague and Loader, 1999).

In the framework of the present research, organisations are understood as complex social systems that “require agreement among its parts and the whole” (Bouchiki, 1990). For this reason, it is not possible to define precise boundaries between an organisation and its environment. In this connection, different forms of constructivist theory emphasise the importance of structuration of organisational structures. According to Ranson et al. (1980), the three principal concepts that explain the production and reproduction of organisational structures are provinces of meaning, power dependencies and contextual constraints. In their view, organisation's members have different interpretation systems, values and interests that determine their orientations and strategies in relation to the organisation. The process of structuration is defined by confrontations between these different interpretation schemes, preferences and interests and its outcome depends on the power structure between participants. At the same time, in addition to these internal processes, organisations in the process of structuration have to take into account their contextual constraints. As a consequence, organisational structures are, at the same time, structured and structuring (Piaget, 1968). Because organisational structures are always a provisory result of a construction, they become more and more auto-regulated and have their particular composition laws. As a result, they are not only structured by their members and environment, but also structuring of them. Organisational structures are, on the one hand, an interaction medium, but, on the other, also a result of this interaction. Because organisational structures are essentially contingent, it is not always possible to distinguish between the elements that constitute them and those that are on the exterior (Bouchikhi, 1990). On the basis of Piaget's and Giddens' structuration theory, Bouchikhi (1990) concludes that the only way to deduct the logic of functioning and transformation of an organisation is to observe its functioning and transformation during a sufficiently long period.

Berger's and Luckmann's frequently cited work “Social Construction of Reality” (1967) laid the foundations for the constructivist understanding of reality, which stays pertinent until today. The main premise of the two authors that reality is a social construct adds to the

understanding of context that is applied in the present research. This understanding is shaped by the “locality” of reality, which can be perceived differently by two persons in the same society depending on the social context. Similarly, no historical event can be perceived differently than in its own terms and from a particular perspective, which is always relative (Berger and Luckmann, 1967).

“All typifications of common-sense thinking are themselves integral elements of the concrete historical socio-cultural Lebenswelt within which they prevail as taken for granted and as socially approved. Their structure determines among other things the social distribution of knowledge and its relativity and relevance to the concrete social environments of a concrete group in a concrete historical situation. Here are the legitimate problems of relativism, historicism, and of the so-called sociology of knowledge” (Schutz, 1962, p. 149).

Different realities with which people come into contact in their lives are differentiated by the degree of familiarity. This differentiation is produced by the “social stock of knowledge”, which provides information about different spheres of life that people frequently partake in. The spheres of life with lower social stock of knowledge are the remoter ones, which, however, can constitute the spheres with highest social stock of knowledge for other people. Overall, people have more or less rough understanding of how the social stock of knowledge is divided in the society and to whom they should turn to for specific types of knowledge (Berger and Luckmann, 1967).

One of the objectives of the present research is to retrace the reality of public administrations such as it is perceived and described by their management and employees. In this connection, it is important to not to omit the likely difference of realities between managers and their employees. In regard to the introduction of e-Government, which is considered a major public innovation (Osborne and Brown, 2013; Potnis, 2010), the ability of subjects to “transcend their own narrow position” (Berger and Luckmann, 1967, p. 22) is crucial. Everyday realities are often taken for granted and are only called into question when a situation to which they cannot be applied arises. This problem is related to the concepts of habituation and institutionalisation such as presented by Berger and Luckmann (1967). The process of habituation applies to the way a frequently repeated action is carried out. Even though the same goal can be accomplished in a number of ways, its repeated accomplishment in the same way overshadows all the other means that lead to the same result. If the process of habituation of certain actions is reproduced by a certain type of actors, it leads to the institutionalisation of these actions. At this point, an obvious parallel with neo-institutionalist theory can be observed. Neo-institutionalists state that the process of institutionalisation is

accompanied by resistance to changes and “stickiness” of institutionalised patterns of behaviour even when the latter are no longer necessarily rational or effective. The process of institutionalisation of actions happens over a longer period of time; it is for this reason that institutions are always the product of their history to which they are strongly linked. Whereas Berger and Luckmann explained their social construction of reality principally on the individual level, neo-institutionalist thinkers applied similar concepts to whole organisations.

The institutionalisation of reactions to different situations decreases tension and uncertainty of people’s everyday realities; it eliminates the unpredictability of other people’s actions. Institutions are passed on to next generations to whom their legitimacy may, however, not be evident; the children did not co-create these institutions together with their parents. “The new generation posits a problem of compliance, and its socialization into the institutional order requires the establishment of sanctions” (Berger and Luckmann, 1967, p. 80). In other words, children have to be socialised into institutionalised reality by institutions that claim their authority over them. The generational cleavage represents an important issue in regard to the use of technologies in public administrations that is studied in this research and is further tackled in the chapter 3.6 addressing the research questions and propositions.

Institutions are perpetuated not only by the typification of repeated actions, but also by actors who, in regard to them, adopt certain roles. “The institutions, with its assemblage of ‘programmed’ actions, is like the unwritten libretto of a drama. The realization of the drama depends upon the reiterated performances of its prescribed roles by living actors. Neither drama nor institutions exist empirically apart from this recurrent realization” (Berger and Luckmann, 1967, p. 92). The roles and actions have to be repeated and continuously sanctioned in human behaviour. If this is not the case, they risk to disappear. The “degree” of institutionalisation and the size of space for uninstitutionalised actions depends on various factors that differ across societies. In general, the bigger the part of relevance structures that are shared, the smaller the space for uninstitutionalised actions. On the contrary, the higher the level of fragmentation in a society, the lower the shared understanding of actions across the society. In this connection, Berger and Luckmann also state that the more contacts a person has with the members of other social groups, the more likely he/she is to be to accept different habits opposed to his/her own. “If contacts with the alternative reality and its representatives become frequent, the defensive procedures may, of course, lose their crisis character and become routinized” (Berger and Luckmann, 1967, p. 176). The acceptance of uninstitutionalised actions also depends on their distance from institutionalised actions and on their relation to other internalised values and patterns of behaviour. The closer an

uninstitutionalised behaviour is to the institutionalised one and the lesser the extent of its opposition to internalised behaviour patterns, the more likely it is to occur (Berger and Luckmann, 1967). The behaviour that is studied in the framework of this research relate to the reality of public employees in their daily work occupation. Work institutions, which manifest themselves particularly in work routines, represent a kind of secondary socialization for public employees (the first having taken place during the childhood in families).

Apart from the social construction of studied reality, another important notion is the so-called “social construction of technology” (SCOT). In the view of SCOT, technology is also a construct, which is understood and interpreted in a certain way. Understanding that people attribute to a technology is further shared with other individuals and in this way gains in significance. The crucial question is to what extent interpretations of the meaning of technology initially alter between different groups of people. According to Bijker (1997), the differences in interpretation gradually stop to exist and are replaced with a unique meaning of the given artefact. Consensus is reached through the process of closure (Bijker 1997). However, with the constant advancement in the field of ICTs and changes in possibilities and meaning that accompany it, it is hardly possible to reach a finite agreement on their significance (Hoff et al., 2003). As the role of technologies develops, so do the attitudes of people and risks relative to their use. Consequently, it is difficult to imagine a corresponding gradual advancement of interpretations between groups of people who work in different environments and are constrained by distinct structures. This leads me to think that certain actors and groups are more powerful than others and exercise more influence over the final meaning of an artefact.

3.1 Contingency theory

3.1.1 Notion of contingency “fit”

The core assumption advanced by the contingency theory is based on the assertion that changes in so-called “contingencies” exercise influence on organisational structure, which have to be adjusted to maintain organisation’s performance. According to the advocates of structural contingency theory, the most important contingencies involve external environment, organisational size and organisational strategy. The result of the adaptation of organisational structure, which occurs as a reaction to the change in the given contingency factor, is the attainment of “fit” between the organisation and contingencies. In the situation of the optimal “goodness of fit”, the organisation achieves the highest production efficiency and satisfaction of its members. Optimal structural design differs according to the nature of environment in which the organisation functions and it is always the contingency that determines the structure

(Donaldson, 2001). Contingency theory is therefore in its essence deterministic as it is guided by a cause-effect rationale.

Drazin and Van de Ven (1985) describe three principle approaches to organisational changes according to the contingency theory. These are selection approach, interaction approach and systems approach. They are distinguished by the number of contingencies that impact on the attainment of fit. Whereas the main assumption of the selection path is that the fit is based on the congruence between one contingency and organisational structure, interaction approach admits the influence of pairs of organizational context-structure aspects, which affect organisational performance. Systems approach consecutively advocates the mutual influence of multiple contingencies and structural characteristics on the performance (Drazin and Van de Ven 1985). Whereas the historically oldest selection approach did not take into consideration the effects of context-structure relations on organisational performance and was limited to the definition of fundamental concepts, the contingency theory has over time developed into a complex doctrine that admits that organisational performance can be increased or maintained only if multiple contingencies are in coherence with various structural elements. Contingency changes are usually not limited to one contingency factor, but reflect the developments of different aspects, which can mutually reinforce or weaken each other's effects (Sambamurthy and Zmud. 1999).

The process of fit attainment has to be repeated every time a change in a contingency occurs. The essence of the fit attainment process consists in “understanding processes of constantly finding an appropriate fit between the task environment, strategy and structure of public agencies” (Conteh and Roberge, 2014, p. 208). Walker (2014) adapts the conceptualisation of Donaldson (2001) to describe the perpetual process of fit attainment. Every time organisational performance decreases below the desired level, the organisation must adopt changes in its structure to re-establish the optimal situation. This process relates closely to the concept of organisational learning, which is particularly important for the present research problem. The introduction of new ICT systems requires a number of changes on the level of organisational structures and daily routines. To be able to absorb these changes, the organisation in question has to have certain learning aptitudes. The importance of this organisational characteristic is further discussed in this chapter in the part on public innovations.

3.1.2 New technologies as an example of change in an external contingency

The process of implementing new technologies in public organisations can be perceived as a consequence of a change in an external environment contingency. More specifically,

technological changes fall within the scope of “task uncertainty” contingencies (Burns and Stalker 1961, Woodward, 1965). The uncertainty is triggered as a consequence of changes in well-established procedures. Contingency theorists state that organisational structure should be coherent with the external environment of the organisation to ensure highest efficiency, effectiveness and satisfaction of stakeholders. As external environments of different organisations vary, for example according to the sector of activity, there are also certain internal organisational arrangements that fit given external settings better than others (Kast and Rosenzweig 1985). Based on the level of task uncertainty an organisation faces, tasks can be divided into systematized, discretionary and developmental. Systematized activities involve routine and automatic tasks; discretionary tasks demand certain discretionary power from their executors as their solutions are not always straightforward and developmental tasks are carried out uniquely based on generally defined objectives and strategies (Drazin and Van de Ven 1985).

In Kast’s and Rosenzweig’s view (1985), a technological solution represents but an “application of knowledge for the achievement of practical purposes” (p. 208). In this connection, the two authors claim that whereas every technology is essentially composed of electronic components, an additional intellectual input still conditions the accomplishment of organisational tasks. In a way, this perception of technological progress refers to the state of technologies several decades ago. Nowadays, the statement stays valid for a number of operations executed in different organisations. However, technologies have developed to such an extent over the last three decades that they are able to partially or entirely replace the intellectual input that was once necessary for the accomplishment of a task. At the time of Kast and Rowenzweig’s reflections, a technological change did not have such an important impact on the organisational culture and it was consequently less acute to culturally absorb the effects of new technologies to implement them. Their uptake happened more or less automatically and affected organisational structures had to adapt to new procedures. The acceptance of sophisticated technologies that have the potential to replace existing working patterns requires a more profound shift in the organisational culture that has to be approved by internal actors in addition to being compatible with organisational structures. To give an example of a similar revolutionary change in the relation between public administrations and citizens, one can state the examples of electronic petitioning and online discussion fora, which both increase citizens’ involvement in public affairs and thus imply an important redefinition of citizen-government interactions. The acceptance of such initiatives by public officials is just as important as their approval by citizens.

The contingency theory supposes that both managers and lower-rank employees have to assimilate to the changed external environment, in the present case to new technological applications. However, employees in intellectually and professionally demanding positions equally have higher demands in regard to their authority; they expect to have a substantial autonomy, discretionary power and professional recognition. They do not wish to be restricted by or “subordinated” to technologies in the performance of their duties. The intra-organisational restructuring should therefore not be based only on engineering considerations as such an approach can upset the social system. The approach towards the adoption of new technologies seems to have changed from people assimilating to technologies to technologies being adapted to people’s needs (Kast and Rosenzweig, 1985).

In this connection, Lorsch and Morse (1974) criticise the approach of thinkers such as Thompson and Woodward who omit the importance of individual differences between organisation’s members. They argue that the personal characteristics of its members do play an important role in the performance of an organisation and should be also in accordance with external environment contingencies. Lorsch and Morse (1974) claim that organisations that show a high level of fit between external and internal environments and their members’ predispositions equally achieve higher performance. Additionally, their members feel more competent and satisfied. In the case of a less than optimal fit, organisations can try to optimise their performance by implementing changes in their internal environment to make it more compatible with its external environment. This approach is, however, rather complicated and requires a solution that would, at the same time, improve the coherence of internal and external environments while maintaining their congruence with members’ personal characteristics. The issue at hand is how to engage individual members in the activities of the organisation so that they would be motivated to work towards the achievement of organisational goals. Personal characteristics are most visible at lower hierarchical levels, which constitute principal working environments of organisation’s members (Lorsch and Morse, 1974).

3.1.3 The “strategic choice” option

The approach accentuating the deterministic nature of changes in contingencies has been one of the most criticized points of the contingency theory. Its opponents argue that organisations have a choice whether or not to react to contingency changes. Child (1972) names this option a “strategic choice” and adds the possibility of adapting the contingency to organisational structure, not the other way around. He remarks that managers can, although to a restricted extent, choose the environment in which they want their organisation to operate when they

enter, for example, highly or mildly competitive markets. Additionally, by weighing its pros and cons, organisational decision-makers can decide whether to react to contingency changes that would re-define important organizational attributes, such as its goals and strategies. In regard to organisational performance, changes in organisational structure are not necessary if the latter does not impact on organisation's results. It is evident that decision-making powers related to the extent of organisational changes caused by external contingencies lie within a restricted group of influential actors and are not equally distributed in the organisation. The group that holds the decisive decision-making powers is designated as the dominant coalition (Child, 1972). The very fact that a group of actors holds powers over decisions related to organisational behaviour and is able to modify the latter in accordance with its own interests is in contradiction to the idea of one-sidedness of technological determinism.

In the view of contingency theory, changes in external environment should be reflected in the adjustments to organisational structures. Consequently, organisations that react to the same changed environmental conditions should also show similar structural attributes, conditioned by the size of the organization. However, "in practice, there does appear to be some variation in the structures of otherwise comparable organizations, a variation which is sustained over periods of time without much apparent effect on success or failure" (Child, 1972, p. 12). Based on the previous, it becomes evident that the original premises of contingency theory about the determinism of external environment contingencies are not universally applicable in all types of organisations and in all situations. This reflection brings us to considerations related to the institutionalist theory, which accentuates the organisational embeddedness in its procedures and structures.

3.2 Neo-institutionalist theory

3.2.1 Institutions and institutionalised fields

An institution is in a broad sense defined as a "legitimized social grouping". It can acquire the form of a family, a game or a ceremony. For an organisation to be institutionalized, "it needs a parallel cognitive convention to sustain it" (Douglas, 1987, p. 46). The cognitive convention refers to an unquestioned rule that is in the common interest of all actors that are affected by it. In this sense, the rule is self-policing since all actors have an interest in maintaining its validity. The rules can be formal or informal, that is to say be obligatory or performed based on mutual agreement (Hall, 2016). Even when a certain rule or process is at first adopted as an innovation that is supposed to increase organisational performance, once its adoption reaches certain threshold inside the institutionalised field, the objective is no longer to increase performance, but rather organisational legitimacy (Meyer and Rowan, 1977). The rule in

question thus becomes a part of the institutionalised reality. Institutions “are credited with making routine decisions, solving routine problems, and doing a lot of regular thinking on behalf of individuals” (Douglas, 1987, p. 47). Thus, they frame individuals’ responsibilities and reduce uncertainty. Public administrations as institutions exercise a number of duties that define the relations between the population and the state. These responsibilities have, for the most part, been constant since the emergence of modern states in the last two centuries. They thus act as the pillars of national stability and continuity.

The process of institutionalisation has a distinct role in the organisational theory. Contrary to organisations, which are created with a precise goal and perish once their purpose is attained, institutions are well-established entities whose existence is legitimated on the basis of conformity to the characteristics of their environment (Douglas, 1987). Because institutions instil value, they insert “an intrinsic worth” to a structure that had previously only “instrumental utility” (Scott, 1987, p. 217). Institutions are shaped by nature and by reason, they allow individuals to make analogies throughout their lives, thus justifying the institutionalised rules (Douglas, 1987). An institution creates a form of shared social reality, which allows individuals to interpret a type of behaviour or action. By sharing these interpretations with others, these become institutionalised and obtain the status of appropriate rules of conduct (Berger and Luckmann, 1967; Scott, 1987; Zucker, 1983). “[...] actors do not wander aimlessly in the world. They negotiate their way through the transactions of each day by means of institutional practices” (Hall, 2016, p. 35).

The important point in connection to the analysis of public administrations is that institutionalisation, through the creation of typified behaviours, defines the “way things are to be done” (Scott, 1987, p. 218). In the process of reforming public administrations, it is often this tendency to behave and operate in a certain way that triggers resistance to organisational changes. The argument of “why change what works” is a powerful one in regard to every innovation, even more so in the case of reforms that impact on the very organisational mission and risk to upset the established routines and work patterns that make organisation’s actions predictable. “A once technically useful means of achieving some known end persists as an accepted and even sacred practice after better technical devices have been invented” (Hughes, 1939, p. 283). Because institutions are “defended by insiders and validated by outsiders” (March and Olsen, 2008, p. 7), it is not possible to change them at will. “Even when history is relatively ‘efficient’, the rate of adaptation is likely to be inconsistent with the rate of change in the environment to which the institution is adapting” (March and Olsen, 2008, p. 7). Because organisations are strongly attached to normative beliefs about the positive impact of

their institutions, any changes to the system will be likely met with reluctance and distrust (Hagen, 2000). Similar symbols and beliefs attached to particular institutional arrangements represent powerful anchors that legitimate the continuity of institutions.

3.2.2 Approach based on the institutional isomorphism and path dependency

According to the “old” or “classical” institutionalism (Clark 1960; Dalton 1959; Gouldner 1954; Selznick 1948), it was the institutional structure that defined institutional behaviour and individuals had only restricted influence in the matter. One of the most criticized points of the institutionalist theory, the concept of structural determinism supposes that the actions of political institutions can be predicted from the core features of their structures (Peters 2011). The key principle of the historical strand of institutionalist theory is the importance of historical development of a particular system for the nature of its institutions, but also for the behaviour of individual actors. “Thus, the implicit argument was that to fully understand the manner in which politics was practiced in a particular country, the researcher had to understand the developmental pattern which produced that system” (Peters, 2011, p. 10). The approach emphasising the importance of historical factors is closely connected to the main assumption of the present research; that historical and socio-cultural factors, together with the political tradition, significantly influence the behaviour of public employees and thus impact on the uptake of e-Government projects. According to historical institutionalists, it is necessary to get acquainted with the history of the given institutional system to be able to understand all successive decisions of its institutions (Berger and Luckmann, 1967; March and Olsen, 1983). The previous decisions and trajectory limit the set of options for change that organisations may choose to pursue. As a consequence, there are “[...] limited degrees of freedom that exist for innovation, even in moments of extreme upheaval” (Streeck and Thelen, 2005). Historical institutionalism therefore reflects on institutional isomorphism and path dependency, two core principles of neo-institutionalism.

The neo-institutionalist thinkers of the 1980s and 1990s followed the classical institutionalist reasoning but considered also the importance of environmental elements for organisational routines. Scott and Meyer (1983) divide the influence of environment between its technical and institutional elements. Whereas the technical environment is related to concrete work processes, institutional elements of the environment involve rules and requirements that organisations have to comply with (Scott and Meyer, 1983). In regard to the latter, DiMaggio and Powell (1983) distinguish three processes that lead to conformity between organisations and their environments: coercive, mimetic and normative. Coercive pressures refer to the maintaining of organisation’s legitimacy, which is conditioned by adherence to valid legal

regulations. Mimetic pressures are present in uncertain environments where organisations strive to mimic behaviour of other entities that are considered as more successful to increase their own chances at survival. Normative pressures are related to the homogenisation of work methods and cultures typical for particular professions that are caused by the increasing uniformity of training programs (Bélanger and Mercier, 2006).

In the neo-institutionalist view, the goal of organisational changes is not achieving the highest performance but complying with institutional isomorphism that increases organisation's chances at survival in the long term. The concept of institutional isomorphism is based on the idea that emerging organisations replicate the structure of well-established ones with the objective of securing their continuity (DiMaggio and Powell, 1983). Institutional isomorphism can be understood in terms of following a certain trend and therefore can cause organisation's actions to appear more ritual than rational. Isomorphism can be also explained as an effort of an organisation that is undergoing a change to mimic other, more successful structures, which might have already found their institutional "fit" (Donaldson 2001). Isomorphic organisations are more reputable and legitimate as they "fit into administrative categories that define eligibility [...]" (DiMaggio and Powell, 1991, p. 73). They are "rewarded" for being similar to other legitimate organisations in the field (Scott, 1987). Contrary to both the old institutionalism that advocates the decisive role of institutional structures and to more recent theories, such as behavioralism and rational choice theory that, on the other hand, emphasise solely the importance of individual actors, neo-institutionalism acknowledges the reciprocal influence of society and political institutions (March and Olsen, 1983).

Apart from defining the principle, DiMaggio and Powell (1983) present several hypotheses connected to the likelihood of isomorphism occurrence. In regard to the public sector, the most pertinent of these involve the positive correlation between the degree of isomorphism and the rigidity of organisational structure, and the same positive correlation between the former and the level of regulation in the field. Following these assumptions, it can be said that isomorphism is present more frequently in the public than in the private sector. Because the environment of public organisations is more structured, more legally regulated and less competitive than the environment of private companies, it is possible that isomorphism leads in the public sector to the reduction of organisational variety, which in turn increases the institutional embeddedness of public organisations.

Another key principle of neo-institutionalist theory that is pertinent for the present research is the one advanced by March and Olsen (1984); the existence of constraints that an institution

imposes on its members through shared values and meanings. Neo-institutionalists refuse intentionality in the behaviour of organisation's members for the reason of embedded "routine and taken-for-granted character of human nature" (DiMaggio and Powell, 1991, p. 14). New members of an organisation undergo a process of embodiment of values and meanings that are shared internally (DiMaggio and Powell, 1991). This institutionalisation of values may lead to the rejection of everything that is not compatible with the organisation and the embodiment of the right (institutional), as opposed, to the wrong (different) ideas (Douglas, 1987). As a consequence, "cultural" control of organisation's members replaces "structural" kind of control, where values and rules of conduct have to be defined in organizational structures (Scott, 1987).

3.2.3 Neo-institutionalism and organisational change

In regard to the process of organisational change, the advocates of historical institutionalism struggle with the explanation of how changes are absorbed by institutions. Placing the decisive influence on the historical patterns that determine internal characteristics of an institution, historical institutionalism lacks the ability to convincingly explain the way in which these patterns can change (Peters, 2011). In general, institutions can accelerate or delay organisational changes (March and Olsen, 2008). According to Krasner (1984), institutions find themselves in the so-called "punctuated equilibria", which are reached after a "rapid burst of institutional change followed by long periods of stasis" (p. 242). The condition underlying the possibility of change itself is, however, the existence of sufficient force, or pressure, that initiates it (Peters, 2011). Another option is the incremental introduction of changes, which, however, might not be viable if the position of desired change lies too far from the initial one. Gradual changes are in the view of historical institutionalism provoked mostly by exogenous factors when institutions are forced to "adapt their internal dynamics in order to establish a new equilibrium" (Peters, 2011, p. 81). However, a risk associated with the gradual attainment of a new equilibrium appears; as the "stable mind-set of any organisation will support only a limited range of possibilities, most members of the institution will have a difficult time 'thinking outside the box' associated with the dominant ideas of the institution" (Peters, 2011, p. 82). If the used technology and work routines practised in a society have been fixed in a certain way for a considerable amount of time, they show significant levels of embeddedness and no matter how creative individuals are, they cannot succeed in surpassing these limits (Douglas, 1987). "Often when a new scientific discovery has been rejected and left to lie inert until later, it is precisely an idea which lacked formulaic interlocking with normal procedures of validation. The best chance of success is to confront

the major public concerns and to exploit the major analogies on which the socio-cognitive system rests” (Douglas, 1987, p. 77). In short, the higher the institutionalisation of a rule, the costlier its modification (Scharpf, 1997).

Greenwood and Hinings (1996) state that a radical organisational change is hindered, on the one hand, by the existence of normative values and reaction patterns that are considered to be universally applicable and, on the other hand, by the “normative embeddedness” of an organization in its environment. These observations are closely connected to the present research problem. If a radical change is not possible in a single organization, it might be more feasible in the situation when all organizations in the sector accept to proceed with the change in question at the same time. If one organization decides to adopt radical changes and these prove to be successful, it can be presumed that the organization might become a new role model in the field and can motivate or pressure other organizations to follow. “In any organization are the seeds of alternative ways of viewing the purposes of that organization, the ways in which it might be appropriately organized, and the ways in which actions might be evaluated” (Greenwood and Hinings, 1996, p. 894).

The process of organisational change led by a pioneer organisation that is spread by institutional isomorphism could potentially describe the introduction of new technologies in the public sector. Similarly to other cases of isomorphism and mimetism, organisations would copy practices of their homologues that had successfully embraced electronic tools (Gil-Garcia and Martinez-Moyano 2007). An important question in this connection is how the mimetic process starts, that is to say under what conditions the first organization decides to proceed with the change. Isomorphism can be in this case evidently observed only if the undertaken changes prove to be successful in the pioneer company. Demonstrated harmful effects of a project would in this context probably lead to its discrediting. Public institutions strive to keep their legitimacy and credibility in the eyes of their constituents and are therefore reluctant to adopt practices that could potentially threaten these values.

In order for an organisational change to take root, the latter has to be coherent with the fundamental cognitive and institutional patterns. “This means that it needs to be compatible with the prevailing political values, which are themselves naturalized” (Douglas, 1987, p. 90). The question of the success or failure of organisational reforms, such as those represented by the introduction of new technologies, is therefore closely linked to their character (Parker and Bradley 2000). “Many of the costs of change can be thought of as being associated with the dismantling of existing political and administrative systems in order to ‘make room’ for the new. In every country, much history and many political bargains – and therefore some

wisdom – is built into existing systems. Such systems are archaeological maps of past struggles and settlements” (Politt and Bouckaert, 2004, p. 33).

Both Van Dijk (2000a) and Castells (1996) support the view that the implementation of ICTs is by its nature evolutionary rather than revolutionary and that ICTs amplify existing social behaviour and trends first of all. In accordance with the findings of Freeman and Quirke (2013), the present argument is based on the premise that reforms should not be implemented abruptly but rather incrementally, particularly in environments typical of high uncertainty avoidance. Additionally, the changes should not be contradictory to organisational values and traditions, which could lead to their rejection. Reflecting on institutionalist isomorphism, Painter and Peters (2010) observe that reforms carried out through mimetic processes are more or less successful depending on their closeness to the existing system. Brändström et al. (2004) add that “the more a particular historical analogy fits the standard operating procedures and/or organizational interests of the entity that a policy-maker belongs to, the more likely its use by that policy-maker” (p. 208).

Streeck and Thelen (2005) recapitulate five principal mechanisms of institutional change that are compatible with the tenets of neo-institutionalist theory. All five encourage gradual, as opposed to radical institutional change.

1) *Displacement*. Institutional changes through displacement are caused by the obsolescence of old organisational practices that are replaced with new, emerging models. Institutional change through displacement is achieved through shifts in the societal balance of power. No organisational model ever exists without gaps that leave space for alternative modes of behaviour to come to the fore.

2) *Layering*. Because established institutional systems are typically costly to dismantle, it might be advantageous in certain situations to create a new system of rules on top of the existing one. The new system may gradually draw off the adherents to the old system and thus become the dominant one.

3) *Drift*. Because institutional stability cannot be taken for granted, it may be necessary from time to time to readjust and refocus institutionalised processes, typically as a response to changes in economic or political environments. Institutional change by “drift” is understood as an adaptation to changed external conditions, which prevents the erosion of institutions.

4) *Conversion*. Fuelled by external changes in economic conditions or power relations, institutions may be voluntarily reoriented toward new functions and goals. Institutional

conversion can be also driven by political contestations over what purposes the existing institution should serve.

5) *Exhaustion*. This fifth mechanism of institutional change was later excluded from Streeck and Thelen's analysis. Institutional change through exhaustion is conditioned by gradual institutional collapse or discrediting. According to this mechanism, every institution contains in its structures the "seeds of its destruction" (Streeck and Thelen, 2005, p. 29). Institutionally embedded patterns of behaviour eventually cause the de-legitimation of institutions.

I suppose that the most important institutional change mechanisms that are applicable in the case of the use of technologies by Swiss public administrations are layering and, to a lesser extent, drift. Because the Swiss institutional system is exceptionally stable and its transformation is not possible or desirable, I suppose that the layering approach offers a potential solution to introducing new rules to the existing system. Initially, the new rules would co-exist with the old ones. By time, if proven beneficial, they would replace them. The importance of "drift mechanism" could become visible in a longer term. With transformations that have impacted on the Swiss political system in the last years, the legitimacy of Swiss institutions could eventually suffer. This development could subsequently incite the readjustment of institutionalised processes with the objective of renewing their trustworthiness.

3.2.4 Actor-centred institutionalism

Yet another, more recent branch of the institutionalist theory that is pertinent for the present research accentuates the role of actors in the formulation of organisation's actions and refuses the determinism of organisations' choices dependent uniquely on the institutionalised rules. "Between the turning of the rim and the emergence of a new pattern, there is another force that infuses the final configuration with meaning: the human activity of choice" (Zuboff, 1988, p. 388). The actor-centred institutionalism was elaborated notably in the works of Scharpf during the 1990s and 2000s. In these works, Scharpf focuses on the analysis of interactions between individuals inside organisations and their impact on social phenomena. In the framework of the present research, the principal teaching of actor-centred institutionalism that is applied is Scharpf's fundamental claim that social phenomena are outcomes of interactions between individual actors or groups. These interactions are, however, shaped by the institutional setting in which they take place. In sum, contrary to the earlier neo-institutionalist works, Scharpf posits that institutions cannot determine entirely the actions of organisations' members. In other words, they do not impose a unique solution to a problem. "Instead, [...], they will define repertoires of more or less acceptable courses of

action that will leave considerable scope for the strategic and tactical choices of purposeful actors” (Scharpf, 1997, p. 42).

Scharpf (1997) explains the importance of state actors taking an example of the 1970s economic crisis. He claims that for state actors it was possible and, due to restricted resources, necessary to define their list of preferences from the list of possible outcomes. In the situation of both rising inflation and unemployment, it was not possible to decrease both indicators at the same time and governments therefore had to focus either on decreasing inflation or unemployment. The citation of this example is useful because of the parallel with the issue at hand. In a situation where public budgets are limited, public actors have, although to a limited extent, the possibility to decide on priority initiatives that are funded. These may or may not involve also e-Government projects. Across the Swiss cantons, it is evident that there are cantonal administrations that attribute higher priority to particular kinds of projects than others. The necessity to have sufficient resources at one’s disposition is the primary condition for actors to be able to implement their desired outcomes. Scharpf observes that policies aimed at surmounting the 1970s economic crisis differed across countries and were influenced by national institutional setting, mostly by the constellation of actors, the nature of interactions and the overall political inclination of the given country (Scharpf, 1997). When applied to the Swiss context, the key systemic feature that impacts on the introduction of public administration reforms is probably the consensual character of government and policy-making that, on the one hand, increases the durability of adopted changes, but on the other, slows down the process and usually allows only for an incremental change at a time.

Even though policy-making involves a limited number of actors, it is not possible to reduce them to the category of political representatives. In fact, apart from the legislators themselves, there are important stakeholders such as ministries, unions, industrial associations, etc., that exercise influence on final decisions. Public decision-making can be therefore interpreted as “purposeful action under conditions in which the outcomes are a joint product of [...] separate choices” (Scharpf, 1997, p. 5). The production of public policies does not take place in a vacuum where actors are separated from each other. On the contrary, actors tend to base their decisions on the observed or supposed behaviour of others. However, the importance of interactions between actors and of the anticipation of their moves are often not fully appreciated and it is the legislator or policymaker that is held responsible for final decisions (Scharpf, 1997).

In the view of rational choice theory, actors make decisions based on the pondering of personal benefits and losses. In other words, they try to maximise their own self-interest.

However, the actor-centred branch of the institutionalist theory admits that actors' perceptions are not shaped uniquely rationally but are instead influenced by normative and identity-related preferences. As a consequence, public policies cannot be analysed only on the basis of outcomes and empirical experience; normative dimension has to be also taken into account (Scharpf 1997). The cognitive frameworks that define the range of individuals' action in an institutionalised environment can be divided between world-views defining the range of possibility, principled beliefs distinguishing right from wrong and causal beliefs determining which effects follow particular causes (Goldstein and Keohane, 1993). This last cognitive framework is especially important for the present research. The attitudes of organisation's members toward e-Government are to a large extent determined by the perceptions of effects that they suppose the e-Government functionality has. More largely, they are determined also by the supposed effects of the use of technologies. In parallel, Scharpf (1997) states that actors base their decisions on perceived reality, subjectively defined interests and normative convictions defining what is good, bad and appropriate.

In Switzerland, where external pressures for public administration reforms are weak and trust in government is high, internal incentives often constitute the only drivers of organisational change. To consider a policy useful and effective, it is not sufficient to evaluate its practical consequences, but it is necessary to have normative assumptions about what the problem is and what the solution can be. The interpretation of empirical data is therefore conducted with certain normative beliefs in mind (Scharpf, 1997). This claim is valid, for example, in regard to the perception of the "crisis" of the representative democracy, which is considered to be one of the reasons for the transfer of more important policy-making powers to citizens (Papadopolous, 2013). The perception of what a "democratic deficit" means differs across countries and is closely connected to the normative judgement on how much citizen participation is desirable in the given system. The inevitability of underlying normative assumptions is reflected also in this research where I strive to make coexist empirical results with suppositions about the beneficial potential of electronic communication with citizens for the Swiss public sector. It might happen that, despite the clear identification of the best and the most efficient solution, the latter is not chosen as the outcome of decision-making process due to the necessity to take into account the normative preferences of all actors involved in the process, who might additionally come from different institutional environments (Scharpf 1997).

Even though it is impossible to avoid normative assumptions about what the solution to a problem should be, the subjective preferences of actors might not always play an important

role in the outcome. In addition to institutionalised rules that, at the same time, extend and restrain the panorama of available options, individuals may also sometimes act on behalf of an organisation or a group, rather than acting on their own behalf. In this case, they may even choose to act against their own interests, but according to what they perceive to be the interests of the group as a whole (Scharpf, 1997). In the present case, the organisational units that actors represent are typically public departments and offices in the Swiss federal and local administrations.

3.2.5 Institutions as social coalitions

Following in the footsteps of actor-centred institutionalism, several authors have in the last decade focused on the analysis of institutions assimilated to groupings of social coalitions. They propose the explanation of organisational changes based on the analyses of the impact of internal coalitions of actors on organisational stability and change. To successfully challenge ‘the way things are done’, challenging coalition needs to tip the scale in their direction. In other words, “actors have to be convinced they should abandon procedures with which they are familiar to enter uncertain territory” (Hall, 2016, p. 40). For this state to occur, “discontent with existing institutions has to reach certain levels” (Hall, 2016, p. 40). The perception of institutions as social coalitions constitutes a parallel with the previously mentioned concept of dominant coalition (Child, 1972).

At this point, it can be argued that in Switzerland the discontent with the way in which public administrations operate has not reached the necessary level for a significant institutional change to happen. On the contrary, the overall positive perception of public administrations contributes to the perpetuation of institutionalised behavioural patterns. It seems that in regard to the implementation of e-Government projects, political support may have the decisive influence for tipping the scale in favour of the challenging coalition. “The kinds of settlements that were possible in individual countries were heavily mediated by state action (or inaction), which frequently tipped the balance in ways that either facilitated coordination [...], or aggravated the conflicts of interest” (Thelen, 2004, p. 20). For a durable change to emerge, certain number of factors has to be aligned. These are, for example, “the availability of certain ways of thinking about policy, the presence of particular economic conditions or an increase in the salience of certain issues” (Hall, 2016, p. 40). In the present case of the uptake of ICTs by public administrations, the third condition, salience of certain issues, seems to be particularly important. Nowadays, it is principally the indirect pressures of other countries and the generally increasing role of technologies in the society that seem to incite Swiss public administrations to experiment with the wider use of ICTs. Internal and public pressures on the

introduction of e-Government are in Switzerland still insufficient. In the current situation, the challenging coalition that would promote e-Government is not demarcated and strong enough. The stability of state institutions can be explained principally in terms of that it is easier to hold on to something that one already knows than embarking on a change that might have unexpected consequences. It is the uncertainty that surrounds the organisational change that might sway individuals to stick to old operating patterns. Additionally, institutions tend to distribute power internally in the way that encourages the existing coalition (Hall, 2016), which makes any change to institutionalised rules very costly. However, despite all the institutional embeddedness, organisations visibly do evolve over time even though these changes are often very slow and incremental (Mahoney and Thelen, 2010). In a situation such as the one present in Switzerland in the case of e-Government introduction where exogenous demands for change are lacking, the necessary condition for an organisational change is the internal leeway enabling it. In other words, organisations have to possess a dynamic element in their properties that allows them to change. This dynamic element is in the view of Mahoney and Thelen (2010) present due to constant struggles between different coalitions inside the organisation. Re-taking the example of budgetary priorities that was described in the previous chapter and enriching it of the impact of coalitions of actors, it follows that a struggle concerning the repartition of resources between proponents and opponents of institutional change is constantly present and the outcome is not always straightforward.

The creation of institutional means-ends beliefs is in the large measure defined by personal experience and beliefs of experts. Overall, people are more likely to take steps that they are already familiar with based on their previous experience than enter an unknown territory. Because institutional changes cannot be rid of unpredictable side-effects, beliefs related to them are of predominant importance (Hall, 2010).

It can be said that both contingency and new institutionalist theories search for an optimal “fit” that would increase organisation’s legitimacy and performance. Whereas the contingency theory emphasises the importance of changes in organisational structures that occur as a consequence of changing external conditions, the institutionalist fit is achieved through institutional isomorphism. Whereas the attainment of institutional fit through isomorphism increases the institution’s legitimacy, contingency fit further helps to stabilise or increase the organisation’s performance in case of institutional misfit (Volberda et al., 2012). “Firms with a high contingency fit should pay less attention to institutional constraints because achieving an institutional fit at the same time will only slightly increase their performance. For firms that have achieved a perfect institutional fit, adapting to the specifics of their task

environment might even decrease their performance” (Volberda et al., 2012, p. 1051). Contingency-driven changes in organisational structure are more suitable in environments characteristic of high task uncertainty.

3.3 Organizational self-reference and the theory of autopoiesis

To add more detail to the mechanism of organizational changes that is at the core of the present research problem, I make in this place several references to the theory of organizational self-reference, or “autopoiesis” such as described by Maturana and Varela (1980) and to the reflections of Morgan that followed it. The theory of autopoiesis in a sense completes the explanation of the process of institutional change advanced by the neo-institutionalist theory.

The world around us is in the state of constant change, which cannot be prevented (Morgan, 1986). It can be said that change is an unstoppable force and an element that accompanies us throughout our lives. In parallel to all other entities, the ever-present flows of change impact on organizations and force them to rethink their functioning. New phenomena that pressure organizations to change usually originate in the external environment. In this connection, Morgan (1986) argues that the very notion of external environment that would exercise one-sided influence on organizations is faulty as each organization constitutes a closed system of relations that absorbs changes only through self-reference, i.e. through the lens of its own identity. It is in this way that organizations re-produce themselves. Maturana and Varela (1980) call this process “autopoiesis”. The theory of autopoiesis supports the perception of the external environment as an integral part of organizational identity with which every organization interacts in a way as to facilitate its self-reproduction (Morgan, 1986). “Thus, a system’s interaction with its ‘environment’ is really a reflection and part of its own organization” (Morgan, 2006, p. 244). Because changes are always implemented in a self-referential way, the range of possible options is limited.

In this connection, it is interesting to make a reference to the contingency theory that supposes that changes in the external environment provoke changes in organizations. Organizations have to react to these changes by adapting their structure to the new circumstances if they want to maintain their performance. Environmental changes are supposed to be deterministic in the sense that it is always the change in contingency that determines the nature of new organizational structure (Donaldson, 2001). It is evident that the perception of organizational change of Morgan and Maturana is different and refuses one-sided determinism of contingency theory. In this sense, the premise about the self-referential character of organizational change corresponds better to the approach of the neo-institutionalist theory,

which emphasises the importance of path dependency for changes in organizations (March and Olsen, 1983).

Maturana and Varela (1980) use the example of a human brain as a demonstration of organizational self-reference. Like a brain that is not able to interpret experiences or interactions neutrally but only in connection with its own reference points, organizations are not able to process reality without connecting it to their own referential framework. These points of reference can be connected to the identity, values or culture typical for the organization. The habit of comprehending the world around them through the lens of their own identity and values is closely connected to the organizational egocentrism. Organizations strive to maintain certain kind of identity with which they are linked (Morgan, 1986). As a consequence, they tend to be ignorant of the wider system of relations in which they exist and whose preservation conditions organisation's continuity. While fighting for the preservation of their identities, organizations risk to become obsolete, old-fashioned and incompatible with the society they exist in. "In the long run, survival can only be survival with, never survival against, the environment or context in which one is operating" (Morgan, 2006, p. 250). Among other obstacles, it is the necessity to overcome past patterns and strategies, which had contributed to organisation's success, that is particularly difficult. Morgan gives an example of companies that hold on to their identity so strongly that they continue to manufacture products that are no longer marketable, such as typewriters.

This example is closely akin to the perception of public administrations that the present research advances. When facing pressures to change, public organisations struggle to perpetuate their traditional role, culture and values. In doing so, they distance themselves from the changing external context. The principal change in the external environment of public administrations that is related to the research problem is the shift in the use of technologies in the society. Public administrations often downplay possible future consequences of this development, which may lead to the necessary redefinition of their relations with citizens. Public organisations seem to be rather egocentric and tend to overemphasise their own identity and diminish the role of the environment (Morgan, 1986).

Organizational egocentrism is largely manifested in the perception of organisations as separated from their environment and in their efforts to maintain this separateness. The most important part of the environment of public administrations is in this connection, and for the purposes of the present research, related to interactions with citizens. According to the theory of autopoiesis, these interactions constitute a part of the organizational system and not of the external environment. Consequently, interactions between public authorities and citizens are a

part of the organizational identity that administrations adhere to. As technologies become essential parts of people's lives, for example, in that they facilitate communication and interaction, demands for more reactivity and flexibility of public administrations appear. These new phenomena lead to changed perceptions of the roles of both public administrations and citizens. Public administrations become providers of services with citizens as their clients (Villeneuve, 2005).

The importance of positive feedback and its repercussions

Following the previous reflections on the organizational change, it can be said that before proceeding with an organizational change, it is necessary that public administrations change their own perception of themselves and adjust their identities. Morgan (1986) admits that in order for an organization to change its identity and enter into new contexts, its managers have to encourage the changes and not try to cling to old identities and contexts at all costs. In other words, they need to be ready to enter new contexts, which are subsequently delineated within the organizational system. For a new context to emerge, organizations need to redefine their systems of understandings that are translated into new actions. These new understandings refer principally to the comprehension of organizational identity itself, of the patterns of reaction, of paradigms that underlie its actions or of rules that guide organization's functioning. New interpretations are translated into new actions, which represent the means through which the new context is eventually entered. In this way, new understanding breaks the autopoietic practices previously inherent to the organization and makes them obsolete. If the new practices have positive effects, they serve as an example to be followed and consequently they are multiplied (Morgan, 1986).

To give a concrete example applied to the context of public administrations in Switzerland, one can cite the introduction of electronic voting, probably the most significant initiative related to the redefinition of citizen participation. In the canton of Geneva, which was among the first to start experimenting with electronic voting, two most important factors acting as driving forces of the project were, in the first place, the management that was very favourable to the introduction of electronic interaction channel between citizens and administrations and, in the second place, the positive feedback that the administration received from citizens. As the positive feedback multiplies, the old context typical of traditional interaction channels between administrations and citizens and objections to new technologies might be overcome and the validity of the new context confirmed. However, even though the new context generates positive effects, it is still fragile and can be easily called into question when drawbacks appear. It can be still challenged by the old identity.

However important the initial positive feedback is for the new context, there have to be also some stabilizing elements present in the system, which would prevent the system from becoming unsustainable. In this connection, Morgan (1986) argues that positive feedback should have the so-called stabilizing loops that prevent it from growing exponentially. He describes how positive feedback can have different, positive or negative influence on other elements in the organizational system. The interplay of these opposing forces produces “safeguards” to the sustainability of the new context as positive and negative feedbacks stabilize the system.

3.4 Organisational cultural theories

3.4.1 Different perceptions of organisational culture

The present research problem is closely related to the notion of organisational culture, which has to undergo alterations to be able to accommodate innovative mind-set that is necessary to absorb the patterns of behaviour induced by e-Government-inspired reforms. The institutional change that was discussed in the previous chapters therefore consists principally of changes on the level of organisational culture. “No policy aimed at encouraging citizens to become engaged coproducers or persuading professionals to use their expertise to empower communities can be expected to have substantial and sustained impact if the organizations charged with implementing it do not reorient some of most fundamental organizational practices and mindsets” (Sirianni, 2009, p. 58).

Organisations from the same institutionalised field tend to have similar values, norms and patterns of behaviour (DiMaggio and Powell, 1983). In parallel, their culture is perpetuated through similar stories and myths. This seems to be especially valid in the Swiss environment where the culture of consensus and common negotiation pervades the functioning of public administrations on all governmental levels. “A cultural perspective enables close examination of aspects of organizational and institutional life ranging from the use of technology to the enactment and guardianship of long standing cultural traditions and rituals” (Giorgi et al., 2015, p. 30). In line with this thinking, organisational culture is considered here as a part of institution.

When working with the term “culture”, it is crucial to define how the latter is approached. In their review of the literature on culture in organization studies, Giorgi et al. (2015) classify five most important ways in which the notion of organisational culture has been perceived; as values, stories, frames, toolkits, and categories. Culture as values allows people to justify their actions based on what they consider dear or important. From the value perspective, culture renders organisations internally homogeneous and externally heterogeneous. As such, it can

also provide organisations with a strategic advantage vis-à-vis other organisations. Culture as stories consists of tales or myths that convey ideas and meanings in particular contexts. McAdam (1994) cites the example of American narrative of hard work and meritocracy. Culture as frames defines the range of available options. Culture as toolkits translates into a set of stories, frames and rituals that can be drawn upon when devising strategies for action. Cultural toolkits allow for a wider selection of action options than the previous three perceptions of culture. A cultural toolkit is “a cache or stock of ideas that we can mix and match to solve everyday problems” (Giorgi et al., 2015, p. 13). Culture as a toolkit presumes that values are no longer strictly given; on the contrary, they can be repeatedly re-constituted based on the appropriateness and range of available actions. Culture as categories relies on the differentiation between sameness and difference. A cultural mechanism consists in regrouping elements that are considered similar and those that are considered different, thus making cognitive processing for actors simpler while, at the same time, outlying elements that do not fall in the predefined categories. Out of the five main perceptions of organisational culture, the concepts of values that are strictly defined and of toolkits that are open to interpretation are in the starkest opposition. Deviation from strictly defined values toward a more open cultural toolkit may be in an organisation caused, for example, by a change in external environmental conditions (Giorgi et al., 2015). I adhere here to the suggestion of Giorgi et al. (2015) who consider the five perceptions of culture that have been most often studied in the literature as interlinked, operating either independently or jointly and being able to attenuate or strengthen each other's' effects.

According to yet another approach to organisational culture that includes the link between organisational culture and its environment, organisational culture can be understood either as one of the characteristics of an organisation, such as its structure or strategy, or as an element that permeates and influences all other organisational dimensions. In the former case, it can therefore happen that culture is incompatible with, for example, organisational strategy. In the latter case, it is probable that the culture is in harmony with other organisation's building blocks (Alvesson, 2002). Attitudes towards the creation and nature of organisational culture have essentially changed from the management-centric approach to considerations based on internal cultural heterogeneity that is sustained by organisational members (Meek, 1988). One of the most important disagreements related to the concept of organisational culture is connected to the extent to which managers are able to manipulate the latter toward the accomplishment of organisational goals. Earlier studies (Deal and Kennedy, 1982; Peters and Waterman, 1982; Schein 1985) assimilate the efforts of managers to shape and control

organisational goals with the organisational culture itself. The recognition of the importance of cultural ideology of the members represents a more recent approach to the study of organisational culture (Baba, 1989; Meek, 1988). The problem with the management-centric approach arises when managerial objectives are incompatible with employees' own cultural perception. In such cases, culture can be used as a means of defying management (Alvesson, 2002).

In the framework of the present project, the perception of organisational culture links elements from both the management-centric and member-englobing approaches. It is evident that neither of the two views can be considered the absolute definition of organisational culture. Individuals that enter organisations have already absorbed certain societal influences and belong to different subcultures that had shaped their personal attitudes and beliefs. Additionally, the ethnic, territorial and social origins of organisation's members exercise strong influence on their ideology and behaviour inside and outside of the organisation. As a consequence, all organisations are, at least to a certain extent, internally culturally diverse (Baba, 1989). At the same time, however, it cannot be denied that there exists a certain "feel" about successful organisations, which cannot be solely explained by the influence of its members' original cultural inputs (Meek, 1988). Another factor that shapes the internal organisational culture is also the perception of the organisation from outside (Baba, 1989).

Although the culture is regarded here mostly as a coherent concept, I try to avoid its oversimplification in terms of its unification or idealization (Alvesson, 2002). It is not possible to reduce culture to a universal set of values and ideas that would be identical in the whole organization and applicable in different contexts. On the contrary, "the multiplicity of cultural groups and orientations in complex organisations needs to be carefully considered and this goes against the temptation to treat organizations or groups as homogenous. [...] The cultural aspect should be related to specific events, situations, actions and processes" (Alvesson, 2002, p. 189). Culture is understood here more as a set of practices that organisations' members perform than simply as stories and myths that are recounted. It is the practical performance of culture that allows for its perpetuation and transmission to new members. Giorgi et al. (2015) suggest in their extensive literature review a number of research gaps. The present study strives to respond to at least two of them. It is, firstly, the incorporation of contextual factors in the analysis of organisational culture. Secondly, it is the inclusion of considerations related to the impact of path-dependency.

3.4.2 Mechanisms of organisational cultural change

It has been argued (Gagliardi, 1986) that certain behaviour rooted in the organisational culture is no longer open to alternation even if it does not solve current problems anymore. The reason is that the latter is conceived more as a value, which is not open to criticism. Culture as a value that is transmitted through an organisation is closely linked to the perception of culture as a part of an institution. This is especially true when the value, or the behaviour in question previously played an important role in the success of the organization.

In general, the process of introduction of new ideas and practices in an organization can be divided into three fundamental phases. During the first phase, the realization that a change is needed starts to be present. The introduction of actual new concepts, which have to be attributed meanings in contrast to the old ones, occurs in the second phase. The third phase is the most lengthy and difficult one because the new ideas have to be “embraced” by organisation’s members and embedded in the organisational culture (Saussois, 2006). In connection to the shifts in organisational culture, Gagliardi (1986) distinguishes three strategies: cultural change, cultural revolution and cultural incrementalism. Whereas cultural change requires from the organisation’s members to overcome their anxiety and reluctance in regard to the change, cultural revolution refers to the replacement of “old” values with “new”, antagonistic ones. The cultural revolution approach represents a costly solution, both in terms of financial and emotional investment. The most viable solution for the needs of this research is reflected in the cultural incrementalism when modifications in organisational culture are translated rather into the enlargement of the set of possible options than as the complete redefinition of internal environment. The importance of incrementalism for public innovation has been previously emphasised (Bloch and Bugge, 2013).

The process of incremental change is, however, possible only in situations when new values are not directly contradictory to the old ones. Furthermore, it is crucial for managers to accentuate positive experiences resulting from the introduction of new cultural aspects (Gagliardi, 1986). Another dimension of the process of cultural change regards the dual approach to the way the latter should be carried out. Essentially, the conflict resides in the reciprocal influence between the level of ideas and values and the behavioural level. The issue at hand is whether it is more advantageous to start with the change in values and expect the behaviour to change accordingly, or vice versa (Alvesson, 2002).

The question of success or failure of organisational reforms, such as the introduction of new technologies represent, is closely linked to their nature (Parker and Bradley 2000). Both Van Dijk (2000a) and Castells (1996) support the vision that the implementation of information

and communication technologies is in its nature rather evolutionary than revolutionary and that “ICT amplifies existing tendencies first of all” (Van Dijk, 2000a, p. 51). I base myself on the premise that reforms should not be implemented abruptly, but incrementally, particularly in countries typical of high uncertainty avoidance. Additionally, the changes should not be contradictory to organisational values and traditions, which could lead to their rejection. Overall, reforms should guarantee certain continuity with the previous system. If this is not the case, mistrust and misunderstanding of changes can cripple the established system.

In the research of Weare et al. (1999), the authors apply the so-called “diffusion of technology perspective” to the diffusion of municipal web pages in California. The diffusion of technology, and of municipal web pages in particular, is in their perception conditioned by: 1) the characteristics of the technology itself; 2) the characteristics of the individual or the organization making the adoption decision; and 3) the social system in which the adopter resides (Weare et al., 1999). Because the adoption of a new technology brings about significant risks (Heeks and Davies, 1999) and substantial changes in organisational structures, it is likely to be proceeded with only if its expected benefits outweigh the costs. The most important factors determining the successful uptake of any concrete technology can be summed up as ease of use, ease of experimentation, ease of observing the results of adoption, improved capabilities relative to previous technologies, and compatibility with existing values and behaviours (Rogers, 1983). Following these assertions, I expect e-Government technologies to be more likely introduced when they are compatible with the original organisational culture.

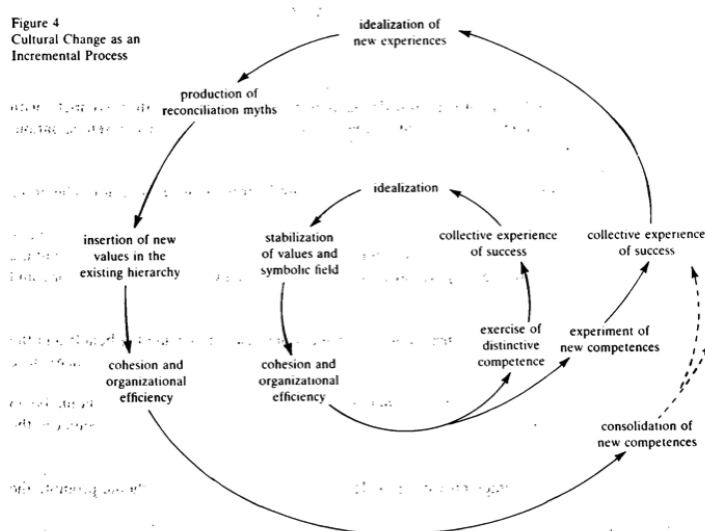


Fig. 7 Cultural change as an incremental process (Gagliardi, 1986)

Another important dimension of the organisational culture is in this connection its incertitude-

reducing function. Alvesson (2002) observes that shared systems of meanings prevent confusion and constant re-interpretation of meaning in everyday situations while Keesing (1974) adds that culture is “a theory to which a native actor refers in interpreting the unfamiliar or the ambiguous” (p. 89). In this regard, it is interesting to mention the notion of routines that constitute a part of organisational culture and can contribute to the continuing survival of an organisation since they demand from the actors to behave and react in a certain way in standard situations. When applying the concept of routines to the use of technologies in the public sector, it can be said that the replacement of paper-based processes with electronic ones disrupts well-established working patterns. This development has as a consequence the augmentation of uncertainty within the organisation as “old” routines are no longer valid in the new environment. The incertitude-reducing function (Berger and Luckmann, 1967) of the institutionalised organisational culture is probably its most important attribute in the framework of the current research. In the times of changes, such as those caused by the arrival of new technologies, the significance of routines, working patterns and public values increases and is used as a means of “anchoring” public organisations and resisting change, which can be perceived as disruptive and negative (Emery and Giauque, 2005).

Gregory (2001) compares the “mechanistic” and “organic” attitudes to the introduction of reforms in public administrations. He bases his observations on the example of the New Public Management reforms in New Zealand and claims that the mechanistic view, which relies on the clear division of roles and practices, neglects just as important organic view that stresses the importance of more ephemeral human interaction. The research approach that emphasises the importance of organisational culture in its essence means that, apart from the rational analysis of facts, one should take into account also subjective opinions and constructions that are inevitably a part of cultural tradition. The focus here is on the extent to which shared national or societal cultural values and historical traditions influence the uniformity of personal attitudes and behavioural patterns. Furthermore, apart from working with the concept of organisational culture as a whole, I focus on the ways it is demonstrated, for example, in the shared patterns of reaction. Schwartz and Davis (1981) define organisational culture as “a pattern of beliefs and expectations shared by the organization’s members that create norms that powerfully shape the behaviour of individuals and groups in the organization” (p. 33). I presume that the culture in the public sector is more homogeneous than in the private sector due to the importance of intrinsic motivational factors and public service motivation (Crewson, 1997). According to Perry and Wise (1990), “public service

motivation represents an individual's predisposition to respond to motives grounded primarily or uniquely in public institutions" (p. 6). The examples of PSM's factors are a sense of duty, self-sacrifice or compassion.

The key questions in regard to the cultural shift in public organisations seem to be those proposed by Castells (1996): "Is the relationship to the computer specific enough to connect work, home and entertainment into the same system of symbol processing? Or, on the contrary, does the context determine the perception and uses of the medium?" (p. 361) In other words, will people be able to transfer their patterns of private behaviour in relation to technologies to their work environment? Or will the organisational culture and institutional embeddedness prevail and safeguard the long-established work processes and behaviour patterns?

3.4.3 The role of national culture and institutions

Apart from the influence of culture intrinsic to a specific organisation, it is also particular cultural characteristics of a country as a whole that impact on organisational behaviour and thus on the uptake of electronic government (Hagen, 2000; Wirtz and Daiser, 2018). In the view of Hofstede and Minkov (2010), national culture is value-based and reflected, for example, in the management style of organisations. In Switzerland, where the level of uncertainty avoidance is comparatively high, public administrations should be predisposed to adopting a rather cautious attitude toward revolutionary reforms. Uncertainty causes changes to a decision-making system and to the nature of interactions between organisations and their environment (Johns, 2006). In relation to public administrations, the factor of uncertainty is enhanced by the characteristics of the Swiss institutional system, such as the consensual character of decision-making or direct democracy.

The influence of the national context on the introduction of e-Government is one of the postulates of the present project. Contrary to the teaching of contingency theory, previous research has shown that the ICTs on their own do not change established political contexts. On the contrary, their introduction is guided by the political, cultural or economic characteristics of the given context (Meijer and Zouridis, 2006; Wirtz and Daiser, 2018). For example, in the American presidential system, where the role of political marketing during election campaigns has been comparatively more important than in other countries, the Internet became an important channel for political communication earlier than elsewhere (Hagen, 2000). This observation is also compatible with Van Dijk's models of democracy described in the previous chapter, specifically the competitive democracy type and the corresponding marketing model of digital democracy. Overall, a difference in attitudes to new

technologies can be still remarked between European and North American countries. Whereas in North America new communications technologies were welcomed as technologies of freedom (Hagen, 2000), European countries are more sceptical and cautious in regard to their introduction. Hagen explains these differences on the grounds of diverse institutional settings.

Linder (2010) emphasises the importance of the main institutional features of the Swiss political system for its stability and argues that it is the political culture that makes the Swiss consensual democracy work, rather than the formal design of institutions. “Power-sharing is not just an institutional arrangement, it has to be based on the specific culture of the society that intends to introduce it” (Linder, 2010, pp. xxii). In this statement, one can see a bridge between three of the factors that are used to clarify the research question: organisational culture in the public administration, institutional system and direct democracy. Direct democracy can be considered as one of the institutional regimes that define the Swiss political system. In turn, political culture made possible the emergence of the Swiss institutional system and of the power-sharing government.

The measurement of organisational culture is restricted here to one of its characteristics that is crucial for the uptake of e-Government: innovativeness. The introduction of any major organisational changes necessitates a change of values, attitudes and behaviour of its members. This is no different in the case of e-Government introduction. Values and behaviours are the building blocks of organisational culture and have been long absent from the reform discourse in Swiss public administrations (Giauque and Emery, 2008).

3.5 e-Government as a major public innovation

The concept of organisational innovation constitutes an important part of both the theoretical and analytical frameworks of the present research. The core innovation that is referred to is the digitalisation of public services and citizen participation in public affairs, more broadly it is the use of modern technologies in the public sector. As assessed in the previous chapters, the introduction of e-Government initiatives in the public sector redefines the roles of public actors and of citizens, changes the existing patterns of behaviour and disrupts the existing organisational structures. Due to these effects, it can be considered a major innovating event. The following considerations related to public innovations thus complete the conceptualisation of organisational and institutional changes that was delineated in the previous chapters. The remarks related to public and private innovations are later linked to the previously discussed theories.

The appropriateness of studying e-Government as a public innovation is based on its perception as such in previous studies (Bekkers, 2013; De Vries et al., 2016; Mergel and

Collm, 2010; Potnis, 2010) and on its characteristics that blend with innovation processes in general. The well-known definition of Rogers states that an innovation is “an idea, practice, or object that is perceived as new by an individual or other unit of adoption” (2003, p. 12). Walker (2014) adds that “innovation occurs when new ideas, objects and practices are created, developed or reinvented for the first time in an organization” (p. 23).

In the next subchapters I address in detail different aspects of public innovation such as the particularities that distinguish it from private innovations, the insufficient attention that has been paid to the study of public innovation, the main drivers of and barriers to innovation and the importance of organisational learning for innovation processes. The openness to organisational learning is especially important in the context of public organisations that lack competitive pressures of the private sector. At the same time, the learning processes of public organisations are often hindered by their hierarchy and strict external frameworks. Internal incitations to organisational learning are therefore often the main sources of innovation.

The focal point related to public innovation is here the compatibility between administrative culture and the accompanying effects of innovative processes. The question at hand is whether an administration is internally ready to absorb the side-effects of innovations. Furthermore, the objective is to study the drivers and constraints of innovations in accordance with principal research propositions. Measuring the impact of an innovation is complicated in the public sector as indicators such as profit or revenue are missing. Osborne and Brown (2013) point out an important pitfall of the previous research on innovations; it is the normative consideration of innovations as inherently good. However, this is rarely the case. Innovation processes are usually beneficial for certain people and disadvantageous for others. In the case of technological innovations, it is particularly the necessity to obtain skills necessary to work with them that represents a burden for certain groups of users. This pro-innovation bias has been itself subject of studies (Karch et al., 2016; Rogers et al., 2009). Even though the word “innovation” has primarily positive connotation, most innovations have historically been diffused much slower than presumed (Rogers, 1983).

E-Government does not automatically translate into an innovation. It is rather the possibilities that modern ICTs offer that innovate the functioning of public administrations. Among these effects, one can name the openness and interactivity of electronic communication, mobility of ever-shrinking technological devices and increasingly visual aspect of contributions that concentrate on information-sharing via videos and pictures. In sum, e-Government-based innovations impact on three main spheres of organisational behaviour (Bekkers, 2013):

- relations between the state, citizens and third parties;
- information and communication flows between stakeholders in terms of information-sharing notably;
- quality of technologies (transparency, control, communication, etc.).

These innovative aspects can be used for improving quality of public services and bringing citizens closer to public administrations but also, for example, for increasing political influence (Bekkers, 2013). Typical examples of e-Government innovations that can have these binary effects is the electronic tax declaration or electronic communication between administrations and the public via websites or social networks. In this connection, the crucial questions are the following: What are the frames that are sought? What frames are excluded? And on which factors do these choices depend? Whereas the initial changes in the external environment, such as the increasing importance of technological devices in a society that motivate the implementation of e-Government, are one-sided, the answers to the three questions depend on the preferences and interactions of intra-organisational actors. ICTs can be a powerful resource that has the potential to benefit certain actors and, at the same time, disadvantage others (Bekkers, 2013). Technologies by themselves are not neutral and what innovative aspects of e-Government emerge in given contexts depends on complex personal, socio-economic and political factors.

When undertaking an innovation, public administrations have to conciliate the so-called discontinuous and steady states (Tidd and Bessant, 2005). The steady state is necessary for public authorities to secure their legal and institutional roles. The discontinuity is mostly caused by the ever-changing external environment and can be triggered by a radical technological innovation. In this regard, reactions to a source of discontinuity should be adequate and responsive, the effect of discontinuity should not be underestimated. It can be said that the arrival of information and communication technologies is the third frontier, the first two being industrial revolution and mass production. The Internet has been the most rapidly diffused technological innovation ever (Rogers, 2003) and the modern ICTs represent a significant source of discontinuity (Tidd and Bessant, 2005).

In this connection, Benveniste (1994) discusses the so-called “articulation errors” that are defined as “the partial or total lack of fit between what is wanted and what is available” (p. 74). This issue might also be at the source of a comparatively less apparent fit between innovations and public administrations. In fact, it is difficult for public organisations to combine innovation and continuity. In Castells’ view (1996), the most important obstacle to

making organisations more flexible is the embedded organisational culture, the most important element of which resides in the mind-set of organisation's members. In strongly bureaucratised, hierarchical organisations, the trap might consist in the continuing reproduction of institutionalised patterns, which becomes an end in itself.

3.5.1 Distinction between private and public innovations

The concept of public innovation perceived separately from private innovations dates back to the 1960s (Kattel et al., 2013). Until this period, public innovations were not considered different from the private ones. In fact, innovations in the public sector have been often regarded as suspicious and undue (Bernier and Hafsi, 2007). Values such as accountability, stability and continuity, which have traditionally been associated with public administrations, do not match the images of innovative, creative visionaries that revolutionise the way we see the world. One of the most important qualities of an innovator is the ability to accept risks and take responsibility for the consequences of his or her decisions. However, these attributes are often not welcome in the public sector. It is rather the principles such as social responsibility and public interest that are supposed to guide public actors' actions. Public administrations have been long considered as monopolistic, bureaucratic, inefficient and unable to respond to new challenges (Bloch and Bugge, 2013; Downs, 1969; Niskanen, 1971). However, public administrators do realise the necessity to reform their functioning to avoid becoming outdated in the present-day society. The ways of making public administrations more modern differ significantly across and within countries, and so does resistance to the implementation of reforms. In this regard, the crucial point is to discover the causal mechanism that translates signals from knowledge and innovation into real political reforms (Braun, 2008).

The concept of public innovation has gained in importance over the last several years. One of the main limits of its more precise delimitation is the lacking measurement framework and the related lack of common understanding of what a public innovation actually is. Innovation in the public sector tends to be defined in more general and less technical terms than in the private sector (Bloch and Bugge, 2013). Generalising between public and private innovations proved to be imprecise due to differences in environments in which organisations in both sectors operate. The public sector is typical of low levels of competition and absence of market pressures for more profitability. Therefore, innovation pressures are a priori not as prominent as in the private sector (Bekkers et al., 2006). It is likely that non-profit organisations focus rather on the reduction of costs and improvement in quality of services than on the size of market share (Tidd and Bessant, 2005). Additionally, public organisations have to face environmental constraints related to legal, institutional, economic and political

frameworks. These frameworks demand the respect of different rationalities that are not always compatible. Whereas the legal environment emphasises the importance of the rule of law, the economic environment focuses on the optimal cost-benefit allocation (Bekkers et al., 2006). The latter act not only as constraints, but also as enablers of innovations and changes that are produced in the course of innovation processes. Broadly, an innovation is in both sectors still defined in terms of “changes that are new to the organization and that are large and durable enough” (Kattel et al., 2013, p. 4). In their review of public innovation definitions, Kattel et al. (2013) map their development since the late 1990s until today. The most important point to retain is that the definition has over time become more precise and related specifically to the public sector.

3.5.2 Innovation drivers and barriers

Following the review of literature that studied the impact of different factors on the introduction of e-Government that is discussed in the chapter 1.5, I add here examples of frameworks developed by authors who focused on the antecedents of public innovation. As was determined previously and is further discussed in the following chapters, e-Government fulfils the definition of a major innovation in regard to public administrations as organisations.

In their review of research on public innovation, De Vries et al. (2016) perceived an innovation process as “the result of complex interactions between intra-organizational antecedents, resources and actors and external, environmental antecedents, resources and actors” (p. 147). These interactions can be explained in terms of barriers to and drivers of innovation. When admitting the impact of both external and internal elements on innovation processes, it is necessary to have these two sides of the innovation coin reflected in the analysis. De Vries et al. (2016) divide the studies involved in their literature review into four categories of antecedents: 1) environmental (such as political mandate (see Bloch and Bugge, 2013), legislation (see Rogers, 1983)); 2) organizational (organizational structure and culture, resources, size, capacity, talented employees, kind of leadership, risk aversion); 3) related to innovation (intrinsic characteristics of an innovation, role of individuals who are able to break the risk-averse culture) and 4) individual (characteristics of individuals).

The three authors observe that only the minority of studies have been concerned with technological process innovations, such as e-Government and redesign, and most have studied administrative process innovations, which aim to increase efficiency and effectiveness of administrations (De Vries et al., 2016). They find that the objective of increasing efficiency and effectiveness is the most important public innovation trigger. Increasing customer

satisfaction and involving citizens is considered much less important (De Vries et al., 2016). The empowerment of citizens regarding their participation in policy-making that e-Participation promotes can be considered a social innovation. Its socially innovative character consists in changes to the relations of authority that it triggers (Kattel et al., 2013).

The heuristic framework (Fig. 8) that is depicted below resumes the categories of variables that De Vries et al. (2016) identified.

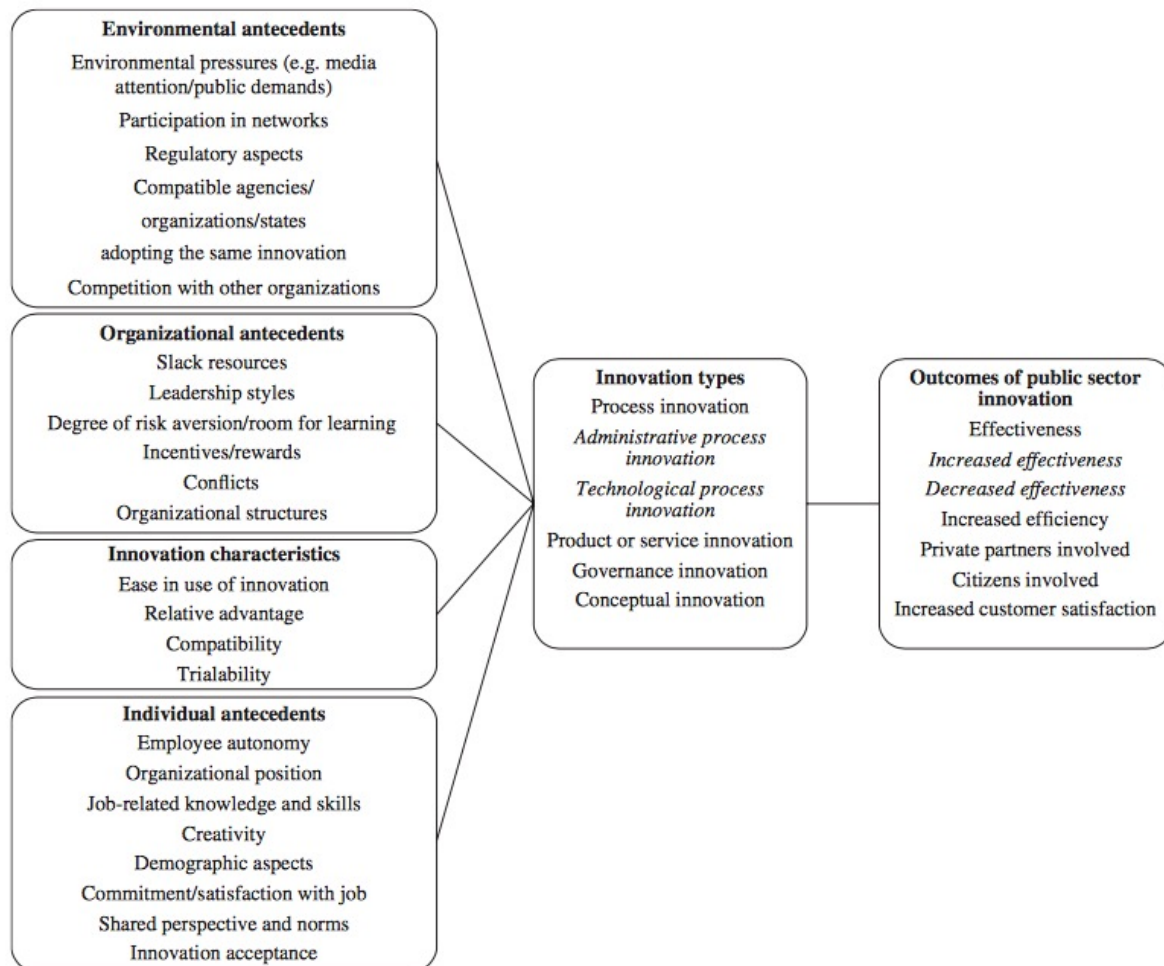


Fig. 8 Heuristic framework of public sector innovation (De Vries et al., 2016).

Kattel et al. (2013) enumerate analogical categories of innovation drivers and add the importance of political forces, such as new policy priorities, for public innovation. Political ambition is defined as one of the main public innovation drivers also by a report funded by the European Commission, together with public demand and tightening resources (Leon et al., 2012). Walker (2014) divides the factors impacting on organisation's innovative capacity into two groups: internal and external. The most important internal antecedents that influence the capacity to innovate are organisational size and administrative capacity. The administrative capacity is defined as a number of managers within the organisation. The higher the ratio of

managers to employees, the more positive attitude to innovations the organisation adopts. The external antecedents that influence the likelihood of organisational innovation are needs, wealth and urbanization. The factor “needs” refers to demands for a certain innovation emanating from the public. Urbanisation is important because the likelihood of innovation occurrence is higher in urban areas where the population is concentrated in a smaller space and therefore is easily reachable. The importance of each factor, or each antecedent, differs in relation to the type of innovation in question. For some innovations, certain factors are evidently more important than others. For example, a positive correlation between wealth and innovation is particularly important for technological innovations such as e-Government and e-Participation that are accompanied by sizeable investments in IT hardware and software (Walker, 2014). Walker observes that the two internal antecedents are more important for organisation’s innovation capacity than the external ones. This finding supports the propositions of the present research that emphasise the importance of organisational culture and organisation’s members’ attitudes for the introduction of e-Government. The effect of different factors that influence the introduction of innovations varies in the initiation and implementation phases. To give an example, centralized and formalized organisations are less likely to initiate innovations, but when they do, the implementation is faster and easier than in decentralized organisations.

Innobarometer reports published by the European Commission offer interesting input on the practical progress of innovation in public administrations. The findings show that organisational innovativeness increases with organisational size and that new laws, regulations, political mandate and budgetary cuts are the most important drivers of public innovation in Europe. The most common barriers to innovation are the lack of sufficient human or financial resources, regulatory requirements, lack of management support, staff resistance and risk-averse culture (The Gallup Organization, 2011).

The organisational antecedents identified by Walker (2014) are comparable with external environment contingencies such as understood by the contingency theory. According to this theory, the objective of every organisation is to find the perfect “fit” between its structures and contingencies that impact on its functioning. Innovation is a means of achieving the fit (Walker, 2014). When applying this theory to the introduction of technologies, it can be said that e-Government and e-Participation are innovations that seek to create the organisational fit with the phenomena of present-day society, which constitutes its external environment.

An approach that does not distinguish between public and private nature of innovation is propagated by Verdegem and De Marez (2011) and Emmert (2016). In the view of the former,

the likelihood of innovation acceptance depends on three most important groups of factors: marketing strategy, innovation-related characteristics and adopter-related characteristics (Verdegem and De Marez, 2011). Emmert (2016) claims that factors such as leadership, culture and focus are crucial in the process of innovation. “The key is an environment that will tolerate error and experimentation, certainly not hallmarks of public organizations” (Emmert, 2016, p. 214). The process of innovation demands, on the one hand, a hierarchy that would assure its good organization and attainment of pre-defined goals, and on the other, flexibility, creativity and autonomy (Loilier and Tellier, 2005). It is in regard to this second condition where public administrations seem to have most difficulties. In fact, innovations demand a careful balance between facilitation and control (Kubina-Boileau, 2005).

The understanding of e-Government as a major innovative event would not be complete without defining which type of innovation e-Government initiatives represent. It is important to typify the innovation to be able to later manage resistance and identify its drivers. In their handbook of public innovation, Osborne and Brown (2013) consider the most important innovation types to be the following: radical, architectural, incremental and product or service development innovations. Radical innovations are rather rare as they transform the whole production paradigm. Architectural innovations do not change production paradigm but alter organisational skills and competencies in order for them to conform to changed market needs. Incremental innovations are the most pertinent ones for the present research. They translate into innovations that may be substantial but are implemented over longer periods of time. The product or service type of innovation uses existing skills but can involve an important dose of organisational learning. It does not, however, change the production paradigm.

Yet another important typology is offered by Tidd and Bessant (2005) who, however, do not strictly distinguish between public and private innovations. In their view, the four core types of innovations are the following: product innovation, process innovation, position innovation and paradigm innovation. Whereas product innovations change the nature of products offered by the organisation, process innovations change the ways in which these are delivered. Position innovations cause changes to the context in which products and services are provided and paradigm innovations redefine mental models that relate to the activities of the organisation (Tidd and Bessant, 2005). E-Government can be described, at the same time, as a product innovation, a process innovation and a paradigm innovation. It can be understood as the introduction of new products, such as the tools enabling citizen participation in public policy-making. It can, however, also be understood as the digitalisation of already existing services with the objective of making their delivery more efficient. In this last case, e-

Government falls under the scope of technological process innovations and modifies organisational rules, procedures, structures and relations between organisational members (Walker, 2014). The paradigm change effect comes into play with the empowerment of citizens that electronic government and participation entail.

The above-discussed public innovation frameworks represent a number of parallels with the inventory of e-Government influential factors developed in the chapter 1.5. The parallels can be found principal on the organisational level of analysis. The culture that public administrations need to promote to be able to introduce e-Government seems to be the same one that favours the uptake of public innovations. Furthermore, both types of frameworks accentuate the importance of legal regulatory aspects, slack resources and leadership styles. The specific characteristics of an innovation and the importance of digital skills for the uptake of e-Government are in the De Vries et al.'s (2016) framework resumed under "ease in use of innovation" and "relative advantage". The political support that belongs to e-Government antecedents is identified as an influential factors in the process of public innovation by Kattel et al. (2013).

3.5.3 The importance of believing in an innovation

The transition of computers from data-handling devices to communication tools is underlined by six crucial factors; vision, adequate resources, innovation champions, timing and the role of communication scholars (Rogers and Malhotra, 2000). The importance of vision consists principally in the capability of individuals to predict and enforce future successful developments of the given technology. If it were not for visionary ideas, computers may have continued to serve uniquely data-handling and scientific purposes. "Visions are road maps for the future, and when stated by credible individuals at an ideal time, they can have great impact" (Rogers and Malhotra, 2000, p. 25).

Closely connected to the innovative vision is the presence of innovation champions. Innovation champions are individuals who are able to stir interest and enthusiasm of other people in the innovation and, at the same time, manage to overcome resistance (Rogers and Malhotra, 2000). The presence of vision and of an innovation champion constitutes, in the view of the present research, a crucially important factor for the introduction of electronic government. The redefinition of interactions between citizens and public administrations that electronic channels cause by empowering citizens is supposed to produce significant resistance since it challenges traditional working patterns and even the organisational culture. In a more pessimistic view of civil servants' culture, it can be said that because the main motivation of policy-makers is vote- and office-seeking, they decide to reform their

organisation only when the latter is likely to bring them electoral gains (Braun, 2008). The presence of influential innovation champions can therefore often mean the difference between implementation and abandonment of an idea (Heeks and Davies, 1999). One of the aspects that are to be studied in the empirical part of the analysis is whether innovation champions are present in Swiss public administrations. More precisely, the objective is to identify whether an important individual or even a certain office played the role of innovation leader and led to the introduction of similar initiatives. From the point of view of organisational culture, the role of innovation leaders is crucial in creating a culture that would translate their ideas into durable beliefs inherent to the organisation.

3.5.4 Innovation management as a process of organizational learning

The concept of organizational learning, or of a learning organization is at the heart of organizational innovation. To be able to introduce major innovations and reforms, public organisations have to adopt a learning approach that would manage resistance toward new initiatives (Politt and Bouckaert, 2004). It is often the organizational culture and social structures that represent the most important challenges for the instalment of a learning organization. The philosophy or culture of learning should be inherent to every organization. The innovation process itself has to be supported from the top, but also has to be accompanied by individual learning processes at lower levels (Kubina-Boileau, 2005). Two important points that arise from the paper of Daglio et al. (2014) in regard to public innovations are the public value creation that innovations trigger and the capacity of an organisation to become a learning organisation with proper knowledge management.

The management of every innovation is marked by tension between changes to organisational structures caused by the innovation on the one hand and organisational legitimacy, which is often strongly connected to its tradition and legacy, on the other. Following the literature review conducted in the first chapter, it is evident that similar tensions between organisational culture and the effects of e-Government functionalities have been emblematic in the process of public administration digitalisation. Innovations usually have positive connotations, they are considered as something good and necessary to the development of organisation. General opposition to innovations is usually low. However, when an innovation becomes more concrete, the arguments against and in its favour are also more numerous and precise. Every innovation is accompanied, at the same time, by the acts of creation and destruction. In order for a new system to emerge, the old one has to be disrupted and rebuilt (Alter, 2000). To paraphrase Schumpeter, an innovation is a process of creative destruction (Schumpeter, 1942). The underlying explication for this metaphor is the continuous necessity to innovate

due to the fact that every new successful innovation is sooner or later adopted by other organisations from the field and the necessity to come up with a new innovation that would again provide the original organisation with a competitive edge appears again and again (Tidd and Bessant, 2005). Additionally, innovations destruct existing social norms that, on the one hand, justify patterns of behaviour but, on the other, encourage routines, rigidities and incapacities to assimilate to new situations.

Alter (2000) considers the management of innovations as a perpetual process and associates it directly with the study of organisations. Due to new trends in the present-day society, particularly the pressures for more responsiveness, flexibility and efficiency, people's lives have become faster and less predictable. For these reasons, the openness to innovations, and, in general, to change, gains significantly in importance. In a rapidly changing environment, resistance to innovation becomes futile. No number of rules or procedures is able to secure the continuity of an organisation. In this sense, the act of innovating causes a clash in that it supposes that actors accept constant uncertainty. However, the very idea of an organisational existence is based on the ability to reduce uncertainty. It is not just the individual aspect of organisational functioning that is impacted on by the innovation, but the organisation as a whole. The effect of an innovation on organisational performance depends both on organisational and structural determinants (Alter, 2000). These reflections, although to a different degree, apply also to organisations in the public sector. Just as their private homologues, public institutions cannot permanently ignore major changes in their external environment as such strategies may lead them to become discredited and outdated.

Because innovations disrupt organisational identity and cause uncertainty, I suppose that they are easier to implement if their nature is, at least partly, based on the previous characteristics of the organisation and compatible with the existing organisational culture. Furthermore, it is likely that technological innovations are more readily accepted in public administrations if they are introduced incrementally. In this way, it is easier to integrate them in the organisational identity and their positive and negative effects are dealt with in their own time. Uncertainty relative to an innovation is thus reduced and commitment increases. Technological innovations cause a double effect in regard to uncertainty. On the one hand, they create uncertainty in that all of their consequences cannot be known in advance. On the other hand, they reduce uncertainty in that they potentially provide its adopters with a wider information base (Rogers, 1983). When introduced radically, tensions between "old" and "new" system produced by the innovation are more difficult to overcome (Tidd and Bessant, 2005). If certain norms that are introduced by the new invention did not exist in the

organisation before, it is difficult for organisation's members to suddenly fully profit from them since they do not constitute part of their values.

3.5.5 Contradictory mission of public administrations

Questions related to the management of innovation seem to have in the organization studies replaced topics relative to organisational rules or modes of operation. The capacity to deal, in an innovative way, with emerging challenges and issues is more valuable than the ability to follow predefined procedures (Alter, 2000). A number of studies confirm that public organisations are more cautious and inflexible when it comes to innovations. This is in part due to the impossibility of reliably quantifying the impact of public innovations and in part to the different mission of public administrations, which causes public decisions to have greater symbolic significance and wider impact than private decisions (Rainey et al., 1976). When an innovation occurs in the public sector, it is often preceded by unexpected external changes or by a catastrophe. One of the most well-known examples of such an innovative policy is the New Deal, which was introduced in the United States as a response to the great financial crisis of the 1930s.

Abandoning the “way things have always worked around here” is more difficult in public than in private organisations for several reasons that relate directly to the functioning of organisations. First of all, in the public sector, organisations usually do not strive to reduce their budget or to be economically efficient. The augmentation of budget is not necessarily negative and can be translated into a successful implementation of a policy. In the public sector, it is not desirable to discontinue any activities even if these are not economically rational since this might signal a failure of the given service. Secondly, the purpose of public administration is to provide services in a non-discriminatory way to everybody. Consequently, even if an activity is not profitable, it cannot be so easily discontinued. Thirdly, public administrations tend to see their mission as a vocation, defined in moral rather than in economic terms. The analysis of costs and benefits that is crucial for activities in the private sector is not decisive in the public sector. Objectives of public institutions are often considered as moral and absolute, in contradiction to private companies' goals that are economic and relative (Drucker, 1985).

Public administrations strive to “maximise” rather than to “optimise”. Organisational goals in the public sector tend to be defined in broad terms and aimed at the suppression of a negative phenomenon, such as the eradication of poverty, instead of more attainable, concrete goals, such as decreasing the rate of poor people by X percent. Objectives defined in maximum terms can hardly ever be attained. Additionally, once the optimal level of an indicator is

achieved, additional costs of attaining its maximum value increase exponentially and results decrease accordingly. Therefore, the more the institutions try to achieve their mission, the more frustrating the process becomes. At this point, every innovation attempt aimed at escaping the state of frustration is considered as an attack against the primary mission, organisational values and principles. Consequently, when an innovation occurs, it is more likely to be in the form of a new project than in the form of a change to established institutional procedures. To improve the innovation management capacities, organisations have to define their objectives in realistic and precise manner, in terms that would target optimisation and not maximisation of indicators. The establishment of organisational culture that would promote continuous effort of searching for innovation possibilities in the framework of different policies and programmes is another, although more long-term prerequisite for the emergence of more entrepreneurial functioning of public organisations. The most important threat that public administrations face if they do not react to societal, technological or demographic changes is becoming obsolete and unnecessary, paralysed by structures that are no longer relevant, being considered redundant and incapable to accomplish their mission (Drucker, 1985).

3.5.6 Impact of the Swiss institutional context on public innovation

The compatibility of an innovation with the given social order is an important condition of its success (Alter, 2000; Rogers, 1983). In the Swiss institutional climate with the prominent importance of the cantonal autonomy, the diffusion of innovations coming from the federal level of government is not easy to achieve. In fact, the traditional mistrust of cantons toward the federal government represents an obstacle to innovations coming from the federal level. Linder (2010) cites an example of the energy policy reform passed by the federal parliament that took almost thirty years to be accepted by the cantons. Due to the necessity of the double “yes” in referenda on constitutional amendments when the majority of people’s votes and the majority of cantons have to be in favour of the proposed constitutional amendment, laws or innovations initiated on the federal level face the opposition of cantons. This logic can be applied also to the introduction of e-Government and e-Participation. Even though the national plan for e-Government introduction exists in Switzerland, its uptake is very fragmented and happens in a rather autonomous manner on the cantonal and municipal levels. Due to the principle of executive federalism, it is up to the cantons to implement federal policies. The process can be slowed down due to the insufficiency of resources on the cantonal level (Kriesi and Trechsel, 2008).

Braun (2008) states that encompassing innovation policies necessitate policy and administrative coordination, as well as agreements on the objectives and purpose of the reform. Diverse organisational cultures, work routines and interests that are present in different public organisations constituting country's administrative structures have to be reconciled. Braun (2008) claims that such an encompassing policy can only emerge as a consequence of incremental reforms that improve, or at least stabilise the starting situation of different organisations. The creation of a new organ that oversees the implementation of reforms sends a signal that the government is serious about the process and is committed to the change. These observations seem to be related to the state of e-Government development in Switzerland. Due to the nature of Swiss federalism, a coherent, encompassing policy that would prescribe the implementation of a certain e-Government functionality on all governmental levels seems to be illusory. An organ that would send a strong signal that the government is committed to implementing e-Government in accordance with the Swiss e-Government Strategy is, likewise, missing. Even though the association "e-Government Suisse" was created precisely with the goal of overseeing the implementation of the e-Government Strategy, the nudge- and incentive-focused coordination of projects between federal and cantonal levels of government does not send a strong enough signal from the political centre.

Due to the strong institutional embeddedness of Swiss public administrations, public organisations should focus rather on learning processes of involved actors than on the reorganisation of institutions (Schenkel and Serdült, 2004). If the local social system is not open to change, opinion leaders will be not likely to undertake innovations (Rogers, 1983). Rogers (1983) would classify the Swiss context of public innovations as a decentralized system in which "potential adopters are solely responsible for the self-management of the diffusion of innovations" (p. 7). In such a situation, Rogers et al. (2009) recommend that the diffusion of innovations should take more often into account the own wisdom and experience of units that diffuse innovations. As such, innovations are more likely to be "owned" by adopters and culturally compatible. In Rogers' (1983) view, there are three fundamental types of innovation decisions:

- 1) Optional-innovation decisions that consist in the rejection or acceptance of an innovation by an individual separately from other members of an organisation.
- 2) Collective-innovation decisions that consist in the rejection or acceptance of an innovation by all members of an organisation collectively.

3) Authority-innovation decisions that consist in the rejection or acceptance decision made by an individual or a few individuals that have a special status or are in a position of power in an organisation.

Authority-innovation decisions generally lead to fastest adoption rates. However, they are also most likely to be circumvented in the process of implementation (Rogers, 1983). The imposition of the way in which an innovation is diffused is likely to be met with resistance that will be difficult to surmount (Rogers et al., 2009). A parallel with the current system of e-Government diffusion in Switzerland is at hand. e-Government in Switzerland progresses rather locally, in a way that is shaped by local conditions and needs. Whereas such a system probably increases the acceptance of e-Government, it also causes delays and complications in areas where common national solutions would be more rational and profitable for local administrations. However, an authority-innovation decision would be neither possible nor acceptable in the Swiss context.

3.6 Research questions and propositions

The research problem that guides the present project evolves around the question of e-Government development in Switzerland. The overarching objective is the study of drivers of and barriers to e-Government from the point of view of public officials who are the main actors responsible for the development and implementation of e-Government projects. For this reason, the collected data reflects principally the perceptions of public officials related to the introduction of e-Government. Building on the previous chapters in which I provided an overview of literature related to the study of e-Government and e-Participation and the theoretical concepts explaining the process of organisational continuity and change that are addressed in this chapter, I link in this place the previously identified influential factors with the proposed theoretical framework. A new layer is thus added to the proposed research design. Further, I provide the reader with precise research questions and propositions related to the study of e-Government development in the Swiss context.

The development of e-Government has been largely heterogeneous across different countries and has come short of expectations (Arduini and Zanfei, 2014; Zhang et al., 2014). The differences in e-Government development between different countries persist even though their projects often resemble each other. Meijer and Zouridis (2006) argue that this state of affairs can be explained by the fact that the e-Government leaders might have got “stuck” after completing the “easy” part of e-Government and further progress stagnates. The more complicated parts of e-Government refer to the modalities of projects that require the reengineering of organisational processes, improved coordination and cooperation between

departments and to digital democracy. The two authors present Switzerland as an example of a country that had in the past followed this trajectory.

The choice of the Swiss case study is based on the discrepancy between the state of e-Government development in Switzerland that has stagnated for years and the potential for this type of public innovation measured by the levels of technology proliferation and citizen participation that are typical for the Swiss context. Over 89 percent of individuals in Switzerland identify themselves as Internet users (UN, 2018) and the number of referenda and popular initiatives that the Swiss get to vote on every year is several fold higher than in all the other countries in the world combined (Serdült, 2007). The gap is more obvious in the dimension of e-Government that relates to citizen participation than in the one related to the provision of electronic public services. Even though the country's position in international rankings have improved over the last years in regard to both dimensions (UN, 2018), the 41st position of Switzerland in the e-Participation index hardly corresponds to its level of offline citizen participation. My original supposition was that the importance of citizen participation in the Swiss political system would lead to the country being a comparatively fast adopter of e-Participation. However, the Swiss direct democracy has not acted as a catalyst for online citizen participation. As Linder (2004b) admits, the culture of direct democracy “has not enhanced democratic ideals outside the realm of political institutions (p. 117).”

At the time of the beginning of this project, Switzerland occupied the 30th position of UN's e-Government ranking (UN, 2014), which represented a fifteen-place slump since the publication of the previous survey two years before (UN, 2012). In the e-Participation index, Switzerland was ranked 91st at the time (UN, 2014). The position of Switzerland in the ranking of world e-Participation leaders worsened between the years 2012 and 2016. Whereas in 2012, Switzerland occupied the 47th place in the ranking (UN, 2012), in 2016, it was in the 72nd position. Over the last two years, the ranking of Switzerland in regard to both indicators has improved. The UN's e-Government development index places Switzerland in the 15th position on the worldwide scoreboard (UN, 2018), which represents a thirteen-place leap in comparison with the 2016 ranking (UN, 2016). In regard to e-Participation, Switzerland belongs to the countries that have advanced thirty and more positions in their e-Participation ranking (UN, 2018). The newest report places it in the 41st position. Even though this shift constitutes a considerable improvement, it is significantly lower than the country's ranking in the e-Government development index.

United Nations' surveys on e-Government that are published every two years belong to the most prominent measurements of e-Government and e-Participation progress in different

countries. Even though the construction methods of their e-Government and e-Participation indexes have certain shortcomings, the surveys provide a good overview of the readiness of respective countries to implement e-Government. An important shortcoming of the indexes is their focus on the evaluation of national websites, which, in the Swiss case, do not always represent the faithful image of the overall situation. The e-Government website that is evaluated by the UN surveys is principally the ch.ch platform, which was supposed to serve as an integrated portal for public services from different governmental levels. However, this objective has not been achieved and the site still serves as a signpost redirecting users to other cantonal or municipal websites.

Apart from the UN's e-Government and e-Participation rankings, an important discrepancy in innovativeness between the Swiss private and public sector has been indicated also by the World Economic Forum in their Global Information Technology Report (Baller et al., 2016). Whereas Switzerland is the world leader in the capacity for business innovation, it is ranked 64th in the Government Online Service Index and 22nd in ICT use and government efficiency.

The development of e-Government is here conceptualised as a phenomenon composed of two principal dimensions: electronic provision of public services and electronic citizen participation (e-Participation and e-Democracy). This distinction has been previously often used in the literature and considers electronic participation as the next stage of information and communication technologies' use in the public sector (Alathur et al., 2016; Conroy and Evans-Cowley, 2006; Feeney and Welch, 2012). In the framework of this research, I consider e-Participation as a complement to existing citizen participation and not as its replacement due to the impossibility to abolish traditional participation channels without risking to discriminate between different groups of users (Brown and Toze, 2017). Furthermore, I study principally top-down e-Participation initiatives because political support and institutionalisation have proven to be important indicators of e-Participation success (Panopoulou et al., 2010).

The approach to the research problem that I apply in this project has been rare in the field of e-Government in general and is, to date, unique in the Swiss context. The study of e-Government development in Switzerland has been in the past approached mostly from the points of view of computer and political sciences. Computer scientists have studied it with the objective of developing technologies that would respond to specific demands. Researchers from the fields of political science and public administration have often limited their studies to specific aspects related to particular e-Government initiatives (Mergel and Collm, 2010). The study of e-Voting has been particularly popular in the fields of political science and

public administration (Chevallier et al., 2006; Serdült et al., 2015a, 2015b). The present research represents one of rare academic attempts to study the question of e-Government introduction in Switzerland in a global manner while taking into account different contextual logics.

Due to the lack of previous research in the Swiss context, available data is, likewise, scarce. This situation is in stark contrast to the ongoing research in other countries; the number of studies on e-Government and particularly on e-Participation has increased considerably over the last decade. The questions that suggest themselves in this connection follow: Why has e-Government in Switzerland been not studied more? Does this state of affairs indicate that the question of e-Government development is not pertinent in Switzerland? Democratic innovations falling under the scope of e-Participation and e-Democracy have been considered a remedy to the crisis of democracy. Even though the main symptoms of this crisis have so far bypassed Switzerland, mainly due to the nature of its political and institutional systems, I suppose that online citizen participation could fix certain shortcomings of Swiss direct democracy that are further detailed.

The introduction of e-Government has been in the literature often analysed from the point of view of citizens; specifically, in regard to their trust in new technologies and the reciprocal influence of technologies on the trust in government (Carter and Bélanger, 2004; Tolbert and Mossberger 2006; Warkentin et al., 2002; West, 2004). In this connection, the main issue has been how to increase the acceptance of envisaged or already implemented instruments. The point of view of public administrations has been addressed comparatively less often and most factors that have been tested were related to the characteristics of projects and territories (Wirtz et al., 2017). Previous studies have mostly addressed, in a separate manner, technological, organisational or environmental aspects of e-Government projects. In their article studying the drivers of and barriers to e-Government in the context of German public administration, Wirtz et al. (2017) observe that an integrated approach to the study of these factors has been lacking. The present research attempts to fill this gap.

It is evident that the potential of Swiss public administrations to develop e-Government is comparatively very high and that the progress and current state of e-Government does not correspond to it. As a consequence, I propose the following research question that guides the present project:

- *What are the perceived drivers of and barriers to e-Government development in Switzerland?*

And the following complementary research questions:

- *Why does the introduction of online citizen participation progress slower than the introduction of electronic public services?*
- *How are factors that impact on the introduction of online citizen participation different from those that impact on the introduction of electronic public services?*

The reason why the main research question addresses perceptions related to e-Government development and not the objective drivers and barriers can be explained by the choice of public employees as units of analysis. As a consequence, the findings cannot be considered completely objectively as they, at least to some extent, reflect on the personal perceptions of and attitudes to e-Government.

Based on the theoretical concepts that were addressed in this chapter, findings from the previously conducted literature review and characteristics of the Swiss political and institutional system, I formulate the following research propositions related to the explanation of the state of e-Government development in Switzerland.

INDIVIDUAL LEVEL OF ANALYSIS

- The attachment of organisation's members to institutionalised actions is, in the view of the social construction of reality (Berger and Luckmann, 1967), measured by the depth of institutionalisation and by the environment in which the actors were previously socialised. Because the duration of institutionalisation is supposed to impact on the intensity of the embeddedness of institutionalised actions such as manifested by its members, I suppose that younger generations are overall more likely to perceive positive rather than negative effects of e-Government-related innovations. Because the younger generations show less attachment to institutions that were often created before the beginning of their life span, I suppose that the link to institutionalised actions becomes progressively weaker. As a consequence, younger actors are less attached to the "way things are done".
- Apart from the generational cleavage, the propensity of particular actors to favour e-Government seems to be related also to their previous socialisation environments. Particularly people who have been professionally socialised in private companies are likely to be comparatively less bound by public institutions and more likely to undertake uninstitutionalised actions. The external environment of private and public organisations is very different in regard to pressures for change that it exercises. Due

to the presence of competitive pressures in the private sector, the institutionalisation of actions should be comparatively weaker in private organisations. In the public sector, however, institutionalised actions develop in an undisturbed manner over long periods of time, become strongly embedded in organisations and the options for their alteration are limited. The actions of private organisations' actors are thus much less path dependent than those of public organisations' actors. Furthermore, because pressures for change coming from the external environment are in the public sector comparatively weaker, the main impulse for reforms has to come from the internal environment. As a consequence, the role of leadership and personal support of innovations may be more important in public than in private organisations.

- Even in situations when changes in the external environment would incite public organisations to innovate, the latter have more leeway in responding to these external changes than their private counterparts. Typically, the changes in external contingencies that would, in accordance with the contingency theory, pressure organisations to adjust their performance to preserve their competitive position in the market, do not have the same effect in the public sector. Public organisations can, to a certain extent, choose whether and when they react to the changes in external contingencies. An example of such a contingency is typically a technological change that the arrival of e-Government implies. As opposed to private companies that are usually reactive in regard to the implementation of more performant technologies, their uptake is less urgent in public organisations. This urgency is further attenuated by the comparatively stronger institutionalisation of the existing work procedures. The previously discussed Child's strategic choice theory may therefore apply better to public than to private organisations.

Research proposition (RP) 1: *Public officials who are younger and/or have experiences from private companies are less affected by internal constraints imposed by public organisations. In other words, their institutionalisation in the organisation is comparatively weaker and therefore they are more open to innovation.*

- Based on the previous and with reference to the theories of organisational culture and studies on the uptake of organisational innovation, I suppose that the success of e-Government projects is conditioned by the presence of organisation's members who are able to convey their benefits to their peers and thus convince them of their utility. I suppose that the importance of innovation leaders is greater in public than private organisations because of their leeway in responding to external pressures for change.

RP 2: *The presence of innovative members conditions the successful uptake of e-Government projects in an organisation.*

- The impact of political support or mandate for certain reforms can be assimilated to the impact of an external contingency factor. However, political support seems to be one of few contingencies that public organisations are highly reactive to. The division of roles between the political centre and public administration implies that public employees are servants of the government and as such are supposed to focus on the fulfilment of its policy priorities.

RP 3: *Political support is an important driver of e-Government-related innovations.*

- The question of digital skills that condition the readiness of public employees to work with e-Government systems is related to the previously discussed generational cleavage. It seems that the attitude of younger generations toward ICTs is less cautious and more confident than is the case in older generations. The role of different ICTs in people's lives have changed considerably over the last several decades, even to the point that some of these technologies have become our everyday companions. However, differences in the use of technologies between younger and older generations are palpable. The use of technologies may be in this connection translated in terms of the institutionalised actions. Whereas younger generations have grown up interacting with different ICTs and cannot often imagine their lives without them, the institutionalisation of technology use in older generations was shorter and more gradual. At the same time, younger and more digitally skilful actors do not understand the attachment to established organisational routines in the light of technological innovations that enhance organisational performance. The inter-generational shift in perception might even cause the younger generations to not to perceive e-Government as an innovation at all, but rather as a logical development. Thus, whereas their actions related to the use of technologies are more institutionalised than in the case of older and less digitally skilful actors, the attachment to institutionalised actions performed by the organisation is weaker in the case of the younger and the more digitally skilful.
- The impact of different "social constructions of reality" may therefore be also applicable in relation to the digital skills of different actors. I suppose that the real or perceived lack of their digital skills causes public employees to be cautious of e-Government-related changes. Additionally, I suppose that the actors who perceive their technological skills as insufficient are more likely to accentuate the negative

sides of e-Government. The inevitable subjectivity of innovations could therefore be partly explained by objective disparities in competencies. This observation is valid also when considering the ultimate goal of organisations behaving in accordance with the teaching of contingency theory: attainment of fit between an organisation and its environment. Organisation's assimilation to external (technological) changes that are compatible with the competencies (digital skills) of organisation's members leads to the attainment of a better fit (Lorsch and Morse, 1974). If a technological change is adopted and organisation's members do not yet dispose of sufficient competencies, the attainment of fit is more time- and resource-consuming.

RP 4: *The perceived insufficiency of their digital skills causes public employees to oppose e-Government.*

ORGANISATIONAL LEVEL OF ANALYSIS

- Theoretical arguments related to the impact of organisational factors on the uptake of e-Government projects are to a certain extent identical to those applicable on the individual level of analysis. The path dependency of organisations, lesser importance of external pressures and attachment to institutionalised actions cause innovation projects to stall also in relation to the organisational level of analysis. In accordance with the teachings of neo-institutionalist and constructivist theories, I suppose that the gap between private and public innovativeness in Switzerland can be explained by the comparatively stronger institutional embeddedness of Swiss public organisations that narrows their possibilities to “think out of the box” and undertake innovative e-Government projects. Because the digitalisation of existing processes often requires their reengineering, the required change to working processes in an organisation may be substantial. I further suppose that the institutionalisation of procedures and processes is comparatively stronger in Switzerland than in other countries. The gap between the ranking of Switzerland in international e-Government comparison and the innovativeness of the Swiss private sector is larger than elsewhere. I suppose that the impact of institutionalisation of Swiss public organisations on their innovativeness is palpable on two levels. Firstly, on the level of organisational culture that rewards conformity rather than innovation. As a consequence, the promoters of e-Government technologies risk to encounter strong resistance in the process. Secondly, on the level of institutional constraints that are related principally to legal frameworks and state

structure. Swiss legislative processes have traditionally been lengthy due to the consensual form of government and direct democracy.

RP 5: Patterns of behaviour and work routines that are cultivated in public organisations contribute to the perpetuation of organisational culture that values procedure and routine at the expense of innovation and risk-taking.

- A possible remedy to the path dependency and connected perpetuation of working processes may consist in mimetic pressures and organisational isomorphism. The possibility to exert coercive pressures on the introduction of e-Government-related projects are limited in the Swiss institutional environment where cantons hold vast policy-making powers in most key policy fields. Normative pressures could be applicable in regard to the diffusion of e-Government when one imagines, for example, the arrival and legitimation of a new type of public managers with a more open attitude to innovations. At present, however, I suppose that it is the mimetic pressures that would be the most effective ones.

When applied to the context of public administrations, DiMaggio and Powell's concept of isomorphism seems to be just as topical as in the private sector. On the one hand, isomorphic processes in public organisations are slower and less acute than in private companies due to the lack of competitive pressures and lesser importance of concerns related to organisation's survival. However, on the other hand, isomorphism as concept might be more relevant in the public than in the private sector because the main objective of organisational isomorphism, increasing legitimacy of organisations, constitutes for public organisations an important justification of their existence. In the Swiss context, the pioneer organisation could be assimilated to one of the federal or cantonal departments, which would inspire other offices to adopt the project that the first department initiated. It might therefore be sufficient for one department to show positive effects arising from the introduction of an e-Government project to advance its introduction in other departments. The first impulse for isomorphic behaviour could be triggered by politicians, public officials and street-level managers who demand the implementation of practices in question from their superiors. The concept of isomorphism is related to the teaching of the theory of autopoiesis that emphasises the importance of positive feedback for the diffusion of organisational changes. Further shift toward e-Government can be triggered as a consequence of positive experiences with e-Government applications and the accompanying increase in legitimacy of electronic forms of service delivery.

- I suppose that in order for an organisation to become an example for others, it is necessary that the proposed way of introducing e-Government be compatible with the existing culture and guarantee certain continuity. In accordance with the theorists of organisational culture (Gagliard, 1986), I suppose that an incremental cultural change is the only viable one in the public sector. For e-Government reforms to be considered legitimate, the latter have to be first of all embraced culturally. The institutionalised actions that were once considered the “raison d’être” of public organisations are therefore modified gradually and the change in paradigm follows naturally. The concept of organisational self-reference described by Morgan (1986) states that an organisation interprets its external environment only with reference to its own identity.
- One of the branches of the neo-institutionalist theory accentuates the importance of social coalitions that promote changes in organisations internally. In this connection, I suppose that the Swiss “e-Government coalition” is not yet strong enough to be able to enforce its agenda. This might change in the future in accordance with the mechanisms of layering and/or drift that were described above.

RP 6: *Public organisations start copying other organisations that are more advanced in e-Government as the criteria of legitimacy shift in this direction.*

- The attitudes to transparency that different organisations adopt are a function of two important variables: organisational culture and organisational mandate. Whereas the impact of the first can be explained in neo-institutionalist terms, the second constitutes a binding external contingency. Transparency-related practices develop over time and constitute a part of the previously discussed institutionalised actions. They can change abruptly when a new legal framework comes into force. The culture of public administrations everywhere in the world has been known rather for its secrecy than transparency. This paradigm has been changing with the implementation of transparency laws and freedom of information acts in the last couple decades. I suppose that in Switzerland this development has been slowed down by lengthy decision-making based on consensus and also by its comparative less urgent character. I suppose that because trust in public authorities is in Switzerland very high, public organisations in general perceive the need to reform their functioning as less compelling.

RP 7: *The Swiss administrative culture that favours secrecy at the expense of transparency acts as an obstacle to the introduction of e-Government projects.*

- Because the levels of trust in government, legitimacy of public policies and perceived quality of public services are in Switzerland overall very high, I suppose that an important driver of e-Government initiatives is the potential reduction in the costs of public services. Public organisations work in an environment typical of strict budgetary constraints and the motivation to save funds is often important. Budgetary constraints constitute in this connection a contingency factor from the external environment. Together with political priorities and legal regulations, budgets represent one of the most important external contingencies that public departments have to respect.

RP 8: *Due to the absence of motivations related to the increased quality of services, legitimacy and trust, cost-reduction is an important factor that impacts on the introduction of e-Government projects in Switzerland.*

INSTITUTIONAL LEVEL OF ANALYSIS

- The impact of institutional environment on the capacity of public organisations to undertake innovations, such as e-Government projects represent, can be assimilated to the impact of external contingencies. The impact of certain institutional factors is unavoidable: public organisations have to adjust its ways of functioning to these institutional realities. Other institutional factors offer a limited leeway that public organisations can work with. Overall, the institutional environment of organisations constructs the framework in which organisations have to legitimately exist. The legitimation of organisations consists in the conformity to the rules of the game that are stipulated by these institutions. In the framework of this research, the considerations related to the impact of institutional environment of public administrations on the acceptance of e-Government projects are related to the following question: “Which institutional characteristics favour change and which make institutions resistant to change?” (March and Olsen, 2008, p. 17).
- One of the most important binding external factors that public organisations have to comply with is the valid legal framework of their activities that can either drive or obstruct the introduction of e-Government. The legal framework thus functions as an external contingency in that its every modification has to be reflected in its incorporation in the functioning of public organisations. Such procedures contribute to the attainment of “fit” between the organisation and the external contingency and, according to the contingency theory, eventually lead to the increased legitimacy of the

organisation. In unitary countries with a centralist political system, new legislation can boost the uptake of e-Government projects if the political centre decides to regulate the process on the national level. In federalist, decentralised countries such as Switzerland, the necessity to adapt existing legal frameworks to the reality of e-Government projects slows down their implementation. The national legislation on e-Government is not a viable option; regional and municipal administrations have more or less autonomy in different policy fields. The creation of new legal frameworks therefore resides within their authority. In Switzerland, additionally, the consensual form of government further slows down legislative processes.

RP 9: *Lengthy legislative processes obstruct the process of e-Government introduction in Switzerland.*

- The isomorphic tendencies of coercive kind that are discussed above could contribute to the diffusion of e-Government projects through the creation of new legislation. However, this approach is more important in unitary countries where lower governmental levels have to adopt the legislation passed by the centre. Building on the concepts of steady state and discontinuity (Tidd and Bessant, 2005) that were discussed earlier, the legal environment in the public sector can be assimilated to the means of safeguarding the steady state that is crucial for the legitimacy of public institutions. However, e-Government-inspired reforms cause important discontinuity in the functioning of public administrations that needs to be reconciled with the steady state. The changes to legal frameworks that e-Government implies could gradually reduce its discontinuous effects and contribute to its becoming a part of the steady state. As such, the modifications to legal framework would together with the incremental cultural changes contribute to the legitimation of e-Government.

RP 10: *Modifications to legal frameworks implied by e-Government functionalities decrease uncertainty related to their uptake and increase their legitimacy.*

- A typical example of an institutional factor that impacts significantly on the management of public organisations is the state structure that defines the degree of autonomy of different governmental levels and their public departments. In the Swiss context, the federalist division of powers between the federal, cantonal and municipal levels causes coordination problems between and within different levels of government. Furthermore, the culture in Swiss public administrations is such that different public departments perceive themselves as rather independent and are not

used to cooperating on different projects in an inter-departmental fashion. The “silo” (stovepipe) functioning of different departments implies certain narcissism that leads the departments to consider themselves as “special” and unsuitable to joining projects conceived by another department.

RP 11: *Administrative culture that encourages the stovepipe-based functioning of public departments causes them to be vary about cooperating in the framework of e-Government projects.*

RP 12: *The federalist structure of Switzerland acts as a barrier to e-Government in that it causes coordination problems and information insufficiencies.*

The following table (Fig. 9) provides an overview of the influential factors that were identified in the first chapter and their links to explanatory theoretical concepts that were discussed in this chapter. The research propositions that are related to particular variables are also included.

Level of analysis	Influential factors (drivers and barriers)	Explanatory theoretical concepts	Research propositions
INDIVIDUAL LEVEL	Leadership, personal support	Social construction of reality <ul style="list-style-type: none"> - Importance of previous socialisation for the strength of institutionalised actions Neo-institutionalism <ul style="list-style-type: none"> - Path dependency - Stickiness of institutionalised actions Contingency theory <ul style="list-style-type: none"> - Strategic choice in regard to changes in external contingencies 	RP 1: <i>Public officials who are younger and/or have experiences from the private sector will be less affected by internal constraints imposed by public organisations. In other words, their institutionalisation in the organisation will be comparatively weaker and therefore they will be more open to innovation.</i> RP 2: <i>The presence of innovative members will condition the successful uptake of e-Government projects in an organisation.</i>
	Political support	Contingency theory <ul style="list-style-type: none"> - Change in an external contingency 	RP 3: <i>Political support is an important driver of e-Government-related innovations.</i>
	Perceived lack of digital skills	Social construction of reality <ul style="list-style-type: none"> - Institutionalised actions in relation to the use of technologies and to the performance of organisation's tasks. Contingency theory <ul style="list-style-type: none"> - Attainment of fit between external contingency (new technology) and organisation's members capacities. 	RP 4: <i>The perceived insufficiency of their digital skills will cause public employees to oppose technological changes.</i>
ORGANISATIONAL LEVEL	Redesign of processes	Neo-institutionalism <ul style="list-style-type: none"> - Path dependency - Isomorphism - Importance of social coalitions Organisational culture <ul style="list-style-type: none"> - Cultural continuity of reforms Theory of autopoiesis <ul style="list-style-type: none"> - Organisational self-reference - Importance of positive feedback 	RP 5: <i>Patterns of behaviour and work routines that are cultivated in public organisations contribute to the perpetuation of organisational culture that values procedure and routine at the expense of innovation and risk-taking.</i>
	Changes to organisational culture		RP 6: <i>Public organisations will start copying other organisations that are more advanced in e-Government as the criteria of legitimacy shift in this direction.</i>
	Resistance to change		
	Hierarchy and bureaucratic culture		
	Attitude to transparency	Neo-institutionalist <ul style="list-style-type: none"> - Organisational culture Contingency theory <ul style="list-style-type: none"> - Legal regulations and mandate as external contingencies 	RP 7: <i>The Swiss administrative culture that favours secrecy at the expense of transparency acts as an obstacle to the introduction of e-Government projects.</i>
Availability of resources	Contingency theory <ul style="list-style-type: none"> - External contingency 	RP 8: <i>Due to the absence of motivations related to the increased quality of services, legitimacy and trust, cost-reduction will be an important factor that impacts on the introduction of e-Government projects in Switzerland.</i>	
INSTITUTIONAL LEVEL	Changes to legal framework	Contingency theory <ul style="list-style-type: none"> - External contingency Neo-institutionalist theory <ul style="list-style-type: none"> - Coercive pressures for isomorphism 	RP 9: <i>Lengthy legislative processes obstruct the process of e-Government introduction in Switzerland for projects that necessitate modifications to legal frameworks.</i> RP 10: <i>Modifications to legal frameworks that e-Government projects imply will have as a consequence decreased uncertainty and will accelerate its legitimacy.</i>
	Inter-departmental coordination/cooperation	Organisational culture <ul style="list-style-type: none"> - Organisational narcissism - Stovepipe functioning 	RP 11: <i>Administrative culture that encourages the stovepipe-based functioning of public departments causes them to be wary about cooperating with each other in the framework of e-Government projects.</i>
	Decentralised state structure	External contingency <ul style="list-style-type: none"> - Federalist division of powers 	RP 12: <i>The federalist structure of Switzerland acts as a barrier to e-Government in that it causes coordination problems and information insufficiencies.</i>

Fig. 9 Relevant influential factors with their explanatory theoretical concepts and research propositions

3.7 Chapter summary

This third chapter provided an overview of the most important theoretical concepts that shape the conceptualisation and clarification of the research problem. Because the process of e-Government development is essentially a public innovation process, the most complete theorisation of the research problem resides in the consideration of theories concerned with organisational stability and change. Research propositions that are formulated in this chapter on the basis of a previous literature review and overview of important theories related to organisational dynamics guide the upcoming empirical analysis based on qualitative semi-structured interviews and a quantitative survey.

What the different approaches mentioned here have in common is the focus on the study of institutional and organisational elements of its study units, in the present case of Swiss public administrations. Their most important common point is the focus on the institutionalisation of organisations in their environment, which complicates the process of organisational change. For this reason, the importance of organisation's members for its future is crucial. This point is here underlined especially in relation to the importance of personal support and leadership for the uptake of public innovations. Compatibility with the existing organisational culture is accentuated as another important factor that favours organisational changes triggered by e-Government initiatives.

Building on the theoretical framework and main research propositions formulated in this chapter, the next chapter describes the chosen scientific method, data collection process and the process of analysis of the collected data.

4 Empirical research design

4.1 Classification of the Swiss case study

The selection of case study constitutes one of the most important decisions a researcher has to make. Methods used for selecting the most suitable case for any given research problem are numerous and have been described in terms of various typologies. The present research chooses to focus on the case of Switzerland and accentuates its importance for the study of e-Government development. The paradox between the comparatively under-developed e-Government and the background conditions that would, at the first sight, seem to predestine Switzerland to be a keen adopter of ICTs in the public sector constitutes the first “raison d’être” of this study.

The objective of the present study is to explain a phenomenon; for this reason, the focus is on causal interference, as opposed to the pure description of facts. The research problem is here defined in terms of “causes of effects”, as opposed to “effects of causes” that focus on the analysis of effects of a particular treatment (Herron and Quinn, 2016). The phenomenon in question is the introduction of e-Government that is measured by different indicators, notably the indexes of the Organisation of United Nations (UN, 2018). The goal is to identify all factors (variables) that lead to the described state of affairs in Switzerland, in other words, to the comparative under-development of e-Government (UN, 2018). The Swiss case study represents in regard to the development of e-Government an anomalous case in that it does not conform to the typical understanding of the phenomenon at hand, in other words, to the development of e-Government in countries with similar background conditions (Gerring and Cojocaru, 2015).

Typically, one of the objectives of a case study analysis is the generalisation of its findings to a larger group of cases. The primary objective of the present study is, however, a detailed investigation of the Swiss case, the ambition to generalise study’s findings is secondary. In Gerring’s view (2007), such case studies should be referred to as “single-outcome” studies. “A single-outcome study refers to a situation in which the researcher seeks to explain a single outcome for a single case” (Gerring, 2007, p. 187). The purpose of a single-outcome study is to explain the occurrence or absence of an outcome (Gerring, 2007). An important pitfall related to the possibility to compare the findings of a single-outcome study is related to the definition of the studied outcome. The more detailed the terms in which the outcome is defined and the more particular the context, the more complicated the possibility to apply the

findings to other cases (Gerring, 2007). As a consequence, the external validity of findings of single-outcome studies is limited.

Generally speaking, case study research lacks precise instructions for selecting the best cases and researchers have often substantial leeway in regard to the justification of their case selection. Furthermore, it seems that the choice of a case often determines the method of analysis and findings of study (Gerring and Cojocaru, 2015). Even though precise instructions on how to select the best cases are lacking, there seems to be an understanding concerning the classification of the most common selection techniques. Random sampling methods belong to the most well-known approaches to case selection. They are supposed to guarantee the representativeness of findings. The first condition for using a random sampling technique is the existence of a large-N group of cases. For this reason, it is not possible to use a random sampling technique here. In fact, the present study has been since the beginning driven by the selection of the Swiss case study that was made *ex ante*.

Non-random sampling techniques describe methods of case selection that are based on certain reasoning that justifies the selection of the given case or cases. Authors describe non-random sampling techniques in terms of typical, diverse, extreme, deviant, influential and crucial (most-likely and least-likely) cases (Gerring, 2007; Levy, 2008; Maggetti, 2018; Seawright and Gerring, 2008). Other types of cases, such as those falling under most-similar or most-different designs are not further discussed here as they apply to analyses that necessitate the selection of multiple cases. Seawright and Gerring (2008) make a case for the non-random selection of cases particularly in small-N samples where random selection methods may often lead to the selection of a case that is not representative of the sample; its average value is too far from the true population mean. For this reason, choosing a specific case may in certain instances deliver better results. The following overview of different non-random case selection techniques is based on Gerring (2007) whose contributions seem to represent the cornerstone that other authors draw inspiration from.

Typical cases are exemplary representatives of how a specific phenomenon is understood. They represent a set of values that are considered typical in relation to the occurrence of a certain outcome. **Diverse cases** represent the groups of cases (at least two) that are found on the diverse poles of variance along relevant dimensions of a phenomenon. It is the role of the researcher to establish which variables constitute these relevant dimensions. **Extreme cases** show extreme values on a dependent or independent variable. The reason for their selection is the importance to study instances where a certain phenomenon occurred, but also where it did not occur. **Influential cases** are used for verifying assumptions that are related to the general

model of causal relations. An influential case is a case that, at the first sight, seems to invalidate the model, but after a more detailed analysis, does not. The study of an influential case thus often results into its reinterpretation. **Crucial cases** include two major types of cases: the most-likely and least-likely cases. A most-likely case is a case that shows on all but one dimension of interest values that predict that it will confirm the general model. Yet, in the end, it does not. A least-likely case is a case that shows on all dimensions of interest except one values that predict that it will not confirm the general model. Yet, it does. The importance of a crucial case depends on the nature of the theory that it is supposed to validate/amend. “Most/least likely designs are based on the assumption that some cases are more important than others for the purposes of testing a theory” (Levy, 2008, p. 12). Theories that are the most suitable ones for a crucial-case analysis are those that are defined in rigid, precise terms with a high degree of consistency and well-defined scope. The use of most- and least-likely case selection techniques was considered also in the present study. However, the theory-intensive nature of studies driven by this type of case selection does not constitute a good fit with the unique character of the Swiss case study whose analysis is not primarily theory-focused.

Deviant cases are those that display surprising values in relation to a general understanding of a phenomenon. In a comparative study of countries, the criterium of comparison can be, for example, the underperformance of a country in relation to a certain set of expectations. Cases are “deviant in that they are poorly explained by the multivariate model” (Gerring, 2007, p. 106). The deviant nature of a case evidently depends on the criteria that are used to judge its characteristics; in other words, on the model of analysis. In this sense, deviant cases are similar to influential cases. Their objectives are, however, different. An influential-case analysis aims to confirm a general model whereas a deviant-case analysis aims to generate a new hypothesis that alters the existing model. Gerring (2007) cites the example of the United States that can be considered deviant given its comparatively weak welfare state that does not correspond to the level of its social wealth. The deviant nature of the case, however, disappears when other factors are included in the model, namely those of political and societal nature. The study of deviant cases is usually exploratory; its objective is to uncover new causal links that have not been involved in the original model based on which the deviant nature of a case was determined. As soon as a researcher identifies the cause of the deviant status, the case is no longer considered deviant. Deviant cases are the opposites of typical cases.

In terms of case selection methods, the Swiss case can be in relation to the development of e-Government primarily considered as deviant. The deviant status of the Swiss case is established based on the previously discussed discrepancy between the contextual conditions and the level of e-Government development. The contextual background conditions that are pertinent here are primarily those used to measure the e-Government readiness of countries. The e-Government Development Index (EGDI) of the United Nations and the e-Government Readiness Index (EGRI) of the OECD belong to the most frequently cited ones. The EGDI is composed of indicators such as the human capital index, telecommunication infrastructure index and educational levels. The EGRI is similar in composition. Switzerland shows above-average scores in all relevant categories. The level of technology proliferation in the country belongs among the highest in the world (UN, 2018) and the percentage of individuals between 16 and 74 years of age who have basic or above basic overall digital skills attained 76 percent in 2017, one of the highest values in Europe (Eurostat, n.d.). Besides the two indexes measuring e-Government readiness, I suppose that the type of democracy that is practised in a country also belongs to the background conditions that impact on the occurrence of the phenomenon in question. The existing type of democracy is important especially for the uptake of digital democracy. The evaluation of its impact is here based on the typology of Van Dijk (2000a) that is presented in the chapter 1.5. Because the Swiss institutional system is based on the long tradition of direct democracy, it can be described as a participatory rather than representative democracy (Van Dijk, 2000a). Additionally, the prevailing decision-making style is based on consensus on all government levels. According to Van Dijk's typology, Switzerland should be prone to introducing advanced e-Participation initiatives. However, this is by no means the case (UN, 2018).

Seawright and Gerring (2008) emphasise that the status of a case can change during the analysis. Typically, a case can be deviant in the exploratory phase of the research and change its status in the confirmatory phase after the formulation of hypotheses. Gerring and Cojocaru (2015) consider the change in status of a natural part of a scientific exploration. With this realisation in mind and the possibility of a change in status remaining an option, I proceed in the next chapters to the description of the research method and empirical data analyses.

4.2 Scientific method

The chosen methodological approach to the research problem draws on contemporary mixed method designs (Bryman, 2006; Creswell and Plano Clark, 2011; Maggetti, 2018; Seawright, 2015) by combining qualitative semi-structured interviews with a quantitative survey. Scientific literature offers a plethora of definitions of what a mixed-method research stands

for (Bryman, 2006). Different conceptualisations have appeared principally in the last several decades and accompanied the broader use of mixed-method designs. The number of mixed-method studies have increased several-fold in the last two decades even though they still represent a rather small proportion of articles overall (Hendren et al., 2018). Whereas the previous period was marked by paradigm wars and quantitative and qualitative philosophies were considered very distinct, the mixed-method approaches adopt a more pragmatic and practical view (Hendren et al., 2018). The objective here is not to provide a review of different mixed-method typologies, but adhere to the core principle of mixed-method studies: follow the logic of a whole when using different methods in a single research. Mixed-method approaches have been considered especially useful in applied and practical fields such as public administration (Riccucci, 2010).

The mixed-method approach that is adopted here is inspired principally by the conceptualisation of Creswell (2003) who distinguishes between sequential explanatory strategies where quantitative findings are completed by qualitative research methods and sequential exploratory strategies where qualitative findings are tested and/or completed by quantitative data. The design that is adopted here is close to sequential exploratory strategies. Findings from qualitative interviews are completed by a survey that allows for the collection of a larger quantitative data sample. The objective of this combination of methods is, firstly, to provide a more complete picture of the research problem (Hendren et al., 2018; Tang, 1999) and, secondly, to generalise and extend the findings from interviews. The applied design is here of sequential and integrative character: the purpose of the two parts of the analysis is to produce a unified causal interference (Maggetti, 2018). More precisely, the purpose of the quantitative part of the research is to refine the causal interference explained by the qualitative data. The integration of qualitative and quantitative methods in one study presupposes that the researcher is able to overcome dogmas related to single qualitative or quantitative approaches and is able to pragmatically admit that both kinds of methods represent valid contributions to the answer to research questions (Maggetti, 2018).

Because e-Government is a new and rather technical topic, the circle of actors who can competently speak about its mechanisms is limited. The choice of interviewees for semi-structured interviews was therefore rather restrained. For this reason, one of the objectives of the quantitative part of research design is to widen the comprehensiveness of collected data in terms of actors; the survey addresses a much larger group of respondents than the interviews. Hendren et al. (2018) have pointed out that the qualitative parts of mixed-method studies tend to be overshadowed by their quantitative parts. In this connection, the authors call for more

studies that would emphasise the importance of qualitative data in mixed-method designs. The present study addresses these concerns and approaches the qualitative part of mixed-method design as its cornerstone. Both quantitative and qualitative types of data are integrated and related to theoretical concepts in the discussion section of the last chapter of this dissertation.

The main principles guiding the two paradigms, that is to say inductivism in the case of qualitative research and generalisability in the case of quantitative approach are not strictly adhered to here. The inductivism of qualitative interviews is attenuated by the previously conducted literature review that provided the first insight into the research problem and is preserved in regard to factors that are specific to the context of Swiss public administrations. In fact, it was not possible to start conducting interviews without having any background knowledge of different issues related to the studied topic. Such an approach would risk to lead to a loss of credibility in the eyes of interviewees. The principles of deductivism and generalisability are valid in relation to the quantitative survey where one of the objectives was to test the validity of qualitative findings based on pre-defined hypotheses. During the qualitative part of the research, the inductive approach was constantly nourished with further research into different topics that were evoked in the course of interviews. Due to the exploratory and original nature of the research, this approach was deemed to represent the best fit. The objective was not so much to test a theory, but to provide explanations regarding the status of Swiss case in relation to the research problem.

Based on a review of scientific articles that use mixed-method approaches, Bryman (2006) makes an inventory of five justifications for the use of mixed methods: triangulation, complementarity, development, initiation and expansion. **Triangulation** designs search for convergence or corroboration of findings from different methods. **Complementarity** designs elaborate, enhance or clarify the findings from one method with the findings from the other method. **Development** designs use the findings from one method to develop or inform another method. **Initiation** designs search for discovery of paradoxes or contradictions that would redefine the findings from one method with the findings from the other method. **Expansion** designs aim to extend the range of inquiry by using different methods for different aspects of the inquiry.

Of the five justifications, the one that is closest to the present use of mixed-method designs is complementarity. “In a complementarity mixed-method study, qualitative and quantitative methods are used to measure overlapping but also different facets of a phenomenon, yielding an enriched, elaborated understanding of that phenomenon” (Greene et al., 2006, p. 70). “Complementarity provides a rich, nuanced picture of a complex public administration issue

by collecting different types of information from the sample under study” (Hendren et al., 2018, p. 913). An example of a complementarity design is the combination of qualitative interviews with a quantitative questionnaire, which has been considered particularly suitable for this purpose of mixed-method use (Hendren et al., 2018) and is used, for example, by Chetkovich (2003) for investigating the chosen career sectors of public policy students. In short, the complementarity approach can be assimilated to approaching a research problem as an onion; with each method, the researcher peels another layer of the research problem (Greene et al., 2006). In sequential designs, such as is the case here, the findings of the first method can help specify which issues should be addressed using the second method (Greene et al., 2006). Mark and Shotland (1987) add that complementarity approach is useful in studies where different facets of a research problem are assessed using different methods, possibly on different levels of analysis. In the present case, qualitative data is used principally for studying organisational and institutional level of analysis whereas quantitative data addresses principally the individual level of analysis.

The purpose of mixed-method approach can be here described as both validation and extension as both these concepts describe one of the objectives of the quantitative analysis. The extension aspect of the quantitative method is reflected in the further elaboration of the analysis of factors that impact on the research problem on the individual level of analysis. Its validation aspect consists in the contribution to the generalisability of qualitative findings that is achieved through the administration of a survey to a more sizeable sample of respondents. The latter objective of quantitative analysis, validation of qualitative findings, thus also represents an attempt to attenuate the practically unavoidable subjectivity of actors’ statements. Fig. 10 provides an overview of the most important steps of the methodological approach. These are further described in detail in the following chapters.

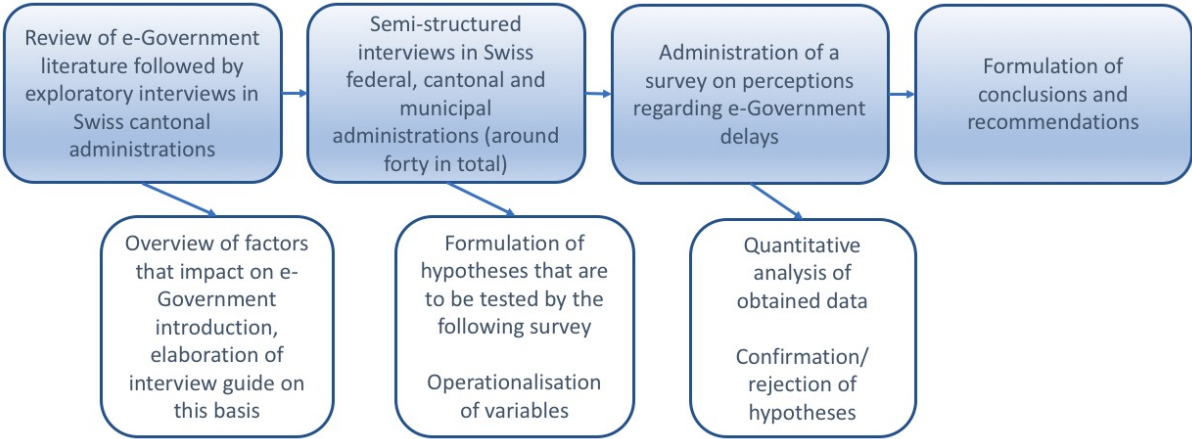


Fig. 10 Key phases of the research design

4.3 Qualitative part of the methodological approach: Semi-structured interviews

The decision to conduct semi-structured interviews was made following a review of contemporary studies on e-Government, which overall accentuate the context-dependent character of these public innovations. The review of e-Government literature, which was previously summarised in the first chapter, was guided by a scoping approach that aims to “map rapidly the key concepts underpinning a research area and the main sources and types of evidence available” (Mays et al., 2001, p. 194). Scoping approach to literature reviews is appropriate in situations when the scope of the field is wide, multi-disciplinary and it is difficult to identify its boundaries. The discussions led notably in the chapters 1.2.1, 1.3.2. and 1.4 show that the research on e-Government can be described in these exact terms. Because the Swiss political and institutional system is known for its particularities, such as consensual decision-making, bottom-up federalism and pre-eminent role of direct democracy in policy-making, it would not be suitable to apply findings drawn from other institutional contexts to the Swiss setting. Such an approach would risk to generate inaccurate findings that would not reflect the reality of Swiss public administrations. For this reason, I chose to conduct exploratory and semi-structured interviews that allowed for a better understanding of the whole picture than would arise from quantitative, factor-based analysis (Silverman, 1993).

The main focus of the literature review, which constitutes the first phase of the methodological approach, was the identification of factors that had impacted on the digitalisation of public administrations in other countries. The objective of exploratory interviews, which were conducted during the months of April-June 2015 in cantonal administrations was to get the first insight into the particularities of digitalisation projects in the Swiss cantons, which in Switzerland constitute the main points of contact between citizens and public authorities.

The second key phase of the methodological approach, semi-structured interviews, drew on the findings from the literature review and exploratory interviews in that the interview guide was initially developed on their basis. However, due to the context-dependence of digitalisation, the character of the interviews was semi-structured and their progress often reflected on the experiences of individual interviewees. In certain cases, complementary questions related to interviewees’ statements proved to be even more pertinent than the interview topics drawn from the literature review. At the beginning of every interview, I started by enquiring about these pre-defined factors. However, I soon found out that certain factors were considered more, less or not at all important according to different interviewees. Other influential factors, such as the monetary ones, proved to be typical for the Swiss

context. The form of the interview guide changed gradually according to the findings of finished interviews toward a purely visual representation of main topics from which I developed my questions. This was possible due to the exploratory and open-ended character of interviews, which is recommended by Silverman (1993) due to the possibility to gain authentic understanding of people’s experiences.

The final form of the interview guide is depicted in the Fig. 11. The context of the project refers to the most important digital initiatives that particular departments and offices manage. Because the choice of interviewees was initially carried out by identifying the most important actors involved in these projects, I enquired mainly about concrete experiences in their framework. Overall, findings drawn from the interviews partly reflected on the literature review, partly discovered new variables typical for the Swiss context and partly showed that certain factors deemed important in other contexts were not relevant in Switzerland. An example of the latter is the effects of e-Participation for increasing voter turnout and trust in government; these were overall not considered important in the Swiss context.

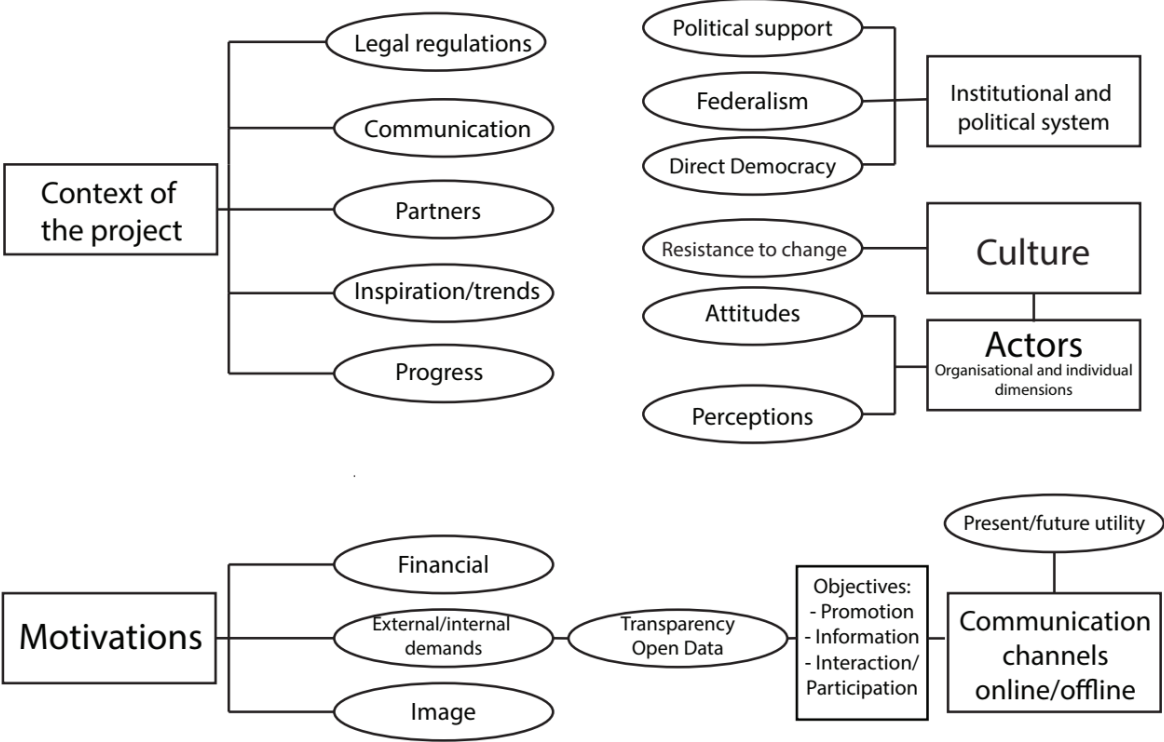


Fig. 11 Visual interview guide

As follows from the interview guide, the main groups of questions centred on the following topics:

- The **context of the project(s)** the interviewee is involved in; the most important elements being legal regulations, project partners (public or private sector), whether

the project was inspired by other initiatives implemented in other countries/cantons/departments, what development phase the project is currently in and what the plans for the future are. In this connection, the focus was on finding out whether the project was supposed to involve an e-Participation functionality and what was the attitude of the interviewee toward such forms of communication. These elements were enquired about in order to understand better the environment in which the given interviewee was situated and the principal characteristics of the project in which he was involved. The investigated impact of legal framework on the project implementation is directly related to the research propositions number 9 and 10.

- The **impact of institutional system** on the implementation of the project: the main points that were enquired about were the presence or lack of political support, the impact of federalist structure and the importance of direct democracy in the process of project implementation. The questions focusing on these elements are connected principally to the research propositions number 3, 11 and 12.
- The **main factors motivating the introduction of the project**: the main elements enquired about here were financial benefits, the pressure of external and internal demands and the importance of the project for the image of the given department or office. As such, these elements are related principally to the research propositions number 8 and 11. The question of whether certain organisational narcissism comes into play in the framework of the given project was also inquired about.
- **Channels that are being used for communication** with citizens and the general public: these are divided between online (social networks, website, blogs, email) and offline channels (press releases, telephone, face to face). In relation to the electronic forms of communication, the distinction is made between three purposes of these channels: promotion of office's activities, provision of information to the public and interaction/discussion with the public on different topics. These are derived from the classification of citizen communication types developed by the UN (2016), which was chosen due its applicability to different models of democracy and both online and offline communication. Because social networks and blogs are the most common electronic communication channels used by Swiss public administrations, they were considered the most important e-Participation-like efforts. The objective of this group of questions was to understand the motivations and attitudes of interviewees toward online participation and in an intermediary way also the level of their

satisfaction/dissatisfaction with the existing relations between public administrations and citizens. The questions are related to several research propositions, principally numbers 2, 4 and 7.

- The last important topic that was addressed was the **impact of organisational culture** and structures on digitalisation. In this connection, the critical points are the resistance to change manifested by employees and compatibility between existing organisational culture and the effects of e-Government projects. Furthermore, the attitudes and perceptions of interviewees related to the changes on the level of culture that e-Government causes were enquired about. The research propositions related to these elements are principally those number 1, 5, 6 and 7.

Although the initial interview guide was designed on the basis of a literature review and exploratory interviews, the conduct of interviews was to a large extent marked by constructivist paradigm; the aim was not to test an established theory or apply pre-supposed notions but instead study the local reality of Swiss public administrations in relation to e-Government. Constructivism surpasses the one-dimensional focus of individualistic and holistic concepts and combines the two dimensions. In the constructivist view, social facts are constructions produced at the same time by social structures and actors themselves, within their capacity of influencing the course of things. The permanent relation between individual actions and social structures that influence each other explains the nature of social facts, of organisations and of actors within them. Contrary to individualism, constructivism does not perceive individuals as completely autonomous in their actions and, on the contrary, admits that their capacity to influence the course of things depends on structural conditions present in the environment (Emery and Giauque, 2005). In opposition to positivist beliefs that reality is objective and can be measured, constructivist view admits the existence of a number of local and specific realities that are shaped by representations, discourse and practices (Berger and Luckmann, 1967). It is, at the same time, the researcher and the researched who co-create the studied reality. Their individual visions are but impartial and not entirely valid (Waller et al., 2016).

Qualitative interviews are, in a sense, themselves the constructions of reality. It is the researcher that defines the research problem, themes that are enquired about in the interviews and the interviewed population. Thus, he/she “constructs” his/her own reality. The interview is understood here as an interactional experience where both parties take part in the creation of the narrative without, however, distorting the story the interviewees tell. For this reason,

interviews had more of an active character, as opposed to passive interviews where the neutral interviewer asks strictly pre-defined questions. The questions were of open-ended character and were often followed by enquiries about details and clarifications. This type of interview has been in the literature labelled “problem-centred” (Witzel and Reiter, 2012). Problem-centred interviews admit the importance of researcher's prior knowledge and of interviewees’ “everyday” knowledge (Witzel and Reiter, 2012). “(...) a researcher should openly acknowledge and strategically use his or her prior knowledge (deductive reasoning) in order to prepare for an interview and actively engage with participants and their stories (inductive reasoning)” (Murray, 2016, p. 112).

Because the impact of situational and environmental factors on interview narratives cannot be excluded, Holstein and Gubrium (2016) consider all interviews as active. In the present case, the active approach allowed for a better understanding of situations, contexts and cultural elements that came into play in the presented narratives. Because organisations are complex social systems that “require agreement among its parts and the whole” (Bouchiki, 1990), it is not possible to set clear borders between an organisation and its environment. The constructed reality that is pertinent for the qualitative part of the research design consists of two levels. Firstly, it is the level of construction of the interviewed population. The population of potential interviewees consisted of Swiss public employees and stakeholders of selected e-Government projects. Using different methods I reduced this population to a group of individuals that I interviewed. The second level of constructed reality consists of the construction of interviewed actors who find themselves in a certain context that is defined by legal, cultural, political, institutional and personal aspects.

The analysis of interview data was essentially thematic (Braun and Clarke, 2006; Rapley, 2016) in that the data was coded with the objective of creating a map of the most important themes. Furthermore, it also reflects on the principles of grounded theory in that data collection and analysis were, for the most part, concluded simultaneously and the intermediary results informed and concretised the questions addressed in later interviews (Waller et al., 2016). Although the grounded theory (Glaser and Strauss, 1967) belongs to the most used approaches in qualitative analysis, its meticulous application was not deemed suitable due to the exact nature of the research problem, previously acquired knowledge of the topic and the research approach that aimed to apply existing theories rather than developing a new one. The approach by exploratory interviews and preliminary literature review was preferred because it allowed for a more precise formulation of interview questions.

Thematic analysis is a qualitative method that has not been clearly demarcated but is often used when working with textual data. Braun and Clarke (2006) assimilate it to the “lite” version of grounded theory in that the analysis is not directed toward theory development. “We argue, therefore, that a ‘named and claimed’ thematic analysis means researchers need not subscribe to the implicit theoretical commitments of grounded theory if they do not wish to produce a fully worked-up grounded-theory analysis” (Braun and Clarke, 2006, p. 81). Further on, the two authors underline the theoretical freedom of thematic analysis and its compatibility with both essentialist and constructionist paradigms. “Thematic analysis is a method for identifying, analysing and reporting patterns (themes) within data” (Braun and Clarke, 2006, p. 79). This form of analysis was considered the most convenient for this research design, where the results of interview data were to be validated by a survey. In fact, because the objective of the survey is to identify influential factors in the process of e-Government introduction, factors were arranged by themes that reflected on their different aspects. The objective of the qualitative analysis was to provide a thematic map of the most important themes that were extracted from the whole data set. Because the introduction of e-Government in Switzerland is a topic that has not been much researched, this approach was deemed more suitable than focusing only on a selection of themes. The themes were extracted from the data in an inductive way, the coding frames were created on the basis of data interpretation.

4.3.1 Context of the interviews

The sensitivity to context of a research has been emphasised in relation to qualitative analysis notably by Silverman (1993) who describes it as “the recognition that apparently uniform institutions (...) take on a variety of meanings in everyday contexts” and “the understanding that participants in social life actively produce a context for what they do and that social researchers should not simply import their own assumptions about what context is relevant in any situation” (p. 8). The importance of context has been emphasised particularly for hypothesis development, site selection, measurement choice, data analysis and interpretation and reportage of research (Johns, 2006). In the view of Johns (2006), “intelligent speculation about contextual impact seems little different from the intelligent application of theory” (p. 403). In this statement, the author underlines the importance of situating research in its context, which should be approached without prejudices about its impact. In line with this reasoning, the contextualisation of analysis takes on significant importance for the present project.

To date, there has been no clear consensus on the definition of the context of public administrations. The understanding of context that is closest to my perspective is that employed by Johns (2006), who considers context to be “situational opportunities and constraints that affect the occurrence and meaning of organizational behaviour as well as functional relationships between variables” (p. 386). Even though the demarcation of context is not generally agreed on, there are certain risks related to its exclusion from the analysis due to its impact on organizational behaviour (Heeks and Bhatnagar 1999; Johns 2006; Jreisat, 2002). In the words of Jreisat (2002): “The external context is a source of variation and uncertainty for an administrative system because it is a basic influence on change in the system” (p. 57). The influence of political and institutional environments in which they exist relate closely to the functioning of public administrations (Hood, 2001). In relation to the political context, it is often the nature of politico-administrative bargain that impacts on public administrations. Additionally, political context includes also forms of citizen participation that are practised in the given system (Jreisat, 2002). The technological environment is of pre-eminent importance in regard to e-Government, which translates into technology-mediated citizen participation and electronic provision of public services. Kenneth L. Hacker and Jan Van Dijk (2000) observe that political and cultural analyses of the environment in which technologies are supposed to be implemented are necessary to be able to understand their role and impact. Institutional variables influence the functioning of public administrations by defining the frameworks and rules that the organizations must conform to. Social environment, which according to Jreisat (2002) involves the impact of cultural environment on administrative behaviour, has been often excluded from organizational analysis and its study is underdeveloped. The most well-known measure of culture is the scale elaborated by Geert Hofstede who ranks countries according to several dimensions such as power distance and uncertainty avoidance. However, this measurement stays rather superficial because it provides solely an aggregate view of whole nations and does not take into account regional or minority subtleties.

The qualitative part of the research approach is here performed on two levels: first, on the level of organizations’ members and, second, on the level of organizations (public departments and offices). There is an important distinction between the two levels of organizational analysis in regard to their context. Whereas the external environment and the institutional system constitute the context of both organizations as entities and of their members individually, the context of the latter additionally includes organizational structures (Johns 2006). The study of the context follows the points defined by Johns (2006). In his

view, it is necessary to study processes, events and collect qualitative data in order to decipher different behaviours and attitudes that might be affected by the context. The processes that I study here are principally related to digitalisation projects that are being implemented in different public departments. This approach reveals the context of the projects, particularly the most important challenges and projects' effects. The study of events, which constitutes the second step of Johns' context measurement process, follows principally the milestones related to the digitalisation of Swiss public administrations, such as the adoption of official documents guiding the process or experiences with projects that have not been successful. This approach allows for the evaluation of the impact of these events on the current state of digitalisation. Johns (2006) states that "potential strong contextual stimuli can have weak effects when the opportunities they presume are countervailed by opposing constraints" (p. 387). It seems that constraints that countervail the introduction of different e-Government projects are related to elements from both external and internal organisational environments.

4.3.2 Choice of interviewees: Swiss e-Government and e-Participation landscape

The main groups of actors that were interviewed involve 1) federal, cantonal and municipal project managers and heads of different departments and offices (prominently information systems' offices that are often in charge of e-Government on the three governmental levels), 2) members of the federal parliament who promote the use of technologies in public administrations, 3) academic experts in the fields of e-Government and e-Participation and 4) heads of private companies that collaborate with public administrations in the framework of e-Government projects. This choice of interviewees was made due to the newness of the topic of e-Government and the relatively expert nature of the domain, which necessitated that the enquiry focus on professionals working directly in its framework. The complete list of interviews is provided in the Appendix 1.

The first interviewees were identified based on the review of the most important e-Government and e-Democracy projects. These were drawn from the Swiss national e-Government map (Carte nationale de la cyberadministration suisse, <http://www.egovernment-landkarte.ch/?lang=fr#/>). Even though the e-Government map developed by the Swiss e-Government association (eGovernment Suisse) does not systematically regroup all Swiss e-Government projects, it constitutes the first source of information on particular initiatives on the three governmental levels. Additionally, because the map provides an overview of the degree of e-Government development in regard to the number of services that have been digitalised in different cantons, I was able to identify the most and least advanced regions, which helped me target the most important actors to interview. In addition to the e-

Government map, interviewees were identified also from the review of official documents related to e-Government, such as the Swiss e-Government strategy or the Swiss Open Government Data (OGD) strategy. The most important e-Democracy project is electronic voting whose managers were interviewed principally in the exploratory phase. In addition to e-Voting and open data, other important e-Participation and e-Democracy initiatives are smaller in scale and territorial application. For example, “Zurich wie neu” project allows people to point out to public administrations where road repairs are needed in the city of Zurich. The “Wecollect” initiative aims to enable people to sign popular initiatives online and thus constitutes a private substitute to official e-collecting projects.

After the initial review of the most important projects and the first interviews with the involved actors, the later interviewees were mostly approached based on the recommendations of previous interviewees using the snowballing method. The choice of private actors involved in e-Government or e-Participation initiatives, either together with a public department or on their own, was conducted online, principally on the e-Government map website. Due to the high number of companies that develop e-Government technologies, the final choice was restricted to initiatives that are related to e-Participation and actors who could be considered activists in the field of public administration digitalisation. The recommendations of previous interviewees also played a role in the final choice of private sector actors. The interviews with actors involved in different digitalisation projects allowed for a better comprehension of the structure of the most important e-Government projects and of the e-Government and e-Participation structures in Switzerland overall. Because the network of important actors is in Switzerland still rather restricted, probably due to the newness of the topic and its relatively skill- and competency-demanding nature, it was difficult to choose a sample of interviewees that would be representative in terms of age, education or professional experience.

The chosen actors represent my studied population category. The total number of interviews conducted in this main phase of qualitative data collection is 35, of these 32 were conducted face to face, one by telephone and two by Skype. Another five interviews of exploratory character were conducted in Spring 2015 in selected cantonal administrations mostly with e-Voting project managers. The thirty-five interviews were carried out between September 2016 and September 2017 mostly at the seats of different federal offices in Bern, but also at cantonal and municipal administrations. The language of interviews was French or English, according to the preference of interviewees. Interviews that were conducted in French were translated to English by the author. The interpretation of every text seems to be always

influenced by the understanding of concepts and words filtered through the experiences of the reader. “No one can be sure of which concepts or words differ in meaning across languages and which do not, or if this matters in the context of the translation” (Temple and Young, 2004, p. 165). To minimise the possible distortion of interviewees’ pronouncements, the use of neutral words in translations was preferred. In all cases, the translated excerpts are literal, word-to-word translations of the original. To avoid bias, no interpretation efforts of interviewees’ statements were attempted in the translation stage. Furthermore, the topics that were discussed in the interviews were not of emotional nature; on the contrary, they were rather technical. For this reason, reflections related to emotional reactions of interviewees did not play a major role in the translation process. Frequently in the course of interviews, even the French speakers used English terms associated with their e-Government projects; English seems to be a common language used in the field.

The duration of interviews ranged between forty and ninety minutes, most of them were recorded (unless the interviewees expressly did not wish to be recorded), transcribed in their entirety and coded using the software MAXQDA. The choice to use this software was made based on rather pragmatic reasons. The University of Lausanne does not offer any qualitative software licences; the choice therefore depends entirely on the researcher. The main competitor of MAXQDA seems to be NVIVO (Gibbs, 2014). MAXQDA has been identified as the most suitable one for mixed-method research and as the one with the best user interface and most intuitive coding and data interaction options (Gibbs, 2014; Saillard, 2011). Furthermore, the functionalities of NVIVO on Mac computers, which are predominantly used at the Faculty, seem to be limited (Gibbs, 2014).

The first coding scheme was developed according to themes that were defined during the transcribing; more specific and concise codes were created as the categories were refined. The repartition of interviewees according to profession and affiliation to a language group is depicted in the Fig. 12. The total number of interviewees from the two biggest Swiss language groups (German and French) is 19 and 21, respectively. The repartition is therefore almost equal. Furthermore, the structure of each group in terms of profession is also balanced. The most significant difference is between the number of heads of public departments in the sample of interviewees (one Swiss German and three Swiss French representatives). It can therefore be said that the qualitative findings reflect in a representative way the opinions of these two language groups. Unfortunately, I did not succeed in interviewing any Swiss Italians. Out of the three that were contacted, none agreed to participate in the research.

The projects and offices that are referred to in the Fig. 12 involve all three governmental levels (federal administration, cantons, municipalities). The total number of interviewees exceeds the number of interviews because in certain cases I interviewed several people involved in the same project at once. Another important aspect that characterises the interviews of is the low number of women (the sample comprises eleven women and twenty-nine men), which reflects the realities of Swiss administrations where most managerial positions are held by men. The reason for this gender inequality among Swiss administrative elites, which, however, is becoming more balanced with time, lies in the late introduction of voting rights for women on the federal level (in 1971) and the relative closeness of elite circles (Bühlmann et al., 2015). Due to the gender inequality of the sample, the findings from interviews may be biased in this sense. However, this kind of bias was inevitable given the low number of women in the positions of interest.

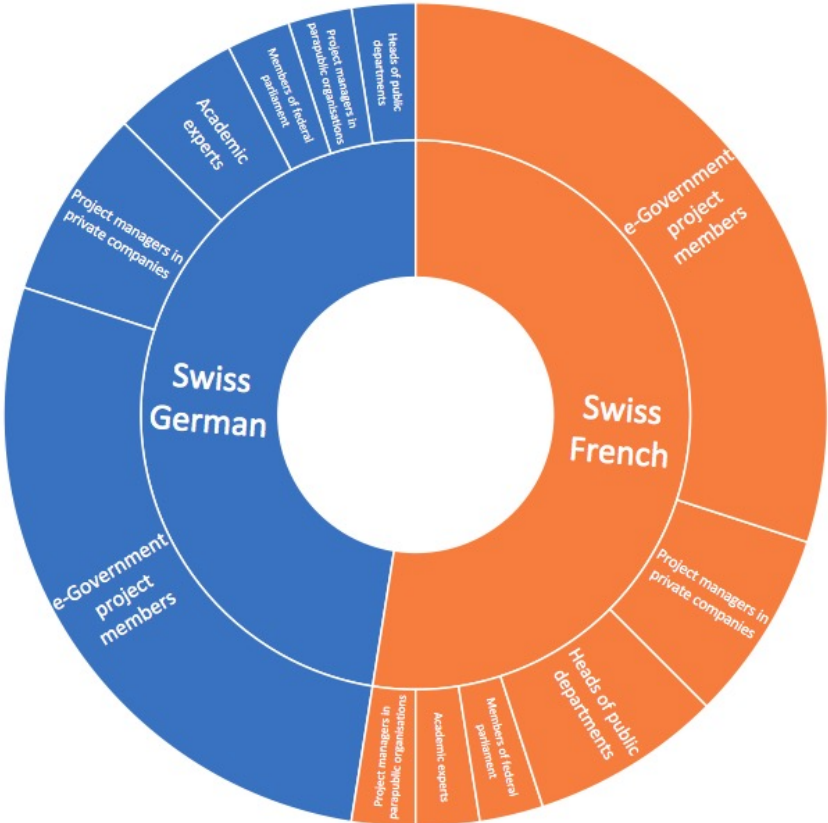


Fig. 12 Repartition of interviewees

The first contact with the interviewees was by email that I sent either to their personal address or to the communication service of the given department or office in cases when it was not possible to find out who the person responsible for the given project was. Direct email addresses or even names of persons were sometimes impossible to find online. Certain differences in attitudes or administrative culture were observed already in this scheduling phase of interviews when certain interviewees were rather more enthusiastic to share their

experiences than others. In the cases where a response to the email, which constituted the first contact, was not received within two weeks, the interviewees were approached by phone. After the phone call, which was therefore the second point of contact, most people agreed to the interview.

By interviewing different groups of actors (project managers, heads of offices, academic experts, private actors), I was able to confront the discourse of different parties. The most important differences can be discerned between the statements of project managers in public offices and those of the representatives of private companies, who were rather critical about the readiness of public administrations to fundamentally reform their functioning. Interviews with public servants in the administrations of several Swiss big cities were included because the latter seem to need e-Government services more urgently than smaller municipalities, which are closer to citizens. Additionally, big cities tend to have more resources and also comparatively more need for e-Government projects. Another interesting point that emerged from the interviews was the difference between motivations of actors promoting digitalisation of public services and e-Participation projects. Whereas the digitalisation of public services seems to be undertaken for reasons such as increasing efficiency, flexibility or reducing costs, online citizen participation is more likely to flourish in offices where people have enthusiastic attitudes to the use of ICTs and visionary approach to their use. The main difference between the two levels of government in terms of customers is that the federal administration comes more often into contact with companies while cantonal administrations have principally contacts with citizens.

The point of informational redundancy where interviewed participants did not provide any new information anymore (Waller et al., 2016), was reached after about twenty-five interviews. In addition to these, another ten were conducted to make sure that no new information would emerge, which was not the case.

4.4 Thematic analysis of interview transcripts

The findings from the interviews are presented here as a thematic map of interconnected elements and logics that impact on the introduction of e-Government in Switzerland. In the first part of the chapter, the factors that impact on e-Government as a whole (online provision of public services and online participation) are presented. In the second part, the focus is on factors that impact specifically on the introduction of online participation (e-Participation and e-Democracy). The findings imply that whereas most factors that impact on the digitalisation of public services influence the uptake of e-Participation, e-Participation introduction is also impacted on by the views of democracy of different actors and by their attitude toward the

existing participation. Likewise, e-Participation is perceived differently by actors with participative and transparent view of democratic systems than by proponents of representative democracies. Findings from the interviews are in the following thematic overview separated by their association to a particular kind of context. Four types of contexts seem to be especially important for the introduction of e-Government; those related to the organisational, personal, individual and institutional levels of analysis. This finding corresponds to the conclusions of the previously discussed literature (Hacker and Van Dijk, 2000; Johns, 2006; Jreisat, 2002).

Two overarching tendencies have been reflected in the findings from interviews. Firstly, the use of ICTs encounters important generational and digital skills-related cleavages, which have as a consequence general reticence to electronic government. The perceived or genuine insufficiency of skills overall seems to amplify the importance of other arguments. Secondly, the “usual” patterns of Swiss policy-making are repeated in the process of e-Government introduction. The approach by incremental changes led by pragmatism that has been emblematic of Swiss policy-making (Giauque and Emery, 2008) seems to guide also the introduction of e-Government and contributes to its comparatively slow advancement. Additionally, it is evident that there are parallels between the introduction of e-Government and earlier efforts to modernise the Swiss public administration, notably New Public Management practices. These parallels are pointed out where pertinent.

4.4.1 The problem is not technological

The most important point that connects the findings from the interviews conducted in Swiss public administrations and the findings of previous studies on e-Government consists in the accentuation of the importance of contextual challenges to e-Government introduction. Virtually all the interviewees stated that it was not the technological side of e-Government that hindered its introduction. On the contrary, it is the institutional, political and legal contexts in which e-Government is introduced. In the words of a Swiss federal employee responsible for a one-stop-shop e-Government project:

“With e-Government projects, the problem is often not on the technical level, because there are always solutions, you deploy more resources or competent people and they will develop what is needed, it is rather on the level (...) of coordination, motivating everybody to participate” (Interview 23).

This quotation summarises the essence of challenges to e-Government development in Switzerland, such as it is portrayed by interviewees, and, in a way, also advocates for the

focus of the present research on the non-technical dimensions of e-Government. As is clear from the interview excerpts cited in the following chapters, e-Government is a concept with many facets that cannot be studied separately, but only in connection to each other. The excerpt above not only shows that technologies are the comparatively less problematic part of e-Government introduction, but also touches on the importance of factors related to individuals, organisational culture and institutional structures. It thus relates to the three levels of analysis that are studied here.

Public-private collaboration in the framework of e-Government projects

The technological side of e-Government, related principally to the development of technological solutions, often represents a “black box” for public administrations and is delegated to external partners. This perception is especially discernible in interviews with people who are not experts in information technologies. However, even for e-Government managers with background in computer science, the technological development of e-Government represents but the tip of an iceberg: *“The challenge for me, it is always a scheme, an iceberg, you know, the small tip that is the technologies, but the whole iceberg that is the processes and resistance to change, the resistance to changing of habits”* (Interview 30). Due to the lack of know-how, public administrations often outsource the development of e-Government solutions to private companies. The impact of these collaborations seems to be nowadays overall positive, even though the right approach has crystallised after previous not so successful collaborations. *“The State does not have the necessary competencies, therefore is at the mercy of a company that tells us ‘we will sell you something, you will see, it will work well’. The State does not have sufficient technical knowledge to judge the quality of the project, we say yes because it looks good and then, if it does not work properly, we are helpless because we implicated ourselves based on an information deficit”* (Interview 3). In this connection, a representative of a private company that collaborates with public administrations in the framework of electronic health (e-Health) presents the opposite point of view:

“I think that they (public administrations) will be dependent on private companies, but in the end, I mean, we are dependent on them, as persons. And we are evolving in the world where co-dependence will be really stronger and stronger. And the person who says ‘I want to do everything on my own’ will with very high probability fail. Clearly, private companies, and it happened a lot that public money disappeared into a private company with nothing delivered and stuff like this, but I see it happen also in the public sector. It just maybe needs better control, a change in delivery models (...)” (Interview 11).

This excerpt points at another important challenge that accompanies public innovations in general; a change in mind-set toward more collaborative and participative relations with the public. Public administrations have to realise that they are not all-knowing and are not obliged to always have an answer to every problem. Instead, they should try to capitalise on the expertise of external actors, be it private companies, citizens or different para-public organisations. The necessary continuous collaboration between public administrations and the public has been in the literature emphasised in relation to the increasing complexity and technical nature of issues, which public authorities cannot hope to resolve all by themselves.

The relation between a public administration and a private company that develops technologies for them resembles the principal-agent relation described by the agency theory (Eisenhardt, 1989; Mitnick, 2013). The main risk in this connection resides in the asymmetry of information between the principal – public administrations and the agent – private companies, which might keep the principal in the dark about the real motivations and strategies of the agent. To attenuate the information deficit on their side, public administrations in Switzerland often delegate the responsibility for e-Government management to their IT departments. In this way, even if the technological development is outsourced to a private company, the IT experts in the administration understand and oversee every aspect of the project. Additionally, because administrations realise that there are certain risks related to cooperation with private companies, they often keep the control over the most delicate or strategically crucial parts of the process. *“What we do a lot internally is really the data management. That is our core business, managing and publishing information. Everything that concerns technological applications, (...) that is the vector that publishes data, but what is important is the data, not the application”* (Interview 8). An issue concerning this approach often arises in smaller cantons and municipalities that do not have a specialist IT department and therefore are obliged to completely outsource e-Government development. In this connection, it is also the issue of job structure that should be addressed. Public administrations have been for a long time known for their preference of law and public administration graduates whose qualifications are the most compatible ones with the accomplishment of their main tasks. As a consequence, public organisations today still lack technologically-skilled people and employing IT experts does often not come naturally to them.

The outsourcing of technological development to private companies was praised by the interviewees especially for the flexibility of delivery, but also for better technological security. This came as a surprise, because my first supposition was that public administrations

would be able to manage security risks better internally than with external partners. *“It is true that the outsourcing of development, (...) was extremely useful for us because we could react much, much faster than if it was done internally, in a very pointed way”* (Interview 30). *“I do not really know why, it is internally [in the office] that it does not work. (...) they [private companies] are more flexible, cheaper, even more secure. We did security audits and it is clearly more secure than with internal development, (...). It is like that”* (Interview 20).

After outsourcing and internal development, the third important approach to obtaining e-Government technologies is in Switzerland the adoption of applications developed elsewhere (typically in another canton or office). Overall, the technological transfer of technologies is at the time of writing not yet used in Switzerland as much as it could be. It has so far proved useful mainly in the framework of electronic voting (e-Voting) and one-stop-shop (guichet unique) projects. In the case of e-Voting, the number of technologies that were initially tested in Switzerland decreased from three to one; one of the systems did not receive the certification of the federal government and the second one was abandoned for cost-related reasons. The only e-Voting technology that nowadays continues to be used in Switzerland is managed by the Swiss Post. The system was originally developed by a private company and first adopted by the canton of Neuchâtel.



4.4.2 Changing nature of relations between public administrations and citizens

The introduction of e-Government is tightly linked to the changing nature of relations between public administrations and the general public that goes hand in hand with developments in today’s fast-paced, interconnected society where the role of technologies has in the last decades grown exponentially. The shift in relations witnessed by public administrations has been described as a new, less authoritarian and more service-, information-focused era (Interview 3). *“A municipal representative is today much less the king of the village, it is rather somebody who has to solve problems and has to solve them quickly”* (Interview 3). This new, less authoritarian nature of relations between public administrations and its clients is related to the previous efforts to reform public

administrations, most notably the New Public Management philosophy with its emblematic vision of introducing the practices of private companies in the public sector. In relation to e-Government, the changing role of citizens relates more often to the traits of private service delivery than to private organisational practices. “... *that we treat a citizen as a consumer, (...), and then we consider him/her as such, so he/she wants a secure and quality service and he/she wants an effective service*” (Interview 9). An interviewee responsible for e-Government on the cantonal level directly emphasised the necessity for the State to copy practices of private companies. “*The strategy is to see what consumption habits citizens have developed, such as shopping online, more and more transactions with banks, with different organisations, (...), the State has to do the same thing*” (Interview 30). This statement seems rather radical; however, it provides a good picture of the direction that some public administrations chose to pursue. The degree of attachment to the ‘traditional’ mission of public administrations seems to vary between different organisations. Whereas some perceive the legally-charged environment and hierarchical structures as a nuisance to innovations in the public sector, others seem to hold on to them as to the anchors of public mission consisting in the provision of continuity and stability in an uncertain external environment.

The denomination of citizens as ‘clients’ is related to the same phenomena. It reflects on the growing expectations of citizens, on the quality and effectivity of service delivery that they are used to from the private sector and that public administrations strive to match. Although the term is well-rooted in the e-Government discourse of Swiss administrations, it is not always well accepted. “*For me, they are not clients. They are maybe captive clients, but for me, they are not clients. They are obliged to come to us, so they are not clients*” (Interview 5). This quote implies a specific understanding of clients as actors that exist uniquely in a competitive, private environment. Due to the lack of competition in the public sector, the denomination ‘client’ was repeatedly not considered suitable by interviewees.

Accompanying the changes in relations is the growing demand for transparency and justification of public actions. The times when public administrations were not required to provide explanations of their actions due to the authority and respect that they were attributed seems to be mostly over. In Switzerland, the logic is still strong due to high trust in government and lack of external pressures for reform. “... *first of all, the respect toward administration. And secondly, we [public administrations] are trusted, that is clear, people trust us and are also extremely tolerant. If we make a mistake (...), the enormous patience of citizens is still there, we are quite protected in this way. In the public sector, it is very different*” (Interview 20). This quotation hints at the discrepancy between high innovativeness

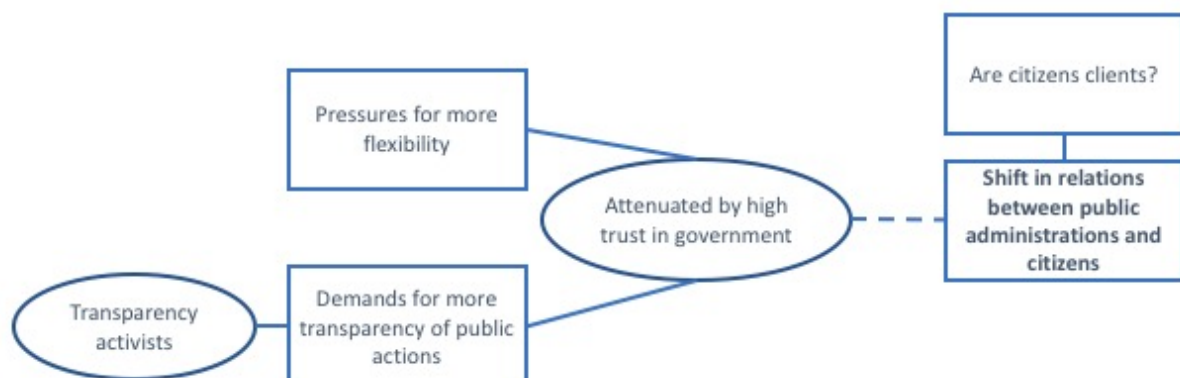
in the Swiss private sector and the innovative delay of Swiss public administrations. Even though the generally high trust and respect from the side of citizens seem to attenuate the possible discontent with inflexibility of public service delivery, public administrations realize that the change of attitude is inevitable. *“I mean, administrations have not realised yet that citizens are now in a different position that they used to be. They can click, they can click away, you know”* (Interview 4). In this connection, several interviewees hinted that if public administrations turned out to not to be able to react to the technological evolution in the society, private companies may start to provide services that could serve as an alternative to those previously produced exclusively by public administrations. The monopoly of public administrations would therefore be threatened and their importance marginalised. In the extreme scenario, even their very existence might be questioned as they would be considered obsolete.

Challenges relative to external demands for more e-Government

Concerning the external demands for e-Government emanating from the public, there is a discrepancy in opinions between different public actors. While some of them feel pressured to go in this direction, others consider such demands rather weak. *“Yes, expectations started to be voiced already many years ago. Even newspapers drill us from time to time, they sift the websites of public institutions, cities, cantons and they evaluate. We feel that there are expectations in this regard”* (Interview, 29). *“.... There is a demand, it is rather a psychological aspect, there is still certain fear of citizens to demand concretely something from the administration.... There is little direct critique (....) because we somehow still respect the administration. In my opinion, it is rather the administration that should do a step forward, provide its services electronically It is not demanded very actively”* (Interview 20). Likewise, the demands for more public transparency are not yet as pronounced in Switzerland as in other countries. This is due to the comparatively low perceived level of corruption and, once again, due to high trust in government. The pressures for more transparency nowadays come mostly from journalists and data activists. The open data community is as of yet not as strong in Switzerland, but it has its proponents in the federal parliament, public departments and private initiatives that aim to exercise pressure on official authorities.

Due to the lack of external demands for e-Government introduction, its uptake depends principally on the initiative of public administrations. Their willingness to introduce more technologies in their functioning seems to be fuelled by the trends in the society, which they try to follow. These developments also lead to growing focus on citizen-oriented service

delivery. The motto is no longer to act in the best interest of public administrations, but in the best interest of citizens. The citizen-focused service delivery is best reflected in the efforts of certain cantons and municipalities to introduce one-stop-shops (guichet unique). Even though these developments substantially facilitate the provision of public services for citizens, they also cause major transformations and conflicts for administrations. The realisation that “[a citizen] is a client, we are there to provide a service, we have to seduce, we have to be attractive” (Interview 29) comes in conflict with the defining mission of public administrations. The questions that are often on the table are related to working hours and availability of public administrations. “Our mission is to provide services to citizens. Our mission is not to be available 24 hours to inform on everything that is happening” (Interview 29). It is evident that morning and early afternoon opening hours of public administrations are not ideal for people working on the standard “9 to 5” schedules. However, the question is also whether public administrations should strive to be available during times that are probably most convenient for citizens, such as early mornings and evenings. Or should they be available 24/7? How long should the response times for public administrations be to guarantee their reactivity? Is it the mission of public administrations to cater to citizens’ needs on constant basis? These questions constitute real problems that could lead to serious cleavages and identity conflicts in public administrations. At the same time, they have to be answered for reasons related to the changing structure of population, which is characterised by the concentration of people in cities and increasing disparity between places where people work and live (Interview 3). “A help-desk at the time, it was open during business hours. And today, with this opening toward the population that spends their time in the fields [speaking about farmers] or wherever, we also had to think about how to help these people, to support them outside of business hours. It causes capacity and cost problems, infrastructure problems” (Interview 6).



4.4.3 Best practices in transformational e-Government

The term “transformational e-Government” refers to the most advanced phase of e-Government development according to the classification of Baum and Maio (2000). In their view, this last phase involves the re-definition of citizens-administrations relations. In Switzerland, the highest development stage of e-Government is represented by the so-called “guichet unique”, which has been or is planned to be introduced in several cantons. Guichet unique is a centralised ‘one-stop-shop’ electronic platform which regroups different public services (Homburg, 2008; Layne and Lee, 2001; Snellen, 2000). The transformation of public agencies’ websites toward more service- and client-oriented design, which replaces the previous departmental orientation, has been observed in many countries including Switzerland (Homburg, 2008). The main advantage of one-stop-shops is the facilitation of access to the services for clients, who are no longer obliged to know which department is responsible for the delivery of the service that they need and can instead obtain any service in the same place. The cantons that have decided to introduce the guichet unique seem to have come to similar understanding of what constitutes good e-Government. The following points summarise the most important good practices discussed by the interviewees.

- The first good practice is **the homogenisation of the provision of different public products and services across different departments** so that they fit the uniform ‘look-and-feel’ of guichet unique. Because final users are rarely interested in which department provides the service that they need and are more likely to accentuate the ease and rapidity of service delivery, cantonal administrations strive to introduce electronic platforms that provide a range of products, intuitive search functions and traceability of processes (Interviews 30, 31 and 35). Similar initiatives are being introduced also on the federal level for companies, with whom federal offices come into contact more often than with citizens: *“as a company, you should be able to log into a unified state portal and do all imaginable transactions. Because today, you have different portals on the municipal, cantonal and federal level for each office and for a company it becomes almost unmanageable. There are logins, look-and-feels and usability that change each time. (...) An entrepreneur would like to have one portal with one login and one look-and-feel and all data entered once only, he should be able to reuse it [the data] later, not that he/she has to every time re-enter his/her name, surname, name of the company, etc., that is really annoying”* (Interview 23). The change from the logic of silo-based public service delivery when users are obliged to find out which department is responsible for the delivery of the given service and then pass through their websites or physical offices constitutes an important step for

Swiss public administrations. In fact, out of fear of losing their identity or importance, different departments of the same cantonal administrations are often hesitant to agree to the provision of their services on a centralised platform, which does not distinguish between different departments. *“Each [department] has its professional competencies that are very specific (...). The global knowledge of what is done elsewhere [in other departments] is not required. So, when implementing common tools for everybody, the challenge is to take into account the needs of every department that works by silo with its own methods (...). Separating this part front end, what is provided to citizens, from back end, the management of data and cases. (...) And in the process, it is important to do this separation so that the front would be homogeneous for users”* (Interview 27).

Cantons proceed in different ways regarding the implication of different departments. The preferred one seems to be through the explanations of positive effects that the transversal provision of public services has for citizens, but also for public administrations themselves. There are, however, also cantons whose approach can be assimilated to obliging different departments to provide their services through the guichet unique.

“Yes, of course, in the beginning they [departments of a cantonal administration] told us all the same thing. ‘Ah no, we manage our data clearly better than you could, we know how to do it and you do not’, but we obliged them and now nobody says anything anymore because they are all happy to have it [common data platform]. So, at a certain point, you have to advance, you have to say ‘ok, now it is like this’ and do it and it will be difficult for six months and then it will be good” (Interview 31).

Another approach to convincing individual departments to join a guichet unique is essentially pragmatic. *“Firstly, we work with departments that understand that there is an advantage (...) to be invested in the project and that are ready to redesign their processes”* (Interview 29). The departments that profit most from e-Government seem to be typically those that have frequent contacts with citizens and whose work processes are comparatively complex.

Even though the introduction of guichet unique in Switzerland has to deal with a number of challenges already on the same governmental level, to achieve a truly coherent e-Government, the platforms should be ideally also connected across different governmental levels. The unification of cantonal services on a single

platform seems to be, for the foreseeable future, a good compromise between interests of citizens, on the one hand, and of different public departments, on the other. Whereas the latter risk to lose a part of their independence by offering their services in the guichet unique, they are still important actors in the process. Citizens gain in regard to the ease of use of public services, even though these are not integrated across different governmental levels.

- The second good practice is the **“little by little” approach to digitalisation**. The success of incremental introduction of e-Government represents a contrast to the failures that Swiss public administrations encountered in the past when they had been too ambitious in regard to the size of projects, which later ended with substantial financial losses. Failures of major projects relative to public sector digitalisation have in Switzerland slowed down the implementation of e-Government in the last decade and the pace seems to have accelerated again only since the last couple of years with a different attitude. *“So, we ask ourselves ‘would it not be better to spend the same amount for repairing a road?’ It [e-Government] represents significant investments. I think that Switzerland manages particularly badly public digitalisation projects. In all cantons and on the federal level we had big fiascos related to digitalisation projects. I think that politicians are hesitant to start another project because there were so many fiascos, software that we bought for millions of francs and that never worked”* (Interview 3). The common trait of digitalisation projects that are not successful seems to be too much ambition that is associated with them. Contrary to big, all-encompassing projects that revolutionise the functioning of a whole office or administration at once, the administrations that are nowadays successful in e-Government have realised that the more durable approach is a little-by-little introduction of e-Government accompanied by constant communication with concerned departments. *“...it is true that instead of starting with an enormous guichet, we started little by little and we developed our guichet little by little, we expanded it based on experience. The big mistake that many cantons make is that they undertake huge projects that take years and so when the platform is finally online, it does not correspond to expectations and it is so cumbersome that they are not able to scale it. I think the winning card is really the little by little strategy and scalable platforms, which does not mean making no mistakes, (...) but it is necessary to put things online immediately and see how citizens react”* (Interview 30). What the initiators of the first projects did not seem to realise was that the process of innovation

was to an important extent a process of cultural change; technological innovations are by their nature not compatible with the principal traits of the culture of Swiss public administrations. For this reason, the ‘big bang’ introduction of e-Government is almost pre-destined to fail. Incremental and pragmatic introduction of reforms, as opposed to the big bang approach, have been traditionally preferred in the Swiss administration. The little by little approach has for a long time also characterised Swiss policy-making and seems to be the most likely way toward a cultural change in public administrations.

- The third good practice is related to the increased accessibility of public services that is achieved through the **de-jargonisation and simplification** of different documents. The websites of public administrations should not focus on providing exhaustive information accompanied by a list of official documents in the jargon of public administrations that is not necessarily understood by the large public. In general, they should change from being easy to use for public administrations to being easy to use for their clients. *“Look at all the websites we have, it is usually we, about us, it is not ‘what do you want’, ‘how can I help you’, it is really about us, so that is also something that, I mean administration has not realised yet that the citizens are now in a different position than they used to be”* (Interview 4). Overall, the use of government websites should be intuitive and functional, as opposed to overloading users with information and legal directives. The discourse related to the client orientation of government services appears nowadays more and more often in the statements of Swiss public administrations on both cantonal and federal levels of government. *“That is another objective that we have for the new online shop, besides improving search options and accessibility of contents we would like to harmonise and edit them. (...) We will elaborate guidelines in order to maintain a uniform structure of information on different pages”* (Interview 29).
- The simplification of online communication with citizens is closely related to the fourth good practice, the **necessary rethinking of administrative processes**. Another pitfall of e-Government that Swiss public administrations faced in the past was the effort to digitalise services in the exact form in which they existed in the physical world. *“Another thing, it is a really a problem of whether we dare to redesign the processes. If we only digitalise them, there will always be problems....”* (Interview 17). The best practice related to this issue is thinking about the re-design of existing processes already in the initiation phase of their digitalisation. *“A big mistake that*

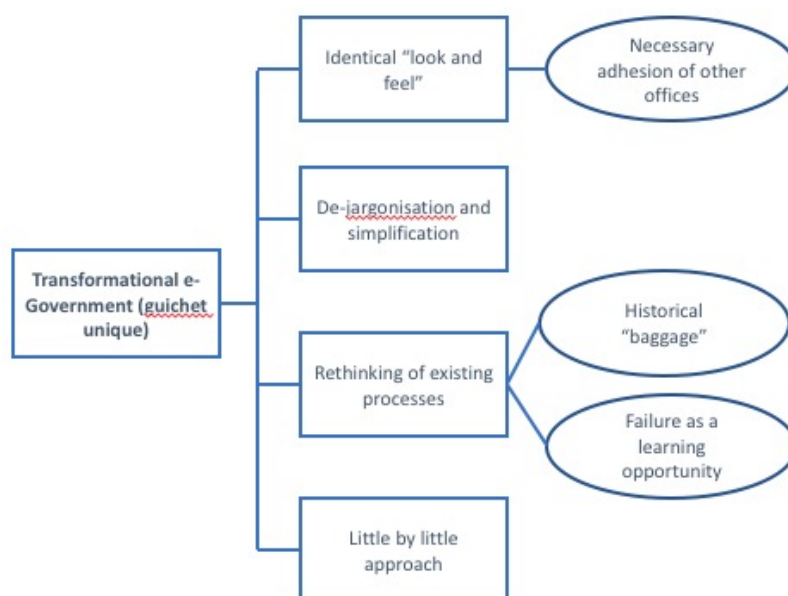
many people make is to believe that digitalisation means simply to dematerialise existing things. (...) we discuss how we could improve the processes, how we can optimise them. When this is done, we bring in the technologies. (...) A mistake we used to make was that we talked first about technologies before talking about processes” (Interview 30). The issue of necessary process redesign is related primarily to the possible incompatibility between the offline form of the process and users’ needs or expectations. Even if an administration falls into this pitfall, the important thing is being able to perceive every setback as a learning opportunity. “When we managed to digitalise this service, and create an electronic form, we did a sort of copy-paste without really thinking about the process. We ended up with a stodgy thing. That made us see that it was important to rethink the process and start to put ourselves in the shoes of a user. (...) It was a failure because the first version was really unacceptable, but it was positive in the sense that we really realised what impact it could have to just digitalise without redesigning the process” (Interview 27). The conscience that failure is a possibility in an innovation process constitutes a parallel with a change in the culture of public administrations, which conditions the successful introduction of e-Government. This topic is further elaborated in the following chapter.

The rethinking of administrative processes is in Switzerland burdened by the high degree of institutionalisation of existing offline processes that still work comparatively well. Therefore, the justification of their digitalisation is not always evident for public employees. The following excerpt from an interview with a federal e-Government project manager provides an insight into the complexity of this reasoning:

“I think that in countries like Estonia that had to start anew in the 1990s, there were no state structures, there was nothing, they could completely rebuild a digital process according to how they thought it was good and effective. For us, it is not like that. We have to look into the existing processes and try to digitalise them and it is very difficult to try to change this, there is a lot of rigidity, there are laws, there are things that were always done in this way, (...) [In Estonia] they had probably less legal regulations to respect, less history, they could go ahead, do things quickly (...). There are certain things that do not even exist physically in Estonia. In Switzerland, there are always both, there it was directly created only in the electronic form” (Interview 23).

The issue of the strong institutionalised rooting of different working procedures constitutes the flagship reason for the slow pace of e-Government introduction in Switzerland. The institutional and political context that was created in Estonia in the 1990s is hard to replicate in other countries with long institutional and administrative traditions that make them, by definition, also significantly more path dependent. It is impossible for Switzerland with its deeply historically rooted institutional and political system to implement a similar “big bang” strategy of e-Government development. Another important difference between Switzerland and Estonia consists in the nature of relations between public authorities and citizens. Whereas in Switzerland the role of the State is relatively small in that its interventions in citizens’ private lives are relatively scarce, the Estonians have historically been used to the State having an important role in their lives. Therefore, they are also more open toward the faster introduction of advanced e-Government functionalities.

Overall, the interview results imply that it is a considerable advantage for e-Government to not to have any historical ‘baggage’. Digitalising a service that did not exist before or restarting from zero generally seems to be a more successful way of developing e-Government. *“We were lucky because we did not digitalise an existing service. Because, in fact, the service did not exist. What I observe often is that offices, they try to digitalise their services, but in a way, they make the same mistakes in the digital world as they used to make in the physical world”* (Interview 8). A future research proposal that arises could be formulated in terms of “the less path dependent administrative processes are, the better for e-Government”.



The four good practices related to guichet unique presented above are completed by the fifth condition of the seamless and user-friendly functioning of a guichet unique; necessity to have a login that would allow users to access the integrity of functionalities, within the same canton or across different governmental levels in the case of the provision of federal and municipal services. In the Swiss context, this login is often referred to as an electronic identification (e-ID). *“The authentication problem was fundamental for the connection of information systems and that is what is dangerous, if you do not manage to do this, you work by silo and the silo will quickly anger citizens, because they have to have four authentications”* (Interview 31). The cantons that have introduced or plan to introduce the guichet unique agree that a national law on e-ID is necessary for ensuring maximum integration and coherence of access to services. Overall, the federal e-ID project is one of the most important federal e-Government initiatives that are demanded by cantons and the first building block of successful e-Government in Switzerland. The introduction of e-ID is supposed to serve different purposes, such as digital democratic participation, e-Government, e-Health, e-Commerce, e-Banking, electronic signature and social networks (Fedpol, 2017).

The first effort to introduced a national e-ID was the SuisseID project that, however, has not been hugely successful due to the lack of usage opportunities. From the point of view of interviewees, the SuisseID represents one of the projects that were conducted by public administrations just so that they could put a tick in the box next to an electronic identification tool on the list of e-Government progress. *“The SuisseID was created (...), it was a key. (...) The Confederation never thought about what door it could open. So, we found ourselves with a key in hand, but we did not know what we could do with it. That is the problem of SuisseID today”* (Interview 15). Even though mistakes related to usability were made at the beginning process, the approach of the Confederation and cantons seems to have changed in the meantime. The SuisseID project was re-thought and nowadays seems to be heading in another direction.

The guiding principle of the new federal law on e-ID, which went through the consultation phase of the legislative process in Spring 2017, is to delegate the production of e-ID to external providers who would have to fulfil criteria defined by the Confederation. *“The Confederation will never restrain the number of providers [of e-IDs]. Its role is relatively liberal, (...). Certain groups think that this is a mistake, that will cost too much, because there are no economies of scale and Switzerland is not big....”* (Interview 15). The future of the law is as of yet unsure, it has gathered a lot of criticism from both political parties and interested actors. The main criticism is related to the provision of e-ID by private companies,

which might therefore gain access to the sensitive data of their customers. The main explanation of the choice of this system given by an interviewee from the office responsible for the project was that public administrations were not able to keep the pace of development in the field of ICTs and that private companies were better adapted to this challenge. Additionally, because of stronger competitive pressures in the private sector, private companies are more motivated to offer the most up-to-date product. However, even when one admits that the State and legislative processes are not be able to follow technological advancements, it would be possible to create a framework federal law detailed by ordinances, which are easier to modify. Another reasoning advocating the provision of e-IDs by different producers is related to the scarcity of contacts with public administrations and the related necessity to develop e-ID that would integrate different functions and could therefore be used for different operations (Interview 18).

Probably the most interesting argument that depicts precisely the main criticism of the market approach to e-ID is the following: *“As a citizen, I would say I want a State that is able to organise this kind of process [e-ID]. It does not mean that it must program it, but it must issue it and control it 100%, because otherwise it is not credible for political processes. I do not need to have a member card of any company, which is related to my political rights... (...) So far, it is not bad, I mean, the way the government took is high risk and because they really risked a lot now, I believe they will crash. Maybe it is ok because the crash will be followed by a big discussion on how to do it differently. If they go through with it, it is possible to do a referendum, if the parliament does not stop the project and this will be really interesting because e-ID is a very emotional issue for Switzerland, for Swiss citizens, and even if they do not know a lot about digital democracy, they know that they do not want to have a login from SBB [Swiss national railway company] or a bank or so, it is very difficult to persuade the people that it is the better option”* (Interview 33). Two points are to be underlined here. Firstly, the assimilation of the e-ID to a “member card of a company”. It seems that even though the companies providing e-IDs would have to fulfil criteria defined by the federal government and would probably have to conform to strict security regulations, these guarantees are not sufficient. This implies that private companies are not to be trusted with citizens’ personal data, but also that the federal government is not able to oversee sufficiently the process or define the right criteria. The second interesting point is the view of the interviewee who considers the first proposed law on e-ID as a springboard to a wider discussion on the topic. This thinking corresponds to a frequently mentioned effect of popular

initiatives that do not pass the test of referendum; their importance consists in putting an issue on the political agenda.

4.4.4 Organisational level of analysis

Necessary shift in the all-knowing administrative culture

Accounts concerning innovations in the public sector differ in regard to the capacity of public administrations to innovate and even to the existence of public innovations as such (Kattel et al., 2013). Innovation drivers in the private and public sector differ significantly due to the disparate characteristics of environment in which private and public organisations exist. The public sector is characterised by a certain number of constraints, which are related, for example, to institutional, political and legal frameworks. Additionally, an important element that impacts on the innovation capacity of public administrations is the incompatibility of organisational culture with innovative processes. In the process of e-Government introduction, this reality is reflected in the difficulty to accept certain effects accompanying every innovation process. Findings from the interviews show that the prevailing Swiss administrative culture is not compatible with the type of changes that e-Government triggers. Most importantly, public administrations lack the mind-set necessary for this type of reforms to take root. This challenge does not apply exclusively to the introduction to e-Government but constitutes a more general characteristic of public administrations' mentality. *"I think, what I would say on this is that public administrations work by plans, so they plan something that has to happen. We are in the business of innovation and innovation does not like plans that much. You usually do a very small product, you test it with a small amount of people, you re-arrange the product so it looks a bit different, test it with more persons and then at the end you share your product. This is absolutely not the way administrations work"* (Interview 11). Such anti-innovative characteristics of administrative culture seem to be especially pronounced in the case of e-Government, which causes major changes to the ways public administrations had worked in the past.

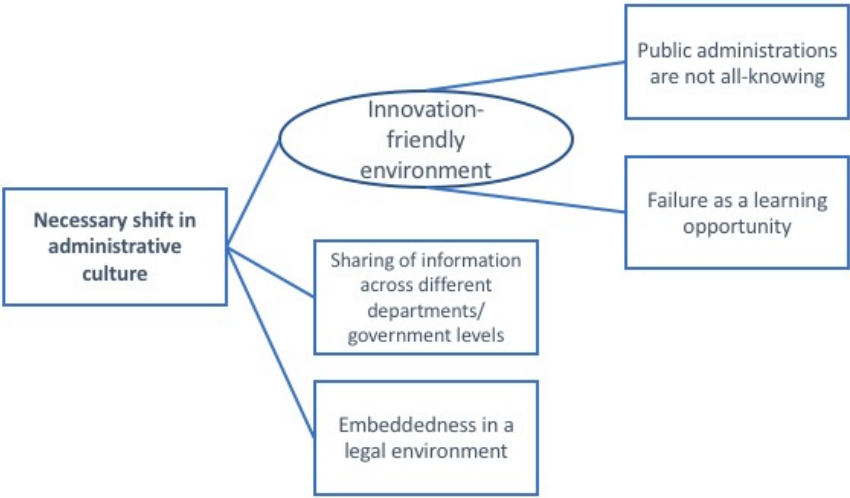
Because innovations are never risk-free, public managers have to accept risks related to possible failure and uncertainty of results. Additionally, they should define emergency procedures for cases when such eventualities occur. *"An error is an option now, it is not a fatality in itself...."* (Interview 9). Such mind-set seems to be extremely difficult to implement in the environment of public administrations, which are supposed to perpetuate state stability and continuity. The importance of being able to say 'I do not know' was in the connection to public innovation repeatedly emphasised by the interviewees. It seems that public managers

are hesitant to admit that there are limits to their own competencies and are not always inclined to collaborate with other public or private entities that could provide better insight into the matter at hand. “... *just to understand that they can use the power of the public or that it is not bad to ask for help from citizens, that is a completely different way of how the administrations have worked up to now. Usually they are perfect, they have perfect data, they know everything and they do not like to shift from that picture, so of course that open culture is a challenge [in regard to the use of public data by private companies]*” (Interview 24). The change in mind-set seems to be especially emblematic in the framework of open data project, whose guiding principle is the free sharing of public data with the public. The main goal of the project is to enable private actors to find new creative uses for public data and thus contribute to the well-being of different groups in the society. However, it is evident that people using the data are also likely to find and report imprecisions. Public administrations have to be ready for this eventuality, be open to suggestions and not shrink from criticism. “... *one of the big problems with open data is that other people will look at your data and they will send comments and you have to deal with the comments and you have to improve the information. So, this is some kind of a mind shift that you are not always right, that maybe in reality somebody knows better*” (Interview 19).

The interviewees that had a more transformational vision of e-Government overall had also similar understanding of innovation culture. They suppose that administrations start to realize that the way forward is not possible without the participation of citizens. In the view of an interviewee working in the federal administration, the administrative culture has up until now been such that public administrations rather consulted experts than people when they needed expertise or an opinion on something. People were not considered specialists even when they possibly had better knowledge of the problem than the experts (Interview 4). The sharing of information and the solicitation of opinions is not common even internally between different departments of the same administration. This point is related to the previously mentioned rethinking of existing processes, which seems to be a necessary condition of functioning e-Government. It seems that the key glitch in this connection is also cultural. “... *Like I said, departments work by silos. They are not used to us knocking on their door and being interested in what they do. It is also in the culture. ‘Let me work’ and when we start to tell them that the process could be improved, it is not in their culture to start to share the process. (...) the culture of an administration in the sense of sharing common points, common solutions, it is not easy*” (Interview 27). This interviewee hinted at an individualistic culture of public departments. One point that was in this connection evident in the course of

interviews concerns the preoccupations about department’s identity, which risks to be dissolved or at least weakened if the department was to take part in a common platform of public services.

The necessary shift in mind-set seems to be more likely in new generations due to their better digital capacities and weaker institutional embeddedness. “.... *We have the new generation that is more uninhibited in regard to ‘I do not know’....*” (Interview 35). “... *I think we still have to wait one generation, for the digital natives, (...), to see a change in mentality, I am not even convinced that it will happen thanks to technologies*” (Interview 9). For the moment, the non-technological barriers to e-Government seem to be amplified by generational and skills-related cleavages. In other words, the perceived or actual insufficiency of digital skills constitute an important break to e-Government. I suppose that the way forward should lie somewhere in between the fearful attitudes to the use of technologies and their unconditional acceptance. The cautious attitude to e-Government that defines Swiss public administrations should be accompanied by an appropriate dose of risk-taking and flexibility. These two characteristics that are necessary in the implementation of innovations are almost completely lacking.



4.4.5 Personal level of analysis

Before considering the impact of other contextual factors, such as institutional and legal frameworks, it is necessary to emphasize the paramount importance of “personal” factors for the introduction of e-Government. In fact, the personal characteristics and attitudes of public actors emerged as one of the decisive factors that influence the introduction of e-Government. They are related to the digital skills of public employees, but also to the vision of ICT use in general. Overall, personal attitudes seem to be built on historical and institutional

justifications and the perceptions of how Swiss public administrations and democratic processes should look.

“Why change what works”

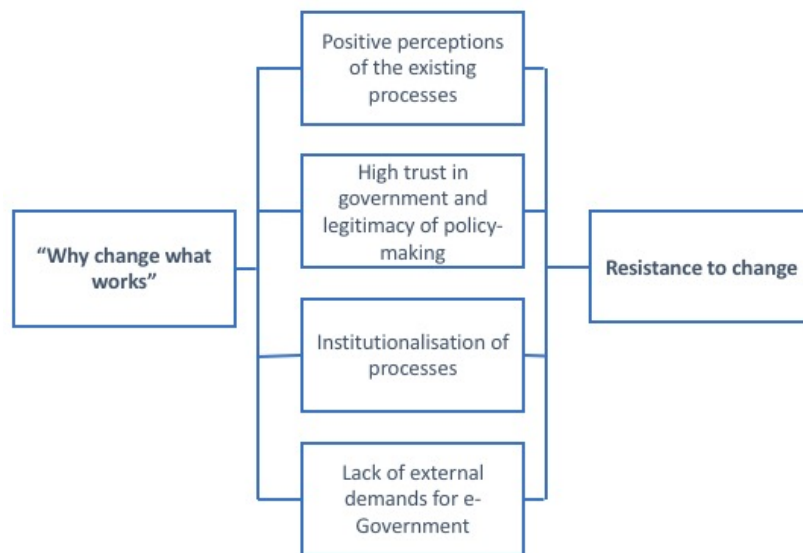
The reluctance to innovate is in Switzerland in regard to e-Government often reflected in the arguments of “why change what works” that refers to the comparatively high quality of Swiss public services and high satisfaction on the side of public administrations and citizens alike. One of the interviewees from a federal office explained that providing services in a timely and orderly manner *“is in the Swiss DNA”* (Interview 5). For another interviewee from a different federal office, e-Government in Switzerland is comparatively underdeveloped because *“the paper-based processes work very well and people are often attached to the paper, to their habits, it disrupts the habits, it is a cultural problem. In countries where they have nothing and the delivery of public services does not work well, those are the ones that are most motivated”* (Interview 25). This last statement does not refer only to the quality of existing processes, but also to the previously mentioned change in culture that accompanies the introduction of e-Government and to the lack of external or internal pressures on the introduction of e-Government.

Satisfaction with the existing public processes was in the interviews emphasised in two ways. Firstly, in the sense that public administrations do not understand why they should change their working processes that are perceived as successful and, secondly, in the sense that citizens trust public authorities because they see that things on the exterior work well and their tax money is being used wisely. *“In our country, people are usually quiet, happy with the democracy part, transparency part. There is still room for improvement, but it is not like a big, big issue”* (Interview 10). This point is closely related to the low implication of citizens in the interaction with public administrations, which is especially visible on social networks where public authorities are nowadays starting to build their presence. The success of the Swiss system seems to be in regard to e-Government also its own pitfall. It seems that it has become too rigid to be able to self-reflect on its shortcomings and improve itself. This approach is further cemented by the institutionalisation of processes. *“Because the [organisational] structures exist since a very long time, there is more resistance toward technological solutions. They have to always be at least as good or better than the existing processes. If it is not so, you have no chance, (...). We are much stricter with e-Government solutions than with the traditional ones. We always ask if this and that could be falsified or if we could impersonate somebody else and so. Often, we have to say ‘yes, you could, but you*

could also sign a paper form, submit it and say that you are somebody else'. It is not worse than with paper procedures” (Interview 23).

In this place, a parallel with electronic voting (e-Voting) project can be made. E-Voting is nowadays the only well-established e-Democracy project that is being implemented in Switzerland. It is also one of the most controversial e-Government projects. It seems that the especially cautious attitude to e-Voting is at least partly caused by its novel nature and a number of arguments that were raised at the time when postal vote casting was introduced are repeated in regard to e-Voting. The generalisation of the vote by post took more than thirty years. The embeddedness of procedures and the path dependent behaviour of Swiss public administrations were palpable also in this process. Even though high trust in government is doubtlessly very positive by itself, it also seems to serve as an excuse for public administrations to not to undertake innovative reforms. As one of the interviewees indicated, it is more comfortable to have the know-how of how things are done and it is much less comfortable to learn new things and question one's habits (Interview 2).

High trust in government coupled with the overall satisfaction with public services, traditionally very low voter turnout (Pew Research Center, 2018) and the proximity of public administrations to users seem to be major obstacles to the cultural change in public administration on both organisational and individual levels. *“.... Already we have a small territory, so we can travel easily, (...), there is the aspect related to municipalities that have still a lot of authority” (Interview 27).* When being presented with a repertoire of arguments related to the comparatively high satisfaction with Swiss public services, a question that suggests itself is: Is e-Government in Switzerland needed at all? Like with every innovation, there are partisans and opponents of e-Government in Switzerland. However, even its partisans describe the need for e-Government rather in terms of “following trends in the society” and “facilitating service delivery to citizens” than pointing out any more profound problems of Swiss public administrations. This overall positive perception of Swiss public administrations also implies that they have comparatively more to lose if their e-Government projects fail. The high legitimacy of policy-making may therefore paradoxically hinder e-Government. *“.... There is a lot of history, Switzerland was founded in such a way, ok, federalism as an aspect and then also local authorities, but often what we see in the projects, we come to the same thing, the fear of change” (Interview 30).*



4.4.6 Individual level of analysis

Importance of innovation leaders

The analysis of interview transcripts showed that the number one impulse for the uptake of e-Government projects in a public department was the person who “*carried the flame*” (Interview 25). From the different groups of people that I interviewed, it follows that this person may be a politician, a cantonal chancellor or a manager of a federal or cantonal office. The importance of their presence was emphasised in relation to the vision of ICTs use that they bring to the organisation. The key to success of the right people is three-fold. Firstly, this person has to be around at the time that is right for the ICT innovation (when the window of opportunity is open). Secondly, the person should create a community of interest around the project that represents its support base. Thirdly, the person should be able to demonstrate the positive effects of the innovation. An innovation manager should have a skill-set composed of digital, managerial and communicational competencies. “*We had to work really hard, psychologically, to make them [employees of a public office] accept that we have to put ourselves in the shoes of the client; for clients it was a huge advantage to have one platform, one identity*” (Interview 8). Because external pressures for public innovation are in Switzerland rather scarce, internal push for innovative projects seems to be the main durable way for public administrations to innovate. Innovation leaders should not only be ready to fight internal resistance to change but should also realise that they probably have only one chance to implement a major innovation. “*.... We said it, the success is obligatory. If you start a project and then it crashes, good luck. It is extremely difficult to recover. For this reason, it is great to adopt a guichet that works already, that is why we have so much success now, it is a guarantee, it is already a big success*” (Interview 30). The fear of project failure is

in the public sector especially pronounced due to the detailed scrutiny of the use of public funds by media and the general public.

The importance of individual factors seems to be further reinforced by the federalist state structure of Switzerland, where the central government does not hold authority over cantons in a number of policy domains. Because the federal government cannot or does not want to dictate what different public administrations should do, the importance of individual actors for the uptake of e-Government projects becomes crucial on the cantonal and municipal level. *“If there is a chancellor who does not want to do e-Voting, or the cantonal parliament is not interested, it will not happen. It is strongly linked to people that are there. Is there a motor, a person, or a group of persons who want it or not? (...) It is like in the population, there are early adapters, it is the same thing”* (Interview 15). *“You have but one chance to implement a successful e-project; there has to be somebody who supports the project, sees the advantages and who tries to convince people. You need motivated people who will manage the project”* (Interview 2). Whereas such mechanisms are rather commonplace in Switzerland, it should be pointed out that they are quite exceptional in other countries. The strong bottom-up character of Swiss federalism delegates significant powers to regional public administrations, much broader than they would have in centralist or even other federalist countries.

The ‘innovation leaders’ were also represented in the group of interviewees. Differences in the understanding of what e-Government means for public administrations were immediately palpable. In fact, they were able to provide a more coherent, englobing and realistic view of possibilities that technologies represent. Furthermore, they were considerably less affected by the characteristics of public administration behaviour that were stated by other interviewees. An important trait of the people who are considered e-Government leaders seems to be linked to their previous work experiences from the private sector. It is probably for this reason that they are less burdened by the public-sector logic. *“... At the beginning of the project there were two or three people coming from the private sector. And then, with the business culture, technology-oriented culture in fact, (...), we became the villains for a time. And now we are the good guys. It is funny”* (Interview 8). Another point that clearly distinguishes innovation ‘leaders’ and ‘resistors’ is their view of project failure, which was emphasised in the previous chapter in relation to administrative culture. Whereas the former consider failure as a natural part of innovation process, which should not be penalised, but instead should be used as a learning opportunity, the latter strive to avoid it all costs.

Political support or mandate: “improving the functioning of the State with the help of new information technologies”

In addition to the support of particular persons on the inside of the organisation, political support or mandate has been underlined as a crucial impulse to introduce e-Government projects by a number of interviewees. It is considered even more important in the framework of projects that lack innovation leaders, in other words those that do not have particular personal support on the inside of the organisation. In the latter cases, it sometimes seems as if the offices that receive a political mandate for the introduction of a certain project, try to free themselves of the responsibility for its introduction by evoking that the project was actually initiated by the political centre and they simply follow instructions. “... *That is the first restriction, that is to say that the offices will think ‘I will do what the parliament asked me to and nothing more’. Doing more than one must, that is always a bit risky, you see, for certain people. And so we wait for it to come from above*” (Interview 13). Contrary situations have also happened when innovation leaders on the inside of an organisation had to convince politicians of the importance of e-Government. “*We come back to the question of power, (...), politicians, telling them ‘it is worth it’. When they have understood, they are almost too demanding. (...) [The political support] is indispensable. Without it, you cannot do anything*” (Interview 30).

The e-Government in itself is in Switzerland considered primarily a political project. Its introduction is nowadays guided by official documents and principles defined on the level of federal and cantonal governments. “*It is political will, clearly, the principle of e-Government, it is political will. We hear it since several years Political pressure for the fittest administration possible....*” (Interview 1). “*Well, the tendency in the Confederation, it is very marked (...). And the ideal objective of zero paper (...), it is there somewhere. We do not know where, but it is there*” (Interview 5). E-Government is in this sense perceived as a means to an end, the end being more efficient and flexible state administration.

In relation to the importance of political support, it seems that e-Government follows in Switzerland the same trajectory as the previous introduction of New Public Management reforms. Giauque and Emery (2008) state that NPM reforms in Switzerland progressed little by little through careful, voluntary experimentation and were influenced by the balance of power in political institutions. Similarly as with the NPM, it seems that there is no ‘one best way’ for the introduction of e-Government on all government levels in Switzerland, but that its introduction depends on political and organisational priorities.

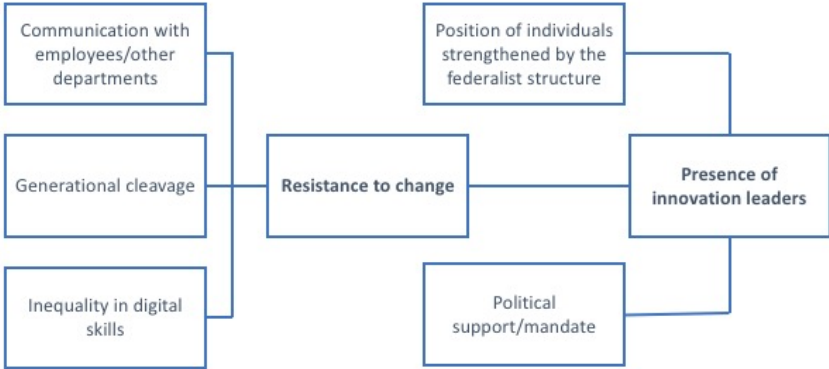
Resistance to change – “the way we do things”

The main reasons for resistance to change that the innovation leaders need to overcome seem to be age differences linked to tech-savviness of particular employees “.... *we have people who are immediately happy because we digitalise and then others who try to resist a bit*” (Interview 1). The resistance of public employees to change was cited by interviewees on several occasions as an important barrier to organisational change. “*That is what slows it down, it is the fear of change and the fear of changing practices mostly*” (Interview 30). “*It is the resistance to change because people worry about their job, which is understandable*” (Interview 8). At least two important reasons were given as explanations of this resistance. Firstly, it is the generational cleavage, which is reflected in different digital competencies of younger and older employees, but also in different expectations of younger and older generations of citizens. Additionally, older generations seem to be also more attached to their ‘way of doing things’ and find the change unnecessary. “*The fear of change, it is also a facilitation. ‘We always did it like this, why would we question it?’ Then it is also a question of mentality, a question of generation, we see it now, we have three generations that work together, the eldest, then my generation that was already ‘computerised’, there are not many problems, and the youngest generation*” (Interview 30). As a way out of the stigma related to lacking skills, one of the interviewees claimed that “*it is clear that once the system changes, it will incite people to acquire competencies in the field....*” (Interview 28).

Secondly, it is the fear of job loss due to the possibility to replace humans by machines. This latter phenomenon relates to the necessary restructuring of work force in public administrations that decide to digitalise their services. It does not necessarily mean immediate substantial job loss, but rather the need to recruit more employees with managerial and technical background. Public administrations clearly realise that changes related to the management of human resources are necessary and strive to solve this challenge. “.... *even people who were skilful at what they were doing, it is becoming too complex for them or they do not have a job anymore meaning that we do not have anything anymore that they could do, that is also something that we will have to manage*” (Interview 35). The need for the restructuring of human resources is accompanied by changes in the use of technologies between younger and older generations of users. “*When I look at the generation Z, they do not even know anymore how to write an email, we have to take this into consideration, the new generation functions like this and we have to be ready for them*” (Interview 20). In addition to differences related to skills and field of expertise, the resistance to change seem to be triggered also by the fear of losing legitimacy and thus losing one’s meaning. This effect is

present principally on the organisational level as it is the whole units of administrations that fear for their image. In this sense, the underlying reasoning for the resistance would be, once more, principally neo-institutionalist. Public administrations avoid changing their institutionalised modes of functioning and patterns of behaviour for fear of ruining their legitimacy. Swiss public administrations believe that the established public institutions have contributed to their stability and success. For this reason, they are reluctant to change them even when the old ways of functioning are outdated and irrational.

In the process of e-Government introduction, continuous communication with different departments that provide public services and their support in the process of digitalisation seem to go a long way in helping to overcome internal resistance to change. *“You can have the best guichet in the world, if you have not done this important work, persuading people, bringing them slowly in this model of digitalisation, you will never succeed, it is too brutal for them”* (Interview 30). In short, it is not possible to achieve a coherent e-Government introduction by leaving different departments to manage digitalisation on their own with no support from the administration’s e-Government management team.



4.4.7 Institutional level of analysis

The federalist structure of Switzerland and its consequences act, at the same time, as a moderating and independent variable in the research model. The moderating effect of the Swiss institutional and political system consists in the impact of consensual decision-making and direct democracy, which disadvantage public administration reforms of political character. Swiss federalism as an independent variable refers to the way e-Government introduction is coordinated on different governmental levels and internally in cantonal and municipal administrations. Even though official coordination structures have been put in place and e-Government strategies have been developed with the participation of different cantons, cities and external stakeholders, the findings from interviews indicate that insufficient

communication and coordination of e-Government efforts stands in the way of its further development.

The federalist separation of powers seems to constitute the most important reason for the stagnant position of Switzerland in international e-Government rankings (UN 2016; UN, 2018). One of the explanations is the nature of Swiss federalism where most policy domains that are important for citizens are in the competence of cantons. In a way, this justification contributes to the explanation of the research question: the development of e-Government in Switzerland is slower than in other comparable countries because the used measurements are off. It is evident that this reasoning is not even close to being complete. It is often by choice that the federal government does not intervene to a more important extent in the introduction of e-Government on the cantonal level. *“It is the current situation. If e-Government Suisse stays passive, does not impose rules.... It is also for this reason that we are so low in e-Government rankings (....) You need certain number of success factors, or key elements, (....) Among others, it is the electronic identity”* (Interview 15). *“It is true that Switzerland has a lot of delay because when I see the issue of the law on [electronic] identification, it is a drama that we are still not able to agree”* (Interview 30). Although it is true that the ranking of countries depends on particular factors that are measured, a trend relating to the underdevelopment of e-Government and, even more flagrantly, of e-Participation is clearly present. A misunderstanding of Swiss public administrations concerning what e-Government signifies today was hinted at by an academic expert on e-Government: *“We were at a conference a few weeks ago (....), it was organised by the European Commission in Lisbon and this I think is a good example how the Swiss government is not really up to date on what e-Government is nowadays heading to”* (Interview, 21).

Bottom-up federalism – “no obligation”

The bottom-up nature of Swiss federalism is typical of the consensual delegation of powers to the federal government in areas where the federal government is able to render better services to the public. The issues related to federalism coming into light in the framework of e-Government introduction are found mostly on the level of coordination and communication between different governmental levels, but also between different departments on the same level. *“With e-Government projects, the problem is often not on the technical level, because there are always solutions, you invest more resources or competent people, (....), but it is rather on the level of coordination, motivating everybody to participate”* (Interview 23). *“Everybody does what they want in their corner”* (Interview 27). *“The most delicate part was to convince all federal offices to adhere to the project. (....) At the moment we work efficiently*

with federal offices, but less efficiently, I would say, with the cantons. In a way, what we went through with federal offices in terms of resistance we are going now through with the cantons (...). If you go to our portal now, you see that it is written 'the Swiss Confederation in collaboration with the cantons'. But one has to be clear; it is more a façade than anything else because I have to admit that the relations with cantons are not very good. We work well with certain cantons, but much less well with others" (Interview 8). Apart from issues related purely to communication, this last interviewee addresses another phenomenon related to the relations between the Confederation and cantons: differences in attitudes toward the federal administration and toward e-Government in general. *"It is clear that there is always certain cantonal protectionism. We feel it a lot with certain cantons and not at all with others"* (Interview 8). Distrust toward the federal government seems to be often linked to the past when certain cantons were negatively impacted by decisions taken on the federal level. The resulting effect is that they might be less willing to adhere to its e-Government projects.

Likewise, and also in relation to this reasoning, the federal government and national e-Government structures show rather hesitant attitudes toward obliging cantons and municipalities to take part in federal e-Government projects and initiatives. It seems that even in situations when the federal government would have the authority to unify specific e-Government initiatives on lower governmental levels, it chooses not to. Federal departments clearly find the participation of cantons in different projects desirable and important, but their approach to this collaboration stays very careful. Findings from interviews imply that it is not always justified. In fact, cantons would sometimes welcome that the federal government take more initiative in certain domains, notably concerning the introduction of a federal law on electronic identification that would standardize different existing identification tools and thus make them compatible with different applications (Interviews 27, 30, 31). *"Many things are being done. We have a problem because the Confederation is not able, principally does not want to oblige the cantons, it incites them, but it does not want to impose any concrete system, it is not very productive, it does not advance very quickly. (...) I hope it will come [e-ID], it has been fifteen years that I ask for an e-ID, so we will see what happens"* (Interview 31). The positive element of the consensual decision-making that includes communication and negotiation with the concerned parties is the high stability of decisions made in such a way. As one of the interviewees from a cantonal chancellery pointed out, *"I tell myself that maybe it would be a good idea to,, find the good critical size, have a mechanism,, e-Government that comprises all [government levels] and that is respected by everybody, which can satisfy everybody's needs"* (Interview 35). At the moment, it seems that the cantonal and

municipal autonomy in the matter of e-Government is untouchable and a more unified development of e-Government is possible majorly via negotiation and collaboration between different cantons. Such inter-cantonal cooperation is nowadays happening among limited number of cantons in the framework of the ‘guichet unique’ project (Interviews 30, 35). The impact of Swiss federalism acting as an obstacle to e-Government corresponds to the findings of previous studies that identified the form of state structure as a factor impacting on the speed of e-Government introduction. Several interviewees pointed in this connection to the difference in structures between the French Swiss and the German Swiss cantons. The most frequently cited example is the centralist character of the canton of Geneva, which supposedly explains its lead in e-Government (Interviews 11, 15).

Technology transfer

One of the advantages of the federalist system such as described by the interviewees is the possibility for cantons to act as “labs” of public innovation and test different technologies with various functionalities. This role of cantons is not exclusive to the introduction of e-Government. On the contrary, the possibility to test different policies on a smaller scale before rolling them out on the national level has been emphasised before (Giauque and Emery, 2008). But do cantons really act as “labs” of innovation also in the process of e-Government introduction? It seems that the answers are both yes and no. “... *I do not think it is annoying (the re-development of some applications in different departments), it also creates a certain dynamic. (...) what the others did, we can adopt it or at least be inspired by it and thus we can make up for delays quickly...*” (Interview 31). The principle of technological transfer constitutes one of the guiding ideas of the Swiss e-Government Strategy. “The e-Government Strategy encourages multiple use of technological solutions... The basic infrastructure allowing to extend e-Government is implemented once and consequently shared” (eGovernment Suisse, 2017, p. 5).

In the case of electronic voting, three cantons initially started the project with three different technologies. One of these technologies was abandoned due to its incompatibility with the security directives of the federal government. The second technology developed by the canton of Geneva was abandoned for cost-related reasons. Nowadays, only one e-Voting technology stays in use. The main motivations for the introduction of e-Voting in the three original cantons were the opportunity offered by the federal government (Interview 31) and the wish to become pioneer in the domain (Interview 36). Another approach in regard to the sharing of technologies that has been detected in the course of interviews is that particular cantons sometimes choose to become leaders in one functionality while other cantons concentrate on

other ones. This phenomenon is partly observed in the framework of open data introduction, where the city of Zurich and the canton of Geneva are considered leaders. As one interviewee responsible for the introduction of e-Government on the cantonal level pointed out:

“I asked the government [in regard to open data], telling them that for me it’s not a priority, open data, big data, cloud, And they [politicians] validated that for the next five years, for the moment, we will look into it in five years. So, the canton of (...) will not be the leader in big data, open data, cloud, things like that.” “it is a question of priorities, it takes energy and then what will we get from publishing all this data? When we will have seen valid experiences elsewhere, we will see in what way we can become a part of it. There are times when you have to be a precursor and other times when you have to be a follower” (Interview 31).

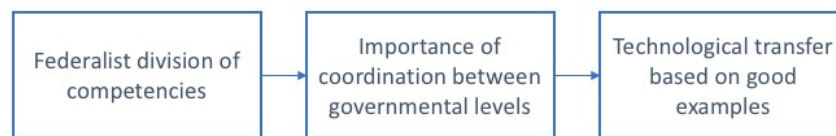
The excerpt shows that the strategies of e-Government introduction may choose the “big bang” approach and divide their resources into a number of different projects or focus on specific projects and intentionally wait for other administrations to take the lead in other ones.

The role of cantons as innovation labs is seemingly contradictory to the principle of technological transfer because cantons are supposed to act as ‘testers’ of different technologies and, at the same time, share them. In reality, it seems that both principles apply. Cantons acted as labs more often in the earlier phase of e-Government introduction and nowadays they are slowly shifting to the principle of technological transfer. However, the adoption of technological solutions developed elsewhere is still not as common as the e-Government Strategy would lead one to believe. This state of affairs is caused by different reasons. Firstly, it is due to the lack of communication between different local administrations, but also between departments of the same administration. *“We often noticed also during the implementation of other strategies, sometimes we reinvent the wheel three, four, five, six times because there is not enough communication. Everybody is in his/her silo, we work in a department, nothing leaves the department in fact. There is really little of departmental interest [in sharing]”* (Interview 9). The lack of communication is especially crucial in the Swiss setting due to the historically strong decentralisation of decision-making. From a more technical point of view, it seems that the historically decentralised way of functioning of different departments constitutes a problem for a one-stop-shop e-Government on the local level. Departments often work by silos and it is rather complicated to integrate their data, which is stored on different systems. Eradicating the necessity for citizens to repeatedly provide the same data to different departments is one of the objectives of transformational e-Government (Park, 2015).

Secondly, an important argument justifying the discrepancies in e-Government development and the insufficient technological transfers that was cited by interviewees on both federal and cantonal levels is related to the perceived uniqueness of different cantonal administrations and public offices, which prevents them from adopting technologies developed elsewhere. *“It is the federalism in all its splendour and, in a way, I understand. Every municipality will say ‘yes, but we are special’. (...) I think there are a lot of municipalities that are in a reactive mode, in fact, and not in an anticipative one. (...) ‘Let’s see what the Confederation will provide. Us municipalities, we already have so many things to do’”* (Interview 29). *“... We are not like the others”* (...) *“you have to treat them like they are unique in the world”* (Interview 2).

“Words teach, good examples draw”

One of the mechanisms through which the neo-institutionalist thinkers explain the process of organisational changes is based on the adherence to good examples observed elsewhere. This process can be assimilated to mimetic isomorphism, which, however, refers to the copying of practices of other companies with the goal of reducing environmental uncertainty (DiMaggio and Powell, 1983). Whether different public departments feel that their environment becomes more uncertain is not clear. Nonetheless, the approach of observing what other units do and adopting practices with positive results seems to be emblematic in the process of e-Government development in Switzerland on all governmental levels. *“... I think we should not make the mistake of wanting everything at the same time. It is necessary to concentrate our forces on particular projects and if these projects are successful, it helps you communicate. At the end of the day, it is the market that has to say ‘we need this’, it is not the (name of his office) that can dictate it”* (Interview 18). *“Yes, it is very slow, the movements are very slow and what we can note is that we are often observers. (...) we observe first how it works elsewhere and when it works ‘ok it is great, let’s do the same thing’. But the initiatives start with difficulties. (...) So it is an advantage when something works well. But in Switzerland we do not really have this entrepreneurial spirit ‘we try to do something’ on the level of cantons ...”* (Interview 30). To summarise: *“Either you have a clear advantage, or you have to force people”* (Interview 17). Positive effects of a project that other units decide to adopt is important also because it lowers the risk of failure, which could be widely mediated and would likely hurt the image of the administration.



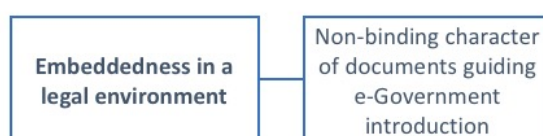
Embeddedness in a legal environment

The legal environment that constitutes one of the most important environmental constraints for public administrations' actions impacts on the introduction of e-Government in two fundamental ways; it influences the speed of their introduction and the manner of their introduction (coherent across different departments or not). *“Depending on the legislative processes, the parliament, it can slow it down. It is not something that would encourage us, because the State, public administration, has, I would say, a kind of task of being exemplar, we cannot be disruptive”* (Interview 35). *“We need legal bases for the whole Switzerland, it takes time. Technically everything could be done in a few months, but we need laws, maybe even a popular vote”* (Interview 2). It seems that projects whose implementation is mandated by a legal regulation are introduced faster and in a more coherent way than projects that are undertaken out of the initiative of a department or an office or those that are guided only by unbinding strategies. Examples or projects that necessitate a new or modified legal basis include electronic identity (e-ID), electronic voting (e-Voting), electronic collection of signatures (e-Collecting) and guichet unique. In the case of e-Voting, cantons have to often change their legislation on political rights in order for it to permit the electronic way of vote casting. The e-Collecting project nowadays faces similar challenges in that it necessitates modifications in legal regulations that have to permit this way of signature collection. *“... For this [e-Collecting] we would have to change the law on political rights, that is to say to pass in the parliament and maybe also in a referendum”* (Interview 7).

I suppose that it is due to the notoriously lengthy law-making procedures and the spirit of Swiss federalism that builds on voluntary collaboration and collegiality that the introduction of e-Government in Switzerland is guided by a strategy and not a law. Opinions on the Swiss e-Government strategy and other documents guiding the introduction of e-Government in Switzerland varied significantly among interviewees. It is not possible to ascertain whether positive or negative opinions are mostly present on the cantonal or on the federal level, both sorts can be found on both levels of government. One of the frequently mentioned elements in regard to the impact of Swiss e-Government strategy is its non-binding character. It came as a surprise that some interviewees were not familiar with the Strategy's existence (Interview 1) or did not notice its impact in their department at all (Interview 5). Additionally, some of

them did not consider the official message of the political centre clear (Interview 1, 8) or considered the Strategy superfluous (Interviews 2, 25). On the positive side, other interviewees perceived the Strategy as well designed and necessary (Interview 2, 20). Overall, the non-binding character of documents related to e-Government issued by the federal government reflects the cautious approach toward collaboration with other governmental levels. The Strategy was officially elaborated in collaboration with cantons and is restricted to the formulation of the framework and principles that different departments can identify with. The Federal Chancellery issued also a report on the potential of e-Democracy and e-Participation in Switzerland in 2011. This report has not been reworked and most of the mentioned projects are on stand-by or were not even started. “.... *I think e-Participation was also a hot subject then, very hot. Hotter than it is now. (...) It is the only official document from the government. (...) What was the outcome of the report? The outcome was not very overwhelming....*” (Interview 4). The themes that emerged in the interviews in relation to e-Democracy and e-Participation are further examined in the following chapter.

Communication and collaboration between the three governmental levels that are prescribed by the Strategy are perceived differently in different cantons. Fundamentally, there seem to be three groups of cantons. The first group includes those cantons that are happy with the national e-Government structures and perceive collaboration with the federal administration as successful. The second group of cantons feels a bit left out. The findings from the interviews do not offer conclusive reasoning for this sentiment, except from a language barrier between the French and German part of Switzerland. “.... *When we go there [to e-Government events in Bern], we meet very little French speakers. (...) In Zurich, there are even less of them*” (Interview 35). “*We try to establish contacts, (...), it is a problem of language. They organise courses on e-Government, (...), everything is in German*” (Interview 27). “*Unfortunately, we do not have so much exchange with the French-speaking part, that is really, I guess because of the language, really cut off*” (Interview 24). The third group of cantons seem to be happy to work on their e-Government projects on their own. This last group involves mainly the most populous Swiss cantons, Zurich and Geneva.



4.4.8 Resource-related factors

The importance of economic, that is to say mainly monetary factors, for the introduction of e-Government came as a surprise because the impact of financial resources has not been previously satisfactorily analysed in the literature, whether for its lack of saliency or interest of researchers. The resource-intensity of the development of new technologies and applications was repeatedly underlined by the interviewees (Interview 3, 8, 29). The digitalisation of public administrations often requires additional personnel or its re-structuration in the direction of higher specialisation of jobs. For this reason, it often encounters internal resistance and fear of job loss from people who perceive themselves as not being sufficiently qualified. The logic of profitability and stabilisation of public budgets was the central topic in Swiss public administrations in the 1990s when the country was hit by an economic recession. The introduction of NPM practices was supposed to re-stabilise the public budgets and make public administrations more effective (Giaque and Emery, 2008). It seems that this reasoning stuck in the public sector as the introduction of e-Government is often explained in terms of increasing efficacy and saving costs of public services.

The equilibrium between political and business interests seems to be also important for e-Government projects, meaning that e-Government should not be beneficial only for public administrations, but also for businesses and the economy in general. *“.... in Switzerland, so far, we had quite a good balance between political interests and economic interests and for example, with the digital ID, we do not have this balance so far, because it is just economic”* (Interview 33). Additionally, although their introduction is motivated by the objectives such as facilitation of access for citizens or modernisation of administrations, e-Government projects also have to be economically rational. Maybe they even have to be, first of all, economically rational. *“It does not always cost double, but it costs more and after it depends if the advantage of digitalising something is bigger than the costs, that is the question”* (Interview 17). *“It is clear that you need certain critical size. Small cantons have less budget and less users, so for them, the interest is smaller than for big cantons that redeem it very quickly”* (Interview 5). The facilitation of access to public services for the public has been often mentioned in the interviews. However, it has often been perceived as a secondary motivation. *“I do not think that the first motivation is to be nicer to the person in front of you. If it was more expensive [than the traditional procedure], we would simply not do it, that is all. So, the first motivation is the financial question. Then, if people are happy, even better. But it is not the trigger”* (Interview 5). The economic point of view therefore represents an important factor that has to be taken into account in the framework of all e-Government initiatives.

4.4.9 Open data movement

The guiding principle of open data is the free-of-charge provision of data produced or held by public administrations. The open data philosophy, or culture, englobes a vision of government that would be open, transparent and participative. *“... It [open government] is an ecosystem where the government is not separated from the citizens; they are systematically working together to, for example, define needs or decide which solution is the best. (...) And also, this is the culture part, that open data means providing information to be able to discuss directly with the society, but it is also important to realise how important it is to discuss with the society, to try to do it, because sometimes people are just a little bit scared of doing it...”* (Interview 10). In this sense, open data is perceived as a gateway to more participation. However, even though open data platforms help increase public awareness of different issues and therefore improve participation capabilities, the provided data cannot be assimilated to the provision of information. In fact, open data translates into the provision of unstructured, raw data that lacks background explanations. An interpretative effort is therefore necessary. For this reason, one should be cautious about the direct impact of open data on the quality of participation because its pertinence depends on the analytical capacity of the audience.

The first precondition of a successful open data project is the willingness of public departments to put their data freely at disposition of the public. In Switzerland, the change of paradigm from secrecy to transparency seems to be extremely difficult for departments that are either used to working in relative secrecy or use their data for generating profit. *“.... I think there is a fear of transparency, but it is also related to the relation of authority. The authority does what it wants, does not explain why (...) It is not that they would have things to hide, but they were used to working like this”* (Interview 3). *“.... Administrations wanted to earn money with this data. In 2008, the paradigm changed. We said ‘we give free access’ and since then the platform was created”* (Interview 8). The ‘monetary’ view of public data in particular seems to constitute an important obstacle for the project in Switzerland. Departments that use their data to develop applications that they consequently sell or are selling their data directly struggle with accepting the new paradigm of data publication. The question of data utility for the public and the principle of transparency are neglected. *“.... I see that there is also a lack of imagination in the Confederation concerning for what the data could be used. There are many departments that say ‘ok, we make the effort to make our data available and, in the end, up until now, nobody wanted to buy this data from us, so why would we make it available (...), this means that there is no demand’”* (Interview 28).

Even though open data is often associated with the principle of transparency, the two terms are not synonyms. *“So, I would say it is more, open data is good for having good image as an administration, to be able to say ‘hey, we do not have to hide it’, but not transparency. I think it is more an advertisement, but I do not believe in complete transparency by open data”* (Interview 24). *“.... Transparency does not necessitate the publication of data, it is rather a state of mind, open windows and let people look inside. It is not a few datasets that will change things”* (Interview 13). Introducing open data for the sake of transparency as a principle has been accentuated by the interviewees, but the views on the matter differed greatly. Switzerland has been historically considered as a country inclining rather to the culture of secrecy than to the culture of transparency (Cottier, 2013; Kriesi et al., 1998). The difference in the view of transparency in comparison to other countries has been pointed out also in the course of interviews. *“.... In Anglo-Saxon countries, (...), there is really a tradition of transparency, also concerning institutions, there are committees that debate publicly, which was not imaginable in Bern. (...). There is a tradition that is nowadays transferred to the digital. (...) In the countries of the Global South, we can say that there are real corruption problems that they also try to solve with more transparency. (...) These are two different aspects, (...), that lead countries to promote transparency for the ends of transparency, not to create a new industry”* (Interview 28). Switzerland has neither the tradition of transparency nor high corruption, these two points could therefore represent the first part of the explanation why the uptake of open data lags behind. Maybe it is due to the absence of these issues why the economic point is primordial in regard to open data. However, absolute transparency is not considered positive either, for example, because it presupposes cheating (Interview 25) or establishes the “tyranny” of transparency (Interview 35).

The political support or mandate, which was already mentioned in relation to the individual level of analysis, is particularly important in the framework of open data project and that for two reasons. Firstly, the project nowadays advances in Switzerland mostly with the help of activists and an open data community, which unofficially regroups politicians, public employees and private initiatives or individuals who support open data. *“.... It is a bit of a problem that there is not, let’s say, a lead in the government”* (Interview 28). *“.... politicians, they are interested in topics that have a certain generic dimension and that are also relevant to the media. (...) Other topics, which are maybe less in the media, it is more difficult to convince politicians to really invest time, because time is the one very scarce resource for them”* (Interview 21). Secondly, it seems that departments who had the mandate to publish their data already before the arrival of open data project are more willing to adhere to the

project. “.... *It is necessary to read exactly what is the content of the law, what is the mandate, (...). Is this idea to publish or communicate their results a part of it? In our case yes, but there are others where it is not the case. That is the first restriction, that is to say offices will think ‘I do what the parliament asked me to and nothing else’*” (Interview 13). In this second case, it is the political mandate given to the department that impacts on their present attitude to open data and not an immediate political support. Similar conclusion is made by Mergel (2018) who studied the introduction of an open innovation in the United States. This innovation was prescribed by a top-down mandate and encountered less resistance in organisations with whose mission it aligned best.

Apart from conforming with the principle of transparency and contributing to better information of the public, the main motivation for the publication of open data in Switzerland is the possibility for interested parties external to the administration to create applications on their basis or develop tools that are useful for the whole society. “.... *We hope that a lot of people will use it and build innovative new apps, which are better than ours*” (Interview 19). The objective of open data is therefore to “multiply the innovative potential of information gathered and used by one organisation” (Daglio et al., 2015). The hotbeds of such initiatives are usually big cities, in Switzerland it is typically Zurich and Geneva.

4.4.10 Online citizen participation

The findings from interviews overall show that the introduction of e-Democracy and e-Participation encounters in Switzerland much greater difficulties than the other dimension of e-Government: electronic provision of public services. The Swiss delay in the matter of electronic participation that has been signalled by international rankings is therefore confirmed also by the present research. The findings from interviews further indicate that of the two forms of online citizen participation, it is e-Democracy that is nowadays more likely to be developed than e-Participation, which seems to represent a possible, yet for the moment unrealistic use of ICTs for participation purposes. I suppose that the institutionalisation of e-Participation initiatives that directly impact on the political rights of citizens and necessitate their redefinition is more controversial due to its deeply political character. E-Participation essentially takes power away from political representatives and redistributes it toward citizens. For this reason, it leads to more conflicts than electronic public service provision that does not by itself impact on the relations between politicians, public administrations and citizens. “*What is good for us, who are in the economic domain, is that it is always very rational. It needs to make sense and if it makes sense you obtain the means in general. Everybody is motivated, everybody thinks that it is good, you have little resistance. For e-*

Voting and this kind of things, it is already very political. There are more controversial discussions” (Interview 23). It might be also for this reason that the only e-Democracy initiative that figures among the Swiss e-Government priority projects and is clearly supported by the federal government is e-Voting. E-Voting is essentially also just a digitalisation of an already existing democratic act that by itself does not change the foundations of the democratic system. Similarly, it does not change the way in which people think about democracy or how the decision-making system works, it merely adds a new way in which votes in elections and referenda are cast. Contrary to expectations, e-Democracy and e-Participation are overall perceived as a part of e-Government and are well less known than the other dimensions of e-Government.

The following two subchapters present two important e-Democracy projects that are or will likely be introduced in Switzerland in the coming years: e-Voting and e-Collecting. I choose to focus on the two projects here because the processes of their introduction reflect a number of tendencies that seem to be emblematic of the Swiss attitude toward e-Democracy and e-Participation. E-Voting has been tested in most of Swiss cantons since more than ten years. E-Collecting is an initiative that was envisaged, but whose introduction nowadays seems to be postponed indefinitely.

4.4.10.1 e-Voting

The e-Voting project is probably the most controversial e-Government initiative that has been introduced in Switzerland to date. In fact, most opposition related to the digitalisation of public services has been directed at this initiative. It seems that e-Voting has either its ardent supporters or opponents. The particularly deep discrepancy of opinions seems to be caused by the potentially important impact of e-Voting on citizens’ democratic rights. The most frequent arguments presented in the interviews were in this connection related to, firstly, technological security risks and the possibility to “kidnap” votes and, secondly, to the perceived trivialisation of votes cast electronically. Even though the digitalisation of existing participation processes does not, by itself, impact on their significance, it may have an important impact on their trustworthiness. Technological security of e-Voting systems is nowadays an important political topic in Swiss federal and local administrations. It is also a delicate topic in that if an e-Voting system is compromised, trust in its use is likely damaged for years to come. Even though all manners of vote casting can be subject to fraud, risks related to e-Voting are bigger in scale. Contrary to postal vote casting, e-Voting applications allow for the manipulation of higher numbers of votes (Goos et al., 2016). *“It is not that I do not think that it is not possible to cheat with the other two vote casting methods, it is clear*

that with voting by post it is possible to cheat, but it does not scale well [as opposed to e-Voting]” (Interview 28). The potential loss of trust and image seem to be especially important in the Swiss environment where public authorities have historically had one the highest approval figures in the world. A remedy to technological risks promoted by e-Voting proponents is the maximum transparency of the project.

The electronic way of vote casting seems to, in the eyes of some interviewees, lead to the devaluation of the act. *“A democratic act, that cannot be just a click. Signing a paper after heaving listened to somebody or after reading a text that says ‘do this’, it is quite different from clicking on ‘like’ or voting by SMS”* (Interview 3). For this and other interviewees, the question of e-Voting seems to be a question of the character of vote casting. In this connection, other interviewees expressed contrary opinions and stated that such as a proclamation oversimplifies the steps that e-Voting comprises. e-Voting systems require the entry of multiple passwords and comprise a number of steps and therefore should not be compared to clicking a ‘like’ on Facebook. Opposing the attitudes of e-Voting opponents were particularly the views of cantonal e-Government managers, who overall did not consider arguments against e-Voting insurmountable. Some interviewees assimilated the introduction of e-Voting to the introduction of any other innovation, which is feared at first, but once it produces positive effects its acceptance levels soar. *“... there is this whole argumentation around it because, at the same time, we had the same discussions with voting by post and that works very well”* (Interview 9). *“... there was also the introduction of voting by post, it was not immediately as widely used as today, it took years to attain the level of eighty percent (...). I think the evolution will maybe be the same [with e-Voting]”* (Interview 7). The two interviewees quoted here compared the introduction of e-Voting to the earlier legalisation on postal voting and claimed that its newness and unusualness will progressively fade. At the time of the complete liberalisation of postal voting in the mid-1990s, the number of voters using this voting channel was inferior to ten percent. At present, it is approximately ninety percent of voters who cast their votes by post (Federal Chancellery, 2011). Apart from the conviviality of this voting channel for certain groups of people, voting by post also enhanced voters’ privacy (Chevallier et al., 2006).

E-Voting can be considered an emblematic Swiss e-Government project due to the same patterns of responsibility between the federal government and cantons that can be found in the framework of many other projects and that cause coordination problems for the coherent development of e-Government. In the framework of the e-Voting project, the federal government (represented by the Federal Chancellery) acts as the project leader that defines the

main security parameters for cantonal e-Voting systems. It is the cantons that are responsible for choosing their preferred e-Voting technology and managing the project. Cantons thus act as “labs” for different e-Voting technologies (Goos et al., 2016). Even though this approach is advantageous because it allows cantons to choose the most suitable approach for their specific conditions, it also causes projects to advance slowly and in an incoherent manner.

The three conditions stipulated by the Federal Chancellery that cantons have to be fulfilled to be able to generalise e-Voting and enable all voters to vote through this channel are the introduction of individual and universal verifiability followed by the conduct of an audit by an independent organisation. The individual verifiability system allows individual voters to check that their vote has been accounted for. The universal verifiability system allows independent observers to verify that votes have been accounted for without impacting on voters’ privacy (Abu-Shanab et al., 2010).

4.4.10.2 e-Collecting

Although the feasibility of the electronic collection of signatures for referenda (e-Collecting) and potential solutions to the most important issues were analysed already in the 2011 report of the Federal Chancellery on e-Democracy (Federal Chancellery, 2011), its introduction in Switzerland is, at best, only the question of the coming years. As an interviewee from the Federal Chancellery stated, “.... *we are, I would say, not even in the pre-study phase, (...), there would be this possibility, but we would only start such a project with a lot of caution and respect, because it impacts on deeper political rights, (...), those of popular initiatives*” (Interview 7). For the moment, the focus of the federal government is on the e-Voting project and e-Collecting is considered as the next phase of this process, which will not be initiated any time soon. The same interviewee also amply talked about issues related to the current direct democracy system. It seems that the question of e-Collecting would add to the pile of these problems and it is also for this reason that the project has been on stand-by. An alternative to the official e-Collecting project is nowadays the privately founded ‘wecollect’ initiative that simplifies the collection of signatures with the help of electronic instruments.

Electronic collection of signatures for referenda directly impacts on an important issue that has been debated in Switzerland for years: is it necessary to increase the number of signatures needed for holding a popular vote? Due to the increasing number of inhabitants and the multiplication of popular votes, the compulsory number of signatures last modified forty years ago seems nowadays inadequate. It is feared that e-Collecting would further speed up the process and the number of initiatives would explode. In regard to more practical issues, e-

Collecting is often considered unrealistic due to the decentralised character of voters' registries, which would have to be harmonised across governmental levels to assure the correct identification of individuals and the impossibility to sign the same initiative twice.

The most fragrant difference in opinions toward e-Collecting was remarked between an activist who launched an initiative for the electronic collection of signatures and a member of the federal parliament. The opinions are probably biased by the interests of the first interviewee and the political orientation of the second interviewee whose party's position might be weakened by the project, but an important thing that emerged from these discourses is the difference in the digital vs. physical perception of democracy. The 'physical' perception of democracy is reflected in the emphasis on the personal contact with voters during the collection of signatures in the streets and the need for "*a real human mobilisation*" (Interview 3). This statement shows that, at least from the interviewee's point of view, democracy necessitates direct contact between concerned parties. Consequently, electronic communication is considered inferior and not 'real enough'. The first interviewee explained his opinion in terms of the costs of signatures' collection and stated that based on his experiences, all groups, be it political parties or interest associations, would be happy to collect signatures online for cost-saving reasons. The conflict between 'how things used to be done' and the more futuristic, digital vision of the Swiss democratic instruments has been overall an important tendency in the interviews. "*Political participation and mobilisation, that is something that is constructed over time and it is not just clicks*" (Interview 3). The physical proximity was emphasised as an important element of political participation by most of the interviewees. It seems that nowadays when a generational cleavage between the more digital-skilled and the less digital-skilled stays significant, local participation in the form of personal meetings is the favoured one. This might change in the future with the more technically savvy generation coming to the fore.

4.4.10.3 The "trolley" of issues related to Swiss direct democracy

In this subchapter, I present an overview of the most important issues related to the practice of direct democracy that were mentioned by different interviewees. In a rather optimistic view, I subsequently claim that their negative effects could be, at least in part, remedied by e-Participation. The expression in the title of the subchapter is borrowed from the discourse of one of the interviewees who stated that e-Democracy added to the 'trolley' of issues connected to direct democracy that Swiss authorities have to deal with. "*... the trolley of issues related to popular initiatives is already very heavy and this issue [electronic collection of signatures] would make it even heavier, (...). I think nobody in the parliament really wants*

to address this topic” (Interview 7). It can be said that e-Democracy visions partly resolve and partly worsen the challenges that direct democracy and principally popular initiatives encounter in Switzerland. Debates about whether the number of signatures should be increased accompany the ever-growing number of popular votes that demand more and more resources. Direct democracy seems to be overused. Electronic democracy risks to further enlarge opportunities to access the direct democracy arena. More participation is in general desirable but how to prevent the overload of the system? As the interviewee from the Federal Chancellery aptly described, “... *There are many discussions about whether we have too many popular initiatives, whether we should increase the quorum [of signatures], whether political parties should be still allowed to launch an initiative or it should be just groups of individuals. The question of electronic collection of signatures falls also in this context*” (Interview 7).

- The first issue related to the current practice of direct democracy is the growing complexity of topics and lack of information. “... *the discussed topics are often very complex, it is true that for ordinary citizens it is often complicated to get enough information....*” (Interview 1). The Internet as a medium offers incomparable options of information provision to the public, which is, additionally, mostly excluded from hierarchical control. However, this has as a consequence the risks of disinformation and manipulation, which need to be remedied by the capacity of citizens to distinguish between bad and good information (Papadopoulos, 1998). The capacity to do this depends on the education and socialisation of people, which have to be conducted with this issue in mind.
- The second point that plays an especially important role for the success of popular initiatives is the availability of resources. “*If you want to start an initiative or a referendum, it is about money. Somewhere on the national level, you will have to talk about money, because you have to approve the signatures, you have to send them to the municipal authorities, you need money. Some say it is between 500 000 and 1 million (....) for the collection [of signatures]*” (Interview 33). Papadopoulos (2001) has observed that between 1979 and 1992 only 60 out of 98 initiatives managed to collect the necessary number of signatures. It therefore seems already the first phase of popular initiative launch represents an important barrier of access to direct democracy. When considering that 174 out of 196 popular initiatives that were voted on in Switzerland since 1848 were rejected, it is evident that the magnitude of resources that were invested in the unaccepted initiatives is substantial. It can be presumed that,

after the increased initial investments, the possibility to conduct a part of the signature collection, consultation procedure and even the vote itself electronically, would mean considerable saving of resources and would facilitate the whole popular initiative process. As a consequence, costs would no longer be an issue in regard to the implication of citizens in the policy-making process (Peña-López, 2011).

E-Democracy is likely to decrease the costs of initiatives and thus enlarge the access to them for less affluent groups. However, it also risks to increase the already high number of initiatives. Eventually, it might be necessary to choose the ‘lesser of two evils’. The inequality of resources between the promoters of and opponents to initiatives has led researchers to study their impact on the outcome of popular votes. The answer to the question of whether popular votes can be bought is for the moment negative. However, the most vocalised opinions are often the ones that win (Papadopoulos, 1998).

- The high number and frequency of votes seem to be the main reason for low voter turnout, which has been historically typical for Swiss elections and referenda (Ladner, 2018). My interviewees overall did not consider this trend worrisome. An interesting point that was brought up in this connection by a member of a parliamentary committee on transparency postulated that the high number of referenda contributed to making them commonplace, as opposed to exceptional events. *“I think it is a little bit the fate of direct democracy that people who are able to vote every three months on certain issues, they are used to it, so it is very normal for them to vote, so something that is normal, it is the opposite of special. I mean, in other countries, if people are able to vote every four or five years then it is much more abnormal and that is why, in my opinion, people really come to vote while in Switzerland we think ‘ah, if I miss this vote, in three months’ time I have another opportunity”* (Interview 21). This explanation probably reflects best the sentiment about low voter turnout that results from the interviews. Most interviewees agreed that low voter turnout was not problematic and it was not necessary to introduce e-Democracy with this goal in mind. This finding is surprising because increasing voter turnout has been in the previous studies often mentioned as one of the goals of e-Democracy.
- Yet another interesting point that was raised by an interviewee from the federal administration was that although the pre-parliamentary phase of the legislative process involves the participation of different groups and stakeholders, the process does not

involve practically any interaction. *“It is not an interaction. I give you my opinion. Of course, we assume that in the background (...) there is a lot of discussion and interaction, you know, and politics going on. But the formal process is very ‘tzak tzak’, you know. You send me [the proposal] and I give you feedback. (...) you have the decision of the federal government (...), you can reconstruct how the feedback influences the development of the solution. But it is not a discussion, you know.”* (Interview 4). Similar argument holds for the yes or no nature of referenda. Although the Swiss democracy is hailed as one of the most participative in the world, most of regular participation, at least on the national level, consists of binary options. As the interviewee from the Federal Chancellery pointed out, these instruments do not offer any options of feedback. The multi-party character of e-Participation remedies this binary character of direct democracy and allows for a finer distinction of answers, as well as makes it possible to measure the intensity of individual preferences (Papadopoulos, 1998). In this connection, rather provocative questions arise. What if public authorities live in an illusion perpetuated by high trust and legitimacy? What if the existing participation instruments could be refined? Is the Swiss system not as participation-friendly as it might seem?

The above-mentioned issues provide an overview of challenges to the Swiss direct democracy today. They are in considerable contrast to the dream vision of electronic democracy that accentuates the enhancement of participation possibilities for everybody. *“... the thing about democracy we have to have is that it is not about voting, it is about stepping in if you feel the need to make a stand, to push something. You do not have to be a politician, you do not have to be in a party and you can do it really quick. In a couple of days, you can start a referendum”* (Interview 33). Maybe the solution lies mid-way between what the Swiss democracy looks like today and the almost utopian ideal of e-Democracy as a system where everybody can find his/her preferred way of participating in public affairs.

4.4.10.4 The vision of e-Participation

The use of e-Participation tools in Switzerland has so far advanced, for the most part, uniquely in the first phase of the classification of e-Participation initiatives (Macintosh, 2004; Tambouris et al., 2007): provision of information to the public. The use of electronic means for the other two types of e-Participation, namely interaction and empowerment are significantly scarcer. *“Today we have invented the Tesla and thinking about self-driving cars and first cars, they looked like stage coaches, so I think in the e-Government, we are still in the stage coach area. And especially in e-Participation”* (Interview 4). The reasons for this

situation seem to lie on the side of citizens and administrations alike. Because the interaction and empowerment phases of e-Participation change the balance of power in the direction of citizens and away from politicians and public managers, it is harder to find political support for their introduction.

Returning to the findings from the Swiss context, it seems that an important glitch in interactions between public administrations and citizens is the lack of interest of the latter. Citizens seem to still prefer other communication channels, such as telephone or personal contact. *“I would say that, you can see it on our Facebook page, it is one post in five that provokes [interaction] and even after, the exchanges are never very long”* (Interview 29). On the other side of the coin, if online interaction with citizens was to become the norm, public administrations would be overwhelmed with resource- and capacity-related issues that they would have to resolve. Another point that has been often evoked by the interviewees is the one of interaction quality, which has been viewed as a potential risk, but also as a lived experience. *“... we implemented as a test a chatting system on the website. It worked well, just that fifty percent of people who interacted, it was not normal we can say. There are immediately insults, (...), as soon as a collaborator does not answer, it is even....”* (Interview 8).

Swiss public administrations often do not have specialised personnel that would be in charge of online communication. The norm seems to be to have their online presence managed by a communication unit. Such arrangements are also results of the lack of resources, which is, in turn, related to the fact that online communication is not prioritised. As a consequence, public administrations fear to not to have enough resources to deal with the influx of comments. Another reason why public administrations still stand on the brake when it comes to online presence is also the exposure that they have to face in this framework. Several interviewees pointed out the persisting ‘official character’ of announcements that public departments published on their websites and social media. *“... if somebody on a social network speaks on behalf of the department, it is necessary that direction knows about it, authorises it, ..., all that is really delicate....”* (Interview 13). *“.... social media, like federal administration, (...), they are somehow present there, but they are not really there, there is always like a filter. You really notice it. I have the feeling that in other countries it is not like this, they are really like getting a question, they are answering really fast, spontaneously and so on. Here in Switzerland I think we still have this, quite a lot of steps between, review steps, or consultation steps before the user gets an answer and this would be even more, they are not just ready for it yet”* (Interview 10). The issue of exposure and higher vulnerability was

mentioned also in relation to the presence of politicians on social media. It arises from the statements of interviewees that politicians are hesitant to interact with the public online due to higher transparency and the possibility to trace back the exact wording of statements.

The provision of information to the public is done principally through the websites of particular departments or cantonal administrations, which still serve as their main points of entry. The second most important type of channels that more and more administrations start to embrace is social media such as Twitter and Facebook. Their presence on these platforms mostly follows the information provision logic, but certain departments also use them to encourage dialogue and answer questions of the public. *“In my government, they are on Twitter, on Facebook, they interact a little bit, ok, but it is used for advertisement. It is not used for understanding what people expect. I rarely saw, almost never, a politician saying ‘the topic of vote next week, what do you think about it?’, never. (...) It is a vitrine, but it is not an interaction means with the citizens. Not yet, but we have to....”* (Interview 30). The reasoning for the presence on social media is often formulated in terms of *“being present where people are”* (Interviews 29, 35).

Another issue that repeats itself often when it comes to communicating on social media is the absence of a concrete strategy that would define objectives and the purpose of such communication. There are cantons and departments that realise this deficiency and try to advance in this direction, but the examples of administrations that would have their proper social media policy stay rather rare. As a consequence, public administrations’ presence on social media is often based on experiments and gut feeling. *“It is nice to want to ‘launch a platform’, it is a bit our tendency in the federal administration. We do something, but we do not communicate about it at all and we think that people will somehow find it. That they will immediately contribute. And then we are disappointed after a few months. (...) We have to know why it is useful, what are the goals, are we able to reach them, how do we reach them....”* (Interview 9). *“.... We have not really understood, (...) we have not managed to find an exact definition of, what our office wants to say on social media, what type of information we want to communicate”* (Interview 13).

The more participative, the less e-participative?

The high trust in government and the appreciation of existing direct democracy instruments, which are, by themselves, highly positive for the Swiss democracy, add to the barriers of e-Participation development. *“.... contrary to other countries, I think the need [to introduce e-Participation] is much smaller. Because, at any moment, we can change a law or propose*

something else and so the result that is implemented is quite close to what people want” (Interview 5). This finding, although applicable only to the Swiss context for the moment, disproves the typology of democracies of Van Dijk (2000a) according to which the more participative a country is, the more participative e-Participation instruments it introduces.

However, the question at hand is rather whether the current functioning of Swiss direct democracy is sustainable. Citizen participation in Switzerland is happening primarily on the local level and follows the logic of solutions tailored to the context. For the moment, participation possibilities seem to be overall considered sufficient and innovations focus mostly on the improvement of existing participation. The issue at hand is rather what the future will bring and what impact future developments will have on citizen participation in Switzerland. *“.... We are in a society that is still attached to paper, used to sending letters, used to living in a world that is not completely virtual, but if in twenty years we do not have this possibility anymore, (...) will it still be possible to keep political rights as the last stronghold of paper or not. I think this dimension is missing in the discussion, we look rather at costs, (...) we forget this dimension of what is needed as an instrument to secure the good functioning of democratic institutions”* (Interview 7).

Due to the seemingly lacking interest in online interaction with public administrations and the lack of external demands for e-Participation introduction, the matter stays mainly in the hands of public authorities. The most probable future development is thus the top-down manner of e-Participation introduction. Participation in public affairs in general can be divided between formal participation, which has a legal basis, and informal participation, which can be organised in a bottom-up or top-down manner. The informal participation, whose initiators are usually activists or the so-called innovation labs, plays in the Swiss context as of yet a limited role. The role of innovation labs in the uptake of ICTs in the public sector has been important, for example, in the canton of Geneva. The city of Zurich, likewise, focuses on organising events such as hackathons and hackdays, which aim to bring public administrations closer to citizens.

Although e-Government is in the framework of this project studied from the point of view of public administrations, the readiness of citizens to meaningfully interact with public authorities electronically constitutes the crucial condition of successful e-Participation. *“It is good to evolve, but it is necessary that subjects are ready to evolve at the same time”* (Interview 1). E-Participation is a qualitatively different form of participation than the one that prevails in Switzerland. The main objective of e-Participation is to discuss complex topics in a constructive manner. For this reason, the introduction of e-Participation initiatives

that aim to empower citizens in regard to decision-making needs to be accompanied by civic education that would prepare participants for this kind interactions. *“We will first lead people to participate, actually all digital projects need citizen participation, (...), we will do the first tests already and see the maturity levels of people”* (Interview 30).

4.5 Thematic map of interview findings

The following thematic map (Fig. 13) schematically summarises the most important elements related to the findings from the semi-structured interviews. Although the elements are studied here principally individually, they are interconnected and attenuate or amplify each other's importance. The choice to study the elements individually was made due to the difficulty to measure the extent of their reciprocal effects. A number of factors that the qualitative analysis identifies as influential correspond to the previous studies on e-Government conducted in other contexts. In addition to these “expected” results, the interviews reveal a number of findings that seem to be typical for the Swiss case study. An important common point between the introduction of online public services and online citizen participation that seems to characterise the Swiss context is the perception of interviewees that procedures work well as they are and it is therefore not urgent to modify them. The presence of a similar barrier to e-Government is truly exceptional, although not surprising for the studied context. The Swiss tradition of direct democracy belongs to the most trusted institutions in the country and the levels of satisfaction with government services belong to the highest in the world.

An element that seems to be underestimated or not considered important enough is, however, the importance of e-Government for the facilitation of access to public services for citizens. In fact, the groups of citizens that would prefer to, for example, vote online are overall not considered significant. An interviewee from the Federal Chancellery stated that the dimension of ‘why we do this’ is the one that is discussed the least. *“Do we do it for the authorities or for the citizens and then we also have to ask ourselves what the democratic institutions need as an instrument to stay close to the population”* (Interview 7). This perception seems to be encouraged by experiences that public administrations made with their presence on social media where the interest of the public in interactions was lacking. A leader of a cantonal guichet unique project in this connection offered an interesting point of view. He stated that *“before talking about e-Participation we have to bring people to collaborate with the State in the form of public services, (...) and then we little by little introduce e-Participation. (...) you add new possibilities of interaction with the State”* (Interview 30). Online public services would therefore seem to condition online citizen participation. This supposition might be

correct as the public nowadays does not always have the habit of interacting with public administrations electronically.

The lack of citizen-orientation or, in general, of external orientation of e-Government efforts implies that the most important drivers of e-Government have to be those of intra-organisational character. Even though the previous studies have accentuated the importance of cultural change for the success of e-Government, the significance of this factor is particularly strong in the Swiss public administration. The ability of administrative culture to absorb the accompanying effects of e-Government innovations, such as unpredictable side-effects, necessity to constantly improve systems or failure of applications is in the Swiss context primordial.

After the preceding thematic analysis of the most important factors that impact on e-Government in Switzerland, I summarize here a certain number of pre-requisites that seem to be important for the further advancement of projects. Firstly, a federal law on electronic identity seems to be crucial for the integration of different services into one online platform that would be instantaneous and easy to use. Secondly, certain interviewees hinted at the possibility that more e-Government would lead to more e-Participation because citizens would be more used to interacting with the government electronically. E-Participation is in this sense, in accordance with the literature, considered as the “next stage” of public sector digitalisation. Thirdly, open data, or information provision in general, could contribute to the enhancement of meaningful participation because in order for people to participate meaningfully, they have to have sufficient information at their disposal. However, this last point is also connected to digital competencies and civic education because data obtained through open data platforms needs to be interpreted to become useful information.

Limitations of the qualitative analysis

The limits of the findings drawn from the interviews are related to the frequently repeated difficulty to generalize them (Silverman, 2016; Waller et al., 2016), but also to a more prosaic reasoning. In fact, one of the risks of qualitative interviews is related to the perception that interviewees have of the interviewer and the related possibility that they may respond or react differently in front of different persons. Additionally, if the researcher is not considered a “member” of a group or does not work directly in the environment, he/she may not ask the right questions (Miller and Glassner, 2016). To attenuate the impact of these limitations, the most important findings from interviews are further on re-formulated in the form of hypotheses that are statistically tested.

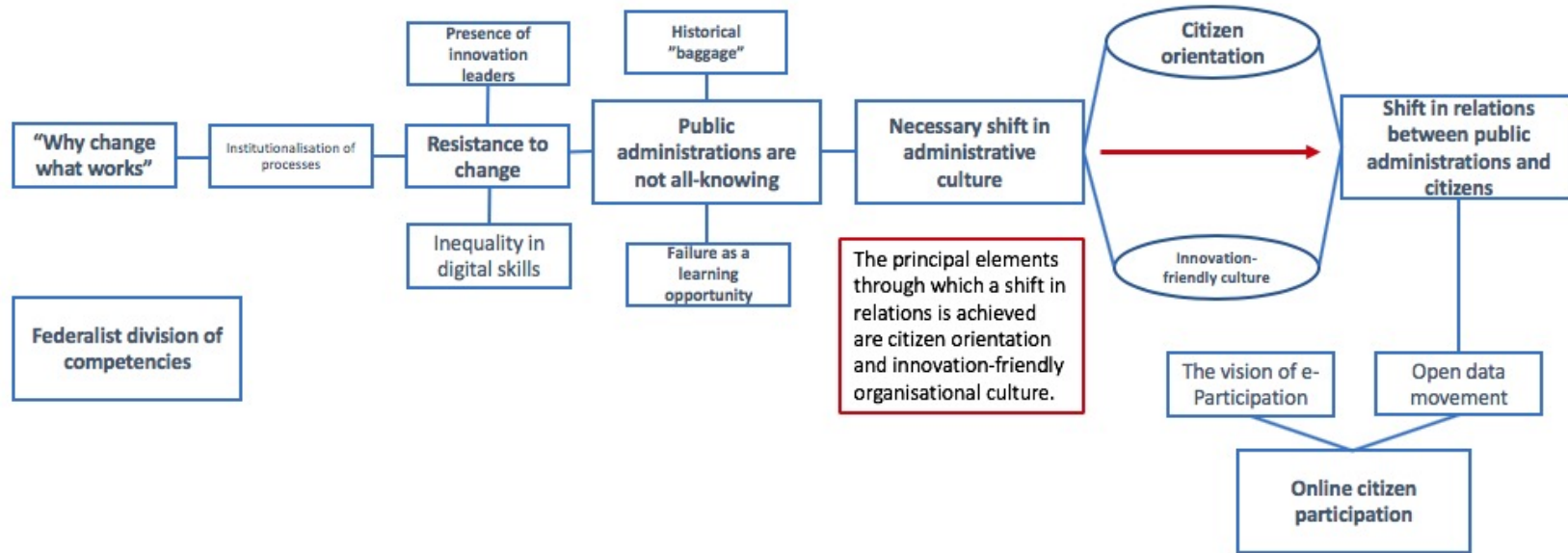


Fig. 13 Thematic map of interviews findings

4.6 Quantitative part of the methodological approach: Expert survey

The qualitative analysis of semi-structured interviews revealed rich findings related to different issues that impact on the introduction of e-Government initiatives in Switzerland. However, at the same time, it uncovered new questions that the qualitative data cannot reliably answer, principally due to the lack of representativeness of responses and the circle of interviewees that had to be limited to actors with previous knowledge of e-Government. Among such questions, one can cite the importance of the level of digital skills of public employees for their perception of e-Government utility. The findings from the interviews also show that issues related to the innovativeness of organisational culture are in Switzerland crucially important for the uptake of e-Government and ICTs in general. However, the validity of this finding is again limited to the interviewed sample of actors. With the objective of overcoming these methodological limitations, I propose an expert survey that allows for extending and validating the results of qualitative analysis by enlarging the circle of respondents and statistically analysing obtained responses. Whereas the qualitative data answered questions related principally to the organisational and institutional levels of analysis, the quantitative analysis addresses to a greater extent the individual level of analysis.

Factors tested by the survey that were drawn from the interviews overall included the most frequently mentioned drivers and barriers related to e-Government development. The overview of codes with the frequencies of their occurrence in the interview transcripts is attached in the Appendix 2. In part, they are ‘in vivo’ codes – the exact words of the interviewees (Lejeune, 2014). Following the recommendations of Jreisat (2002), I integrate in my survey construction model both external and internal characteristics of my study units, Swiss public administrations. These characteristics can be explained principally in terms of drivers of and barriers to e-Government development in Switzerland. The external factors involve environmental influences, such as legal regulations and political and institutional system. Internal characteristics are reflected in public employees’ attitudes and perceptions and, on the level of organisations, in organisational culture, structures and processes.

The main purpose of surveys is to enquire about respondents’ perceptions, attitudes and opinions. They are usually used to gather primary data for an original research (Rea and Parker, 2014). Such is the case also in the present study. The nature of the survey used here is primarily attitudinal; the objective is to decipher the attitudes and perceptions of respondents regarding e-Government delays. Several information of descriptive nature is gathered at the end of the survey, principally those related to the demographic characteristics of respondents.

Rea and Parker (2014, p. 28) summarise four conditions that should be fulfilled in order for survey research to be appropriate:

- Adequate secondary data is not available;
- There is a desire to generalize findings from a small subpopulation to a larger population;
- The target respondent population is accessible;
- The data to be obtained is of a personal, self-reported nature.

The two authors also stipulate that, before commencing the construction of a questionnaire, information about the research topic from interested individuals and parties should be gathered and key issues should be outlined (Rea and Parker, 2014). These conditions are fulfilled in this study as the survey part of the research was conducted after a literature review and semi-structured interviews. At the first sight, it is evident that also the first four conditions are applicable here. It is the third point, the accessibility of respondents, that proved to be the most problematic one. Even though anybody can easily enter into contact with different public departments, it proved difficult to communicate the importance of their participation in the research. Based on the previous, it can be concluded that a survey research is an appropriate course of action in this study.

Most of the items in the survey were measured using a six-point scale (strongly agree, agree, rather agree than disagree, rather disagree than agree, disagree, strongly disagree) where respondents were asked to indicate the level of their agreement with each statement. A neutral, middle response was not offered to avoid dealing with responses that did not express a particular (positive or negative) opinion. However, because the option of a neutral answer was not offered, it was also not obligatory for respondents to answer every question. The choice of close-ended questions is explained by the objective of the survey (confirming the findings from interviews) and by the nature of research questions (related to the perceptions of e-Government development).

4.6.1 Construction of the questionnaire

4.6.1.1 Dependent variable

The dependent variable (the development of e-Government) with its two dimensions (online provision of public services and online citizen participation) were in the survey tested by self-developed items and by a scale adapted from Feeney and Welch (2012). The development of

e-Government is in the survey measured by the perceptions of respondents that act as a proxy. Because the objective is not to objectively measure the level of e-Government development in Switzerland, but instead focus on perceptions related to e-Government as a phenomenon, this approach seems fitting. Respondents were in the survey asked to express their level of agreement with different statements. As a consequence, the study of opinions and perceptions is at the core of the approach.

The Feeney and Welch's scale consists of twelve items measuring the degree of agreement with different positive and negative effects of e-Government and e-Participation development. The seven self-developed items measure the overall satisfaction with e-Government and e-Participation in the Swiss context. The choice to use self-developed items was made due to the lack of similar scales that would be developed in previous studies. The final version of the survey that was administered in selected public departments can be found in the Appendix 3.

4.6.1.2 Independent variables

The choice of independent variables that are included in the survey reflects on the saliency of findings from interviews, but also on the previously reviewed studies on e-Government development. After having identified the most important independent variables, the developed model was operationalised; that is to say it was defined in terms of items describing the individual variables that represented key concepts defining the constructs of the model (Tang, 1999). The items are either adapted or self-developed. Overall, in cases where it was possible to use scales that had been previously reliably tested, this approach was preferred in order to assure maximum reliability of measurement. Self-developed items were used for measuring variables that had not been previously quantified in the literature or where the existing scales were not deemed suitable. The self-developed items followed the reading of the literature and the findings from interviews.

It was not possible to include all pertinent findings from the interviews in the final version of the survey and that for several reasons. Firstly, it is difficult to quantitatively measure certain variables, for example, those related to the potential of digital democracy in Switzerland in relation to particular projects. Secondly, also from the practical point of view, it was not possible to create a survey that would involve all elements related to the findings from interviews. There is a tradeoff between the response rate and the length or completeness of the survey that has to be taken into consideration. In the pre-testing phase and also later during the initiation of contacts with selected respondents, I received a number of comments on the

length of the survey and the repetitiveness of questions. Consequently, I reduced the number of studied variables with the objective of increasing the feasibility of survey's administration. The variables that are included in the final version of the survey represent the key points related to contexts and logics that impact on the introduction of e-Government in Switzerland. The preferred approach is therefore an encompassing and detailed analysis of interview transcripts followed by the quantitative study of a limited number of variables selected on the basis of their importance. Even though not all findings from the interviews are tested in the quantitative survey, conclusions discussed in the fifth chapter are related to both kinds of data.

While returning to the original table that summarised the results of the preliminary literature review, I in this place address the logic that guided the construction of different scales used in the questionnaire. Because not all factors identified on the basis of the literature review proved to be influential for the interviewees and certain findings seemed to be typical for the Swiss context, the final choice of independent variables measured by the questionnaire constituted a synthesis between the two sources of information (Fig. 15).

To evaluate the skills-related cleavage in the use of e-Government technologies, I choose to use the concepts of the Technology Acceptance Model (TAM) (Davis, 1989), which has been previously applied to measuring the individual acceptance of different e-Government technologies (Abu-Shanab et al., 2010; Alotaibi et al., 2016; Hansen and Norup, 2017; Van Dijk et al., 2008). The level of digital skills constitutes a factor that is specific to e-Government and has been identified as such in previous studies. It is therefore not unique for the Swiss context.

The TAM was developed by Davis in his doctoral thesis as an adaptation of the theory of reasoned action and belongs to the most widely applied mechanisms explaining the adoption of technologies (Taylor and Todd, 1995). Because the items from the model have been previously reliably tested (Davis and Venkatesh, 1996; Taylor and Todd, 1995), their use in the present case was preferred from the construction of own scales.

The TAM belongs to the most well-known models explaining motivations that lead individuals to adopt a particular technology. In its view, the decisive factors for the acceptance of a new technology are perceived usefulness and perceived ease of use (Davis, 1989). TAM attributes an important role in the achievement of behaviour to intentions, which are a function of attitude toward usage, perceived usefulness and perceived ease of use.

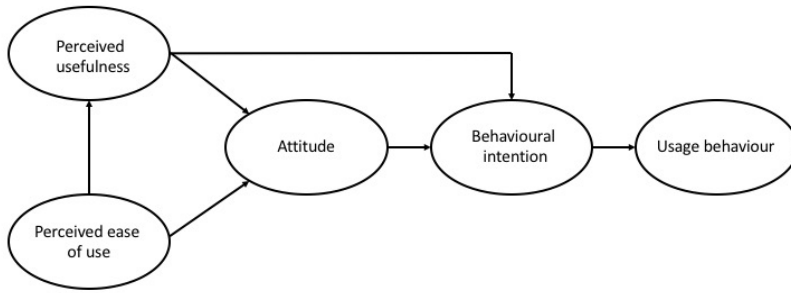


Fig. 14 Technology acceptance model (Taylor and Todd, 1995).

Perceived usefulness is related to people’s beliefs that the use of an application helps them perform their jobs better (Davis, 1989). Its impact has been found particularly important for inexperienced technology users (Taylor and Todd, 1995). **Perceived ease of use** refers to the pondering of benefits and efforts required to use an application. In other words, “users are driven to adopt an application primarily because of the functions it performs for them, and secondarily for how easy or hard it is to get the system to perform those functions” (Davis, 1989, p. 333). Davis (1989) further found that while use-related difficulties could hinder the adoption of an otherwise useful system, the ease of use could not boost the adoption of a system that was not considered useful. System designers should therefore always acknowledge the prominent role of perceived usefulness. Perceived ease of use impacts on perceived usefulness, which, in turn, mediates its impact on future usage (Davis, 1989).

Contrary to the original suppositions, the creators of TAM later found out that the nature of settings did impact on the saliency of different factors. For these reasons, they added other categories of factors that impact on the intention to use a system, namely performance expectancy, effort expectancy and social influence and on usage behaviour, namely intention and facilitating conditions. Following empirical tests, the improved Unified Theory of Acceptance and Use of Technology (UTAUT) model proved to be a better fit than the previous models (Venkatesh et al., 2003). In the framework of this research, several scales from the UTAUT are used to evaluate the perceived usefulness, perceived ease of use and anxiety related to the use of e-Government technologies (Davis and Venkatesh, 1996; Venkatesh et al., 2003). System usefulness and ease of use have been previously identified as important factors that can promote the success of e-Government systems (Gil-Garcia and Pardo, 2005).

Two of the used TAM scales were slightly modified and shortened following the comments from the pre-testing phase of the survey that mentioned the repetitiveness of items. Davis and Venkatesh (1996) conducted a test where they compared the fit of original TAM items with

the fit of intermixed and grouped items. They found out that grouping or intermixing items did not particularly affect the fit. However, the authors still recommend using the original format. "... researchers should attempt to employ procedures that involve the fairest treatment of human subjects, and therefore should not annoy them, particularly when there is no methodological leverage to be gained" (Davis and Venkatesh, 1996, p. 39). The self-assessment of digital skills that the TAM scales presume is not their perfect measure. However, due to feasibility issues it was not possible to objectively evaluate the level of digital skills of respondents, for example, using practical tests of their capabilities. Zhang and Feeney (2017) state that in cases where the primary interest lies "in managerial beliefs and perceptions, self-reports are an appropriate form of data collection" (p. 65).

The findings from interviews show that the attitudes to technologies are strongly related to the perceived skills of their adopters. The TAM scales are therefore used in the survey primarily for evaluating the impact of perceived skills on perceptions related to e-Government initiatives. Whereas TAM seems to be a good predictor of attitudes to technologies and intentions to use them, it does not seem to be completely suitable for evaluating the adoption of e-Participation because e-Participation requires government's commitment to the implementation of more or new democratic processes (Gulati et al., 2014). The intention to use the system is therefore but one aspect of e-Participation adoption puzzle; the other one is the more general view of citizen-public administrations relations.

The scale developed by Feeney and Welch (2012) measuring the frequency of use of different ICT applications ("Practical use of ICTs") is included in the survey because from the interview findings it seems that public employees overall do not use a great variety of ICT applications for the accomplishment of their work-related tasks. The underlying supposition guiding the inclusion of the scale in the survey is that the more experience with various applications respondents have, the more likely they are to perceive e-Government positively. The impact of practical use of ICTs on the implementation of e-Government is specific to this type of reform and seemingly also to the Swiss context. Other studies on e-Government have not extensively studied the impact of this variable on the acceptance of ICT use.

On the organisational level of analysis where the principal barriers to e-Government seemed to be related to organisational culture and mindset that is not able to absorb certain effects of e-Government projects, the variables were operationalised in the form of scales measuring perceived satisfaction with the existing system, views of relations between public administrations and citizens, satisfaction with the existing participation and the extent of

innovativeness of the current organisational culture. The choice to use these scales was made following the semi-structured interviews that showed that the redesign of processes and resistance to changes were often advocated on the basis of good quality of the existing system that did not need to be altered. The scale measuring the innovativeness of organisational culture is included to allow for the evaluation of whether public organisations are overall perceived as innovative or not. Whereas the innovativeness of organisational culture has been in the literature identified as an important factor impacting on the success of e-Government and of public innovations in general, the other aspects seem to be typical for the introduction of e-Government in the Swiss context. The importance of perceived quality of existing services and participation and the views of citizen-public administration relations have not been previously addressed in the framework of e-Government research.

Whereas the scales measuring the perceived quality of a system and the views of relations were hard to find and had to be therefore self-developed, a literature search uncovered an abundance of scales used for measuring innovation culture. The scale developed by Tang (1999) was finally chosen due to its character that can be applied both to public and private organisations. As has been pointed out in the previous studies, the measurement of public innovation and its precise conceptualisation are still largely lacking. For these reasons, methods that are used for measuring public innovations are often the same as those that are used in the private sector (Bloch and Bugge, 2013). One of Tang's scales developed in the same study is used in the survey also in the scale measuring the importance of the presence of innovation leaders in an organisation for the uptake of e-Government projects.

The resource-intensity of projects, their economic rationality and the scales used for measuring variables on the institutional level of analysis were operationalised in the form of self-developed items due to the lack of reliably tested scales. The impact of resource-related factors and of aspects related to the legal environment of public organisations have been previously confirmed by other studies on e-Government. The importance of state structure for the uptake of e-Government can be assimilated to its impact on other kinds of public administration reforms and public innovations. The factors from the institutional level of analysis are therefore not unique for the Swiss context.

Level of analysis	Influential factors from the literature review	Operationalisation in the questionnaire	Type of the operationalised factor
INDIVIDUAL LEVEL	Leadership, personal support	Perceived usefulness (Venkantesh et al., 2003)	e-Government specific, not specific for the Swiss context
		Presence of innovation leaders (Tang, 1999)	Applicable to public innovation in different contexts
	Political support	-	
	Perceived lack of digital skills	Perceived ease of use (Venkantesh et al., 2003)	e-Government specific, not specific for the Swiss context
		ICT anxiety (Venkantesh et al., 2003)	
	Practical use of ICTs (Feeney and Welch, 2012)	Specific for the introduction of e-Government in the Swiss context	
ORGANISATIONAL LEVEL	Redesign of processes	Perceived quality of the system (self-developed)	Specific for the introduction of e-Government in the Swiss context
	Changes to organisational culture	Views of public administrations - citizens relations (self-developed)	
	Resistance to change	Satisfaction with democracy (self-developed)	
	Hierarchy and bureaucratic culture	Innovation culture (Tang, 1999)	Applicable to public innovation in different contexts
	Attitude to transparency	Satisfaction with democracy (self-developed)	Specific for the introduction of e-Government in the Swiss context
	Availability of resources	Resource-intensity of projects (self-developed)	Applicable to public innovations in different contexts
INSTITUTIONAL LEVEL	Changes to legal framework	Regulatory framework (self-developed)	e-Government specific, not specific for the Swiss context
	Inter-departmental coordination/cooperation	Federalism/communication issues (self-developed)	Applicable to public reforms and innovations in federalist countries
	Decentralised state structure		

Fig. 15 Operationalisation of variables in the questionnaire

4.6.1.3 Control variables

Control variables that are used in the survey reflect on the findings from interviews and on the findings of previous studies on e-Government. They include notably: 1) age, 2) gender, 3) language, 4) level of education, 5) previous professional activity sector (private or public), 6) size of organisation, 7) level of government, 8) professional position, 9) frequency of contacts with citizens, 10) organisational tenure and 11) interest for politics.

The impact of generational and skill-related cleavage on the attitude to technologies has been repeatedly pointed out by the interviewees and has been also emphasised in the literature (Van Dijk, 2012). The size of organisation was included because certain interviewees hinted at the possibility that organisational inflexibility might be related to its size; bigger organisations are less flexible, more hierarchical and therefore less innovative. However, a contradictory finding was proposed by Kattel et al. (2013); in their view, it is the larger organisations that are more likely to be innovative. The impact of organisational size on innovation was therefore unclear. The same is valid for the frequency of contacts with citizens; the consensus among interviewees is that the need for e-Government is higher in departments that have

more contacts with citizens. The interest in politics is included because it is possible that it impacts on the likelihood of e-Participation introduction; people who are already interested in politics are likely to be more interested in discussing public issues online. Büchi and Vogler (2017) find that online political participation can be predicted by the level of political interest. The two authors show that the more interested in politics people are, the more likely they are to participate.

Because most public services are provided to citizens on the level of cantons and federal administration has contacts mostly with companies, one would expect e-Government to be more developed on the cantonal than on the federal level. The findings from interviews show that interviewees with professional experiences from the private sector are overall more inclined to support e-Government projects. Similar finding is presented by Godenhjelm and Johanson (2018) in their study on the effect of stakeholder inclusion on public sector innovation. The two authors find that stakeholders from privately owned companies and from research and education sectors are more likely to be innovative. Finally, organisational tenure is included as a control variable because it has been previously identified as a factor that impacts on the level of institutional embeddedness (March and Olsen, 2008). In accordance with the teaching of neo-institutionalist theory, organisational tenure and positive perceptions of e-Government as a public innovation are therefore expected to be negatively correlated.

4.6.2 Research hypotheses

The hypotheses that were developed for the survey research specify the research propositions provided in the third chapter in the light of findings from the interviews. Each hypothesis is thus related not only to a research proposition, but also to particular influential factors and theoretical concepts. The variables that relate to particular hypothesis are in the survey operationalised by the corresponding scales of items. The Fig. 17 provides the final version of the research design that is applied to the Swiss case study. The choice to apply a research framework to a pre-defined research problem instead of a full-fledged theory implies that less questions are answered directly and more of them empirically (Scharpf, 1997).

The hypotheses that are tested by the survey data are of a backward-looking character. Backward-looking hypotheses are typically related to one dependent variable, or one outcome that the research strives to explain. Forward-looking hypotheses, on the contrary, explain the effects of particular independent variables without a precise outcome, which is therefore not known at the beginning of the research (Scharpf, 1997). In the present case, “we need to have

hypotheses that specify a causal model showing why and how a given constellation of factors could bring about the effect in question, and we need to have empirical evidence that the effect predicted by the hypothesis is in fact being produced” (Scharpf, 1997, p. 28).

The schema below (Fig. 16) provides an overview of the logic that guided the construction of the expert survey. The impact of each variable that is measured by a corresponding scale is related to the hypothesis that it is supposed to test. To nuance the different factors that were previously summarised under the individual level of analysis, I added the dimensions of personal values and personal level of analysis. Whereas the personal level of analysis and values are related to the characteristics of an individual (respondent to the survey), the individual level of analysis that is described in terms of personal and political support is relevant in relation to e-Government projects. This distinction was made following the preceding analysis of interviews that indicated that satisfaction with the existing system and its positive perceptions in general may represent important factors that hinder the uptake of e-Government. Personal values are here defined as actors’ subjective views of the quality of public services, relations between public administrations and citizens and satisfaction with Swiss democratic processes.

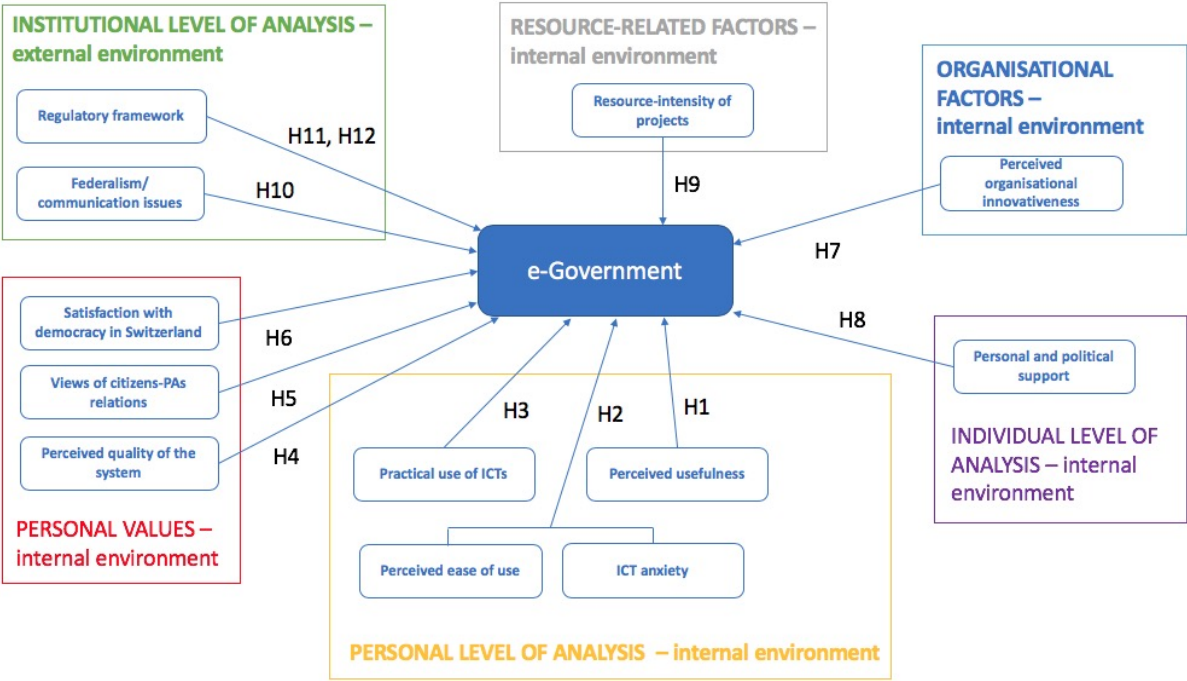


Fig. 16 Schematic depiction of the survey logic

Influential factors (drivers and barriers)	Explanatory theoretical concepts	Research propositions	Research hypotheses
Leadership, personal support	Social construction of reality - Importance of previous socialisation for the strength of institutionalised actions Neo-institutionalism - Path dependency - Stickiness of institutionalised actions Contingency theory - Strategic choice in regard to changes in external contingencies	RP 1: <i>Public officials who are younger and/or have experiences from the private sector will be less affected by internal constraints imposed by public organisations. In other words, their institutionalisation in the organisation will be comparatively weaker and therefore they will be more open to innovation.</i> RP 2: <i>The presence of innovative members will condition the successful uptake of e-Government projects in an organisation.</i>	H1: <i>Respondents that perceive their experiences with the use of ICTs overall positively will be more likely to be positive toward e-Government than respondents whose experiences with the use of ICTs are perceived negatively.</i> H8: <i>The presence of "innovation leaders" in a department or an office will make the introduction of e-Government projects more likely than in departments or offices where these projects do not have concrete personal support.</i>
Political support	Contingency theory - Change in an external contingency	RP 3: <i>Political support is an important driver of e-Government-related innovations.</i>	-
Perceived lack of digital skills	Social construction of reality - Institutionalised actions in relation to the use of technologies and to the performance of organisation's tasks. Contingency theory - Attainment of fit between external contingency (new technology) and organisation's members capacities.	RP 4: <i>The perceived insufficiency of their digital skills will cause public employees to oppose technological changes.</i>	H2: <i>Respondents that perceive themselves as digitally skilful will be more positive toward e-Government than respondents that are uncertain about their digital skills.</i> H3: <i>Respondents who have experiences with the use of various electronic applications and use them frequently will be more likely to support e-Government than respondents who lack experiences with electronic applications.</i>
Redesign of processes	Neo-institutionalism - Path dependency - Isomorphism - Importance of social coalitions Organisational culture - Cultural continuity of reforms Theory of autopoiesis - Organisational self-reference - Importance of positive feedback	RP 5: <i>Patterns of behaviour and work routines that are cultivated in public organisations contribute to the perpetuation of organisational culture that values procedure and routine at the expense of innovation and risk-taking.</i> RP 6: <i>Public organisations will start copying other organisations that are more advanced in e-Government as the criteria of legitimacy shift in this direction.</i>	H4: <i>Respondents with the positive perception of the quality of services provided by his/her organisation will be less likely to favour e-Government than respondents who suppose that the quality of services should be improved.</i> H5: <i>Respondents who are satisfied with the existing relations between citizens and public administrations will be less likely to favour e-Government than respondents who suppose that the relations could be improved.</i> H6: <i>Respondents who are satisfied with the Swiss democratic system will be less likely to support e-Government than respondents who suppose that the Swiss democratic system could be improved.</i> H7: <i>Respondents who perceive their organisational culture as innovative will be more positive toward e-Government introduction than respondents who do not perceive their organisational culture as such.</i>
Changes to organisational culture			
Resistance to change			
Hierarchy and bureaucratic culture			
Attitude to transparency	Neo-institutionalist - Organisational culture Contingency theory - Legal regulations and mandate as external contingencies	RP 7: <i>The Swiss administrative culture that favours secrecy at the expense of transparency acts as an obstacle to the introduction of e-Government projects.</i>	H6: <i>Respondents who are satisfied with the Swiss democratic system will be less likely to support e-Government than respondents who suppose that the Swiss democratic system could be improved.</i>
Availability of resources	Contingency theory - External contingency	RP 8: <i>Due to the absence of motivations related to the increased quality of services, legitimacy and trust, cost-reduction will be an important factor that impacts on the introduction of e-Government projects in Switzerland.</i>	H9: <i>Public departments will give priority to e-Government projects that are not resource-intensive and/or allow for saving of resources as opposed to projects that are resource-intensive and/or demand additional resources in terms of workforce and money.</i>
Changes to legal framework	Contingency theory - External contingency Neo-institutionalist theory - Coercive pressures for isomorphism	RP 9: <i>Lengthy legislative processes obstruct the process of e-Government introduction in Switzerland for projects that necessitate modifications to legal frameworks.</i> RP 10: <i>Modifications to legal frameworks that e-Government projects imply will have as a consequence decreased uncertainty and will accelerate its legitimacy.</i>	H11: <i>The ambiguity of documents guiding the introduction of e-Government in Switzerland hinders its development.</i> H12: <i>The necessary changes to legal framework hindere-Government development.</i>
Inter-departmental coordination/cooperation	Organisational culture - Organisational narcissism - Stovepipe functioning	RP 11: <i>Administrative culture that encourages the stovepipe-based functioning of public departments causes them to be vary about cooperating with each other in the framework of e-Government projects.</i>	H10: <i>The introduction of e-Government projects in Switzerland is hindered by insufficient coordination and cooperation between different governmental levels and between different federal departments and offices.</i>
Decentralised state structure	External contingency - Federalist division of powers	RP 12: <i>The federalist structure of Switzerland acts as a barrier to e-Government in that it causes coordination problems and information insufficiencies.</i>	

Fig. 17 Research framework with research propositions and hypotheses

4.6.3 Administration of the survey

The survey was administered online using the platform LimeSurvey. The targeted general population were all public employees of contacted cantonal and federal offices. Any individual public administration employee constituted the designated unit of analysis. The

sampling technique was of a non-probability kind because it was not possible to determine exactly the probability of selecting any given unit of the general population. As a consequence, it is problematic to evaluate the collected data on the basis of normality of its distribution and any generalisation of findings beyond the tested sample should be done with caution (Rea and Parker, 2014). I prefer to work with the term “working population” because it was not possible to identify and contact all units of analysis from the general population. Because the study is essentially exploratory in nature, the proposed model should be tested in other contexts with ideally more numerous samples.

The survey was originally created in English and was later translated to French and German for reasons related to the facilitation of access for the two most numerous language groups in Switzerland. Before dispatching the survey in selected public departments, a pre-testing phase was carried out at the University of Lausanne with the objective of collecting comments on the linguistic and grammatical quality of items. Later on, a selected group of public employees that were interviewed in the qualitative part of the research were asked to comment on the clarity and comprehensiveness of survey items.

The first step in the process of dispatching the survey was the selection of administrations and departments that were to be targeted. To obtain a sample that would be representative and have an appropriate size, the main criteria used to select the susceptible departments were the level of experiences with e-Government and the size of the unit. Because in Switzerland it is the cantons that are to a large extent responsible for the implementation of e-Government, they were considered the most important segments of the general population that were to be approached. The cantons that were contacted were first selected based on their population and the level of e-Government development. The benchmarking of cantons by e-Government levels was conducted based on an official document of the entity responsible for the coordination of Swiss e-Government on the federal level (e-Government Suisse) and on the information drawn from the National e-Government map (<http://www.egovernment-landkarte.ch/?lang=fr#/>). These sources of information were not ideal because the repertory of projects in the Map is not exhaustive as there is no obligation for departments to register their projects. However, it is also the only unified source of information on e-Government projects that includes information from the three governmental levels. Initially, eight cantons were selected based on the correlation between their population and the level of e-Government development. The sample therefore included four small (Neuchâtel, Zug, Uri, Jura) and four big cantons (Zurich, Geneva, Wallis, Fribourg), four cantons that are advanced in e-

Government (Neuchâtel, Zug, Zurich, Geneva) and four cantons whose e-Government development is below average (Uri, Jura, Wallis, Fribourg). Based on the data of the Federal office of statistics, the average cantonal population was 324 000 in 2016.

Because there is no benchmarking of federal offices according to their e-Government development, the main criterium used to identify the more and less advanced offices was whether the office in question was responsible for a strategic e-Government project or not. Furthermore, instead of the population criterion in the case of cantons, the second point of division was the number of employees. Analogically as in the case of cantons, the offices were compared using the two criteria. The initial selection included two offices responsible for a strategic project (Federal Chancellery, Federal Office of Statistics), two offices that were not responsible for strategic projects (Federal Office of Energy, Federal Office of Public Health), two small offices (Federal Chancellery, Federal Office of Energy) and two big offices (Federal Office of Public Health, Federal Office of Statistics). The value determining the difference between small and big offices was the median number of employees; the average number of employees was not considered suitable due to the presence of several large offices that increase the average number of employees considerably. The median number of employees was estimated at 256, based on the data of the Federal Office of Personnel.

After the selection of cantons and federal offices that were to be targeted by the survey, the initial points of contact were often people that were interviewed in the previous phase of the research. The negotiation process with different cantonal administrations and federal offices was overall lengthy and marked by a number of difficulties. Different points of entry (email, telephone, personal contact) were employed in the process. Overall, it seems that whereas Swiss public administrations favour academic research and are open to talking about their activities, they are cautious about actively participating in scientific projects. An important concern that many of the departments expressed was related to increased work load that the survey would represent for their employees. The contacted people were informed that taking the survey necessitated 15-20 minutes of respondent's time. Another reason that the contacted persons stated on several occasions was that the offices had a policy of not responding to external surveys. The process of survey administration in different departments often depended on the attitude of the people with whom I was in contact. In certain offices the distribution of the survey was immediately approved whereas in others it was a lengthy and often unsuccessful process.

The survey was often considered by the contacted people to be too technical to be diffused generally to all employees of their department or office. This came as a surprise because the majority of questions were related to rather general topics such as the use of ICTs in general and to the perceptions of the Swiss political and democratic system. Additionally, the Swiss e-Government Strategy is an official document elaborated by the representatives of federal, cantonal and municipal administrations and issued by the Federal Council. It was therefore surprising that public employees on the cantonal level were not be familiar with the terms. Furthermore, the explanations of fundamental notions were provided on the introductory page to the survey and were repeated where pertinent. Instead of distributing the survey in the whole department or office, the contacted persons often offered that they would distribute it to a limited circle of people (usually ten to twenty). As a consequence, it did not make sense to calculate response rates. Due to this limitation, it should be kept in mind that the study stays exploratory in nature. In cases when the contacted persons agreed to distribute the survey to all employees, the response rates were rather low (around ten percent). This may be linked to the lack of incentives accompanying the completion of the survey. A possible bias could also consist in that employees who did not have experiences with e-Government projects did not feel qualified to complete the survey.

The usual procedure that was employed in the contact with different administrations was the following:

- 1) The first step was an email addressed to a previously interviewed person or to a cantonal chancellor/general secretary or to the head of office or to the person responsible for office's communication explaining the purpose, importance and other key modalities of the survey.
- 2) After receiving an answer to the first email, I continued the established communication and tried to negotiate the distribution of the survey. In certain cases, the first person would redirect me to other people from the office who were competent to take the decision. In this phase, I often provided contacted persons with additional information concerning the distribution of the survey.

If the first contacted person did not answer to the first email:

- 2) I recontacted the same person by phone or email. If there was still no response, other contact points in the same office were approached in the same manner (email, phone call). These contact points usually included head of office or cantonal chancellor, general secretary and people responsible for the departments' public communication.

3) The last important step in the process was the yes/no decision on survey distribution.

Apart from contacting internal members of different public bodies by email and phone, I used other, more informal contact channels such as personal communication during different public events. On one occasion, I also contacted the worker union of employees of a cantonal administration. To overcome a potential language barrier in the communication with Swiss German cantons, a native German speaker was asked to conduct the email and phone communication with contacted persons in these administrations. Due to the refusal of several of the originally selected offices and administrations to distribute the survey, I decided to contact other offices and cantonal administrations that fit the established size and e-Government advancement criteria. In the end, I received responses from four federal offices and five cantons that distributed the survey either to all employees or to a limited group.

The first contact with selected federal offices and cantons was made in November 2017 and the negotiation process with different departments continued until June 2018. After having obtained responses from all entities to whom the demand was addressed, a two-month time period was allotted before the closure of the survey and exportation of obtained responses. By the end of August 2018, 129 responses were received. The survey was conducted on the anonymous basis. Because the objective was to carry out an exploratory test of the proposed model, the anonymous nature of the survey was not problematic.

4.6.4 Choice of approach to the statistical analysis

The data obtained from the expert survey was statistically analysed. The primary objective of the statistical analysis is to generalise and increase the accuracy of findings from interviews. In accordance with the recommendation of Elliott and Woodward (2007), I use “the simplest statistical procedure that adequately answers [my] research question” (p. 10). Because the purpose of the statistical analysis is to evaluate the relationship between a response (dependent) variable and predictor (independent) variables, the nature of the test is correlational and associative. The dependent variable is broadly defined as “perceptions related to e-Government”. The collected data is of numeric nature; each answer to survey questions is coded as a corresponding numerical value. Given these prerequisites, multiple linear regression that is conditioned by a normal distribution of data was selected as the most suitable type of analysis (Elliott and Woodward, 2007).

The following description of the statistical analysis is composed of four key steps: 1) testing of the reliability of scales; 2) descriptive statistics; 3) correlational analysis and 4) multiple

regression analysis. The reliability of scales had to be tested so as to be able to decide whether they represent satisfactory measures of the given variables. The tests used for determining reliability included Cronbach Alpha and the analysis by principal components that examines the number of dimensions that a scale is composed of. The objective was to reduce the number of dimensions in each scale to one.

The descriptive statistical analysis that constitutes the second step of the statistical approach attempts to reduce the myriad of collected data and provide “an intelligent summary of the information” (Elliott and Woodward, 2007, p. 4). This descriptive part of the analysis focuses on the most important summary values of different variables and provides a preliminary insight in the statistical findings. Descriptive statistics are considered an important first step in a statistical analysis that can help discover the first important findings emerging from the collected data (Rea and Parker, 2014).

The correlational analysis that constitutes the third step of the approach that is adopted here was conducted with the objective of measuring the strength of linear relationship between the pairs of dependent and independent variables. The purpose of correlational analysis is to examine the linear relationship between two quantitative variables that can be guided either by the principle of direct or inverse proportion. The importance of the value of correlation coefficients is usually evaluated with regard to the nature of data and objectives of the analysis. The linear relationship measured by correlation coefficients is valid only for the given range of variables. If the latter is to expand, the relationship may disappear (Elliott and Woodward, 2007). It is therefore not advisable to extrapolate (generalise out of the given range of variables) when performing a correlational analysis. The null hypothesis for a correlational analysis states that there is no linear relationship between variables, in other words, that the correlation coefficient is equal to zero.

Because correlational analysis cannot be used for determining cause and effect and is limited to the determination of the existence and strength of a relationship, a regression analysis was performed with the objective of modelling the values of dependent variables that corresponded to the given values of independent variables (Rea and Parker, 2014). An important limitation of correlational analysis is related to the impossibility to identify which variable is the cause and which is the effect in a relationship. The correlation coefficient similarly does not clarify how much more accurately one can measure the dependent variable in the absence of knowledge about the independent variable (Pollock, 2016).

Whereas the descriptive statistics provides the first insight into the collected data, the correlational analysis tests the existence of a relationship between variables and thus sends a signal whether a regression analysis should be performed or not. The analysis of correlations between different variables also provides information on the possible impact of collinearity in the regression analysis.

Simple linear regression examines the relationship between a dependent variable and one independent variable. An outcome of a linear regression is a regression equation and a corresponding regression line that describe the exact relationship between variables and allow for predicting the values of the dependent variable given the values of the independent variable (Rea and Parker, 2014). Multiple linear regression measures the relationship between a dependent variable and an independent variable while controlling for the effects of other independent variables in the model. It thus “disentangles” the effect of an independent variable from the effects of other variables used in the model. The regression equation consecutively comprises a specific partial regression coefficient for each independent variable (Elliott and Woodward, 2007). The objective of the approach that is applied here is to identify the variables that are the best predictors of the dependent variable, as opposed to the approach where all independent variables are forced simultaneously in the model. As a consequence, the final model is the most effective one possible (Elliott and Woodward, 2007). The choice to add variables to the regression model in a stepwise method is also motivated by the attempt to reduce the potential effect of collinearity between variables. The problem with collinearity emerges in situations when two or more independent variables are strongly correlated and thus exercise similar effect on the dependent variable. The use of a regression analysis method that does not “push” all variables into the model, but instead chooses them based on their explanatory contribution limits the risks related to collinearity.

Apart from the regression coefficients, attention is paid to the R-squared value that represents the proportion of variation in the dependent variable that is explained by the regression model. In other words, R-squared tells us how big is the part of the dependent variable that is explained by the independent variable(s). Because the values of the dependent variable do not always lie on the regression line, it is evident that there are other predictors of the dependent variable that have not been included in the model. The R-square value describes the percentage of the dependent variable explained by the model (Pollock, 2016).

The null hypothesis for a linear regression states that there is no linear relationship between variables, in other words, that the regression coefficient is equal to zero. Similarly as with the

correlational analysis, the results of regression analysis cannot be extrapolated; the examined relationship is valid only for the analysed values of independent variables. The assumptions that signal the appropriateness of using a regression analysis (normality of variables' distribution, equal variances of populations and independence between dependent variables) can be tested using the plots of residual values (Saris and Gallhofer, 2014). In the present case, the residual plots are analysed principally for the different dimensions of the dependent variable. A residual plot that confirms the suitability of linear regression analysis should be itself of a linear shape. If the plot shows outliers, it is necessary to re-examine the data and evaluate its significance.

One of the limitations related to multiple regression analysis consists in the risk that high number of variables in the model lead to high R-squared values even if the variables do not constitute good predictors of the dependent variable. The explanatory power of the model increases simply because more variables are added. To reduce this risk, I use the stepwise method that allows for the gradual appreciation of variables that are entered in the model. Additionally, because the multiple linear regression analysis measures the effect of an independent variable while controlling for the effects of other independent variables, it does not properly describe the situations where effects produced by two or more independent variables are themselves linked (Pollock, 2016).

The relationship between variables, as well as the judgments related to proposed hypotheses are here considered significant for the level of significance (p-values) of less than 0.05. This conventional value translates into the probability of committing the type I error (rejecting the null hypothesis when it should not be rejected) in five percent of cases. The p-value is considered decisive in the analysis and, for the most part, only significant findings are reported here.

4.6.5 Quantitative data analysis and findings

The total number of received responses to the expert survey that were analysed was 129. 68 percent of respondents were men and 32 percent were women. In terms of affiliation to a language group, 63 percent of responses came from French speakers, 35 percent from German speakers and 2 percent from Italian speakers. Over 50 percent of respondents hold a university degree, 68 percent of them work on the cantonal level and the remaining 32 percent work on the federal level. 66 percent of respondents have previous experiences from the private sector and almost a half of them spends only zero to nine percent of their work time in the direct contact with citizens. Based on the previous, the obtained sample may be biased toward the

opinions of men, French speakers and employees from the cantonal level. Because it was not possible to know the characteristics of each member of the general population and distribute the survey uniquely to a representative group of respondents, it was also not possible to prevent these biases. However, because the survey research is exploratory, the lack of representativeness does not constitute a major problem, but a limitation of the research. The control variable that enquired about the professional position of respondents is the only one whose distribution is balanced; each of four proposed hierarchy echelons was represented by a quarter of respondents.

In four cases, people who were previously interviewed agreed to distribute the survey in their organisations. It is therefore possible that they also took the survey themselves and their responses could therefore copy their answers from interviews. However, because the topics that were enquired about in the survey represent, at the same time, a selection and an extension of interview findings, it is probable that even the respondents who were already interviewed were confronted with new questions that they did not previously answer.

4.6.5.1 Testing the reliability of scales

The first step in the statistical analysis was the reverse coding of items that were worded in the opposite sense. The second step was testing the reliability of used scales. Two principal reliability analyses were conducted. Firstly, it was the analysis by principal components that determines the number of dimensions that a scale is composed of. Several of the scales were modified following the initial analysis of principal components. In cases where the analysis showed that a given scale included more than one dimension, the latter was divided into new subscales that were each unidimensional. Secondly, it was the analysis of reliability measured by the Cronbach Alpha value. Conventionally, the Cronbach Alpha values that are equal or bigger than 0.7 are considered reliable. The same principle is adhered to here, except in the cases of new, self-developed scales where values higher than 0.6 were also acceptable.

Dependent variable

After analysing the two scales (eGov_perceptions and eGov_effects) used to measure the dependent variable, the analysis by principal components showed that the two scales together contained five dimensions. These five dimensions represent different topics that construct the global concept of the perceptions on e-Government such as they are measured here. Each dimension is measured by a unidimensional scale. As a consequence, the regression analyses were performed for each dimension of the dependent variable separately and its other

dimensions were included as additional independent variables. The five unidimensional scales that constitute different aspects of the dependent variable and the items that were used to measure each one can be found in the Fig. 18.

Fig. 18 also provides information on the reliability of the thus created subscales. It should be underlined that all Cronbach Alpha reliability values for the dimensions of dependent variable are very high (ranging from 0.81 to 0.91). The values of the Kaiser-Meyer-Olkin (KMO) test that is used for measuring the suitability of data for factor analysis by comparing magnitudes of observed correlation coefficients to magnitudes of partial correlation coefficients are also overall satisfactory. According to the generally accepted rule, KMO values that are equal to or higher than 0.70 indicate that the variable is suitable for factor analysis. The values of 0.67 and 0.70 that were received for the fourth and fifth dimension of the dependent variable can be also considered satisfactory when taking into account the comparatively smaller size of the sample. The most problematic value is the one received for the second dimension (0.50). This result is, however, not surprising due to the low number of items in the scale (2). Results obtained for this scale should therefore be interpreted with caution.

	Dimension of e-Government	Cronbach α	KMO	Items
1	Benefits of e-Government	0.84	0.83	Overall, e-Government has positive effects on the functioning of Swiss public administrations. Increased access to government services e-Government has the potential to improve relations between public administrations and citizens. Improved efficiency and lower costs for the department e-Government causes more problems than it solves. (reverse-coded)
2	Satisfaction with e-Government	0.91	0.50	I am satisfied with the progress of e-Government in Switzerland. I am satisfied with the progress of e-Participation in Switzerland.
3	Positive effects on information and accountability	0.82	0.82	Possibility to give feedback on service quality Overall, e-Participation should be fostered in Switzerland. Enhanced citizen trust in government Increased opportunity to interact and collaborate with other public officials Improved information dissemination to external stakeholders and citizens
4	Dark side of e-Government	0.81	0.67	Distortion of political information and facts Undermining of democratic practices Increased conflict with citizens e-Participation disrupts fundamental democratic principles.
5	Relation to steering of public policies	0.81	0.70	Improved governmental decision-making Better policies Revitalisation of public debate

Fig. 18 Dimensions of the dependent variable

Independent variables

The scale used to measure the **perceived usefulness** of e-Government that was adapted from Davis' TAM is, according to expectations, unidimensional with rather high Cronbach Alpha value (0.84). The two scales that were used to test the hypothesis H2 were analysed separately

due to the necessity to observe the unidimensionality of scales. The first scale, **perceived ease of use**, is unidimensional with Cronbach α value of 0.82. The second scale, **ICT anxiety**, is also unidimensional with Cronbach α value of 0.87. The scale that was supposed to test hypothesis H4 proved to be two-dimensional and as a consequence was divided between two unidimensional scales: **ICT reform potential** ($\alpha = 0.67$) and **need for reform processes** ($\alpha = 0.77$).

The scale measuring the **practical use of ICTs** that was supposed to test the third hypothesis showed insufficient reliability values (the scale was found to be three-dimensional). However, because the expected relation between the variable and the hypothesis is rather straightforward, it is more suitable to evaluate the correlation with the individual dimensions of the dependent variable. The descriptive analysis of the scale described further in this chapter provides interesting insight on the practical use of ICT applications.

The items from scales measuring the **views of of citizens-public administrations relations** and **satisfaction with democracy and citizen participation in Switzerland** were merged and consequently divided according to their dimensions. This procedure was undertaken due to the multidimensionality of the original scales and in the case of the second scale insufficiently high reliability value ($\alpha = 0.55$). Because the two original scales relate to relations between citizens and public authorities, their common consideration makes sense. After analysing the reliability of the two scales together, the new scale was divided between three unidimensional subscales; **dissatisfaction with existing participation**, **satisfaction with Swiss institutions** and **need for relational reform**. Their Cronbach α values are 0.81, 0.73 and 0.68, respectively. The last number is lower than the recommended reliability values. However, because the nature of the research is primarily exploratory, the slightly lower value can be accepted as satisfactory. The other two scales, which are composed of self-developed items, represent valid measurements.

The scale measuring **innovative organisational culture**, which is adapted from Tang (1999), is unidimensional with a high Cronbach α value of 0.86. The scale testing the hypothesis H8 was shortened due to the two-dimensional nature of the original scale. Instead of creating two shorter scales, two of the items (eGovPerson and eGovSuccess) were dropped due to the very low reliability value of the two-item scale ($\alpha = 0.38$). The final scale used for testing the hypothesis consists of the three items adapted from the model of Tang (1999). The reliability value of the new unidimensional scale **innovative leaders** measured by Cronbach α is 0.77. Similar approach was applied to the scale testing the hypothesis H9. One of the items

(eGovRes) was dropped due to its incompatibility with either of the two dimensions of the scale (α values of 0.67 and 0.44, KMO values of 0.55 and 0.49). The two-dimensional original scale was divided between two new scales of two items each, **economic rationality** and **resource sufficiency** with respective Cronbach α scores of 0.71 and 0.82. The scale testing the hypotheses related to the importance of state structure for e-Government development was also divided into two new scales (**federalism as a barrier** and **organisational knowledge of e-Government**) that represent its two dimensions. The new scales have reliability Cronbach α values of 0.76 and 0.67, respectively.

The scale measuring the importance of legal regulations and of the level of government for e-Government development was divided between two scales representing its two dimensions: **legal framework** and **level of government** with reliability α scores of 0.67 and 0.80, respectively. Two of the items from the original scale (DocOfficImpact and DocOfficClear) were dropped due to low Cronbach α score (0.52).

The KMO values of the individual scales measuring independent variables are overall satisfactory. The values that are situated between 0.6 and 0.7 are considered acceptable due to the smaller size of the analysed sample. The low KMO values of the scales 5, 6, 11 and 12 indicate that these variables are not very suitable for a factor analysis. However, they can be explained by the low number of items in each of the scales. They are further included in the regression analysis, but their role in the models is interpreted with caution.

A table with the final version of scales and their items can be found in the Appendix 4.

	Scale	No of items	Cronbach α	KMO	Total variance explained (cumulative)
1	Perceived usefulness	5	0.84	0.81	62.4%
2	Perceived ease of use	5	0.82	0.76	58.9%
3	ICT anxiety	4	0.87	0.76	71.9%
4	ICT reform potential	3	0.67	0.63	60.9%
5	Need for the reform of processes	2	0.77	0.50	80.9%
6	Need for the reform of relations	3	0.68	0.55	61.4%
7	Dissatisfaction with existing participation	6	0.81	0.81	51.2%
8	Satisfaction with Swiss institutions	3	0.73	0.62	65.2%
9	Perceived innovative culture	7	0.86	0.85	55.0%
10	Presence of innovative leaders	3	0.77	0.64	68.5%
11	Economic rationality	2	0.71	0.50	77.4%
12	Resource sufficiency	2	0.82	0.50	84.7%
13	Federalism as a barrier	3	0.76	0.70	67.8%
14	Organisational knowledge of e-Government	3	0.67	0.63	59.1%
15	Legal framework	3	0.67	0.60	61.0%
16	Level of government	3	0.80	0.62	72.0%

Fig. 19 Reliability of scales measuring independent variables

4.6.5.2 Descriptive statistics

The independent variables were calculated as the means of items that composed respectable scales and were coded as follows. The descriptive statistical data for each variable is depicted in Fig. 20. The variables are in the table ranked in the descending order of their mean values. “The score given to each item is a random variable that can be characterised by its mean, variance and statistical distribution” (Tang, 1999, p. 429). Confirming the expectations, the highest level of agreement can be found with the items that measure the economic rationality of e-Government. Economic rationality understood in terms of profit generation or cost reduction should therefore be an important factor that impacts on the choice of e-Government projects. In addition, the mean of the scale measuring the availability of resources that are needed for e-Government projects is also comparatively high. This relation indicates that while the respondents emphasise the importance of economic rationality of e-Government projects, they also suppose that their organisation disposes of sufficient resources for their introduction.

The means of all variables that measure the positive effects of e-Government and the potential of e-Government to reform the functioning of Swiss public administrations are situated in the upper half of the table. It would therefore seem that e-Government and its effects are overall

perceived positively. The items measuring ICT anxiety were reverse-coded and therefore the mean of the scale presented in the table also indicates that ICT anxiety was, indeed, low among the respondents. In accordance with expectations, the existing culture of public organisations is not evaluated as exceptionally innovative. However, it is still considered rather innovative than not innovative.

The scale H78_perceived_innovative_environment consists of the items of scales H7_perceived_innovative_culture and H8_presence_of_innovative_leaders that were grouped together. I decided to include this modified scale in the analysis due to its high reliability values (α of 0.89 and KMO of 0.88). The regression analyses that follow were conducted with both of these measurements of the innovativeness of organisational culture separately. However, the choice of the scale did not significantly change the results. The results displayed here come from analyses where the two subscales were included separately.

	N	Mean	Minimum	Maximum	Std. Deviation
H9a_economic_rationality	103	4.9078	3.00	6.00	.78512
H2b_ICT_anxiety	114	4.8947	2.50	6.00	.85244
H56b_satisfaction_swiss_institutions	105	4.7397	2.33	6.00	.69335
H0_benefits_eGov	121	4.6579	1.80	6.00	.82115
H2a_perceived_ease_of_use	116	4.5466	2.60	6.00	.73110
H0_information_accountability_eGov	123	4.5415	2.80	6.00	.73272
H4a_ICT_reform_potential	110	4.5273	2.00	6.00	.94538
H1_perceived_usefulness	122	4.4049	2.00	6.00	.86262
H4b_need_for_reform	111	4.1486	2.00	6.00	.96199
H56c_need_relational_reform	102	4.0392	1.67	6.00	.85248
H9b_resource_sufficiency	103	4.0097	1.00	6.00	1.17361
H12_legal_bases	98	3.9932	1.67	6.00	.84134
H8_presence_of_innovative_leaders	103	3.9676	1.00	6.00	.94109
H78_perceived_innovative_environment	99	3.7929	1.40	6.00	.87508
H7_perceived_innovative_culture	101	3.7426	1.57	6.00	.93656
H0_steering_PP_eGov	122	3.6913	1.00	6.00	1.01429
H56a_dissatisfaction_existing_participation	102	3.5948	1.00	5.17	.75362
H3_ICTusePractice	91	3.5305	1.73	4.91	.67246
H10b_organisation_sufficient_information	99	3.4646	1.33	6.00	.92437
H0_eGov_satisfaction	125	3.3800	1.00	6.00	1.01282
H10c_government_level	102	3.3497	1.00	6.00	1.11335
H10a_federalism_barrier	104	3.3141	1.00	6.00	1.10878
H0_dark_side_eGov	123	2.4959	1.00	4.75	.80341
Valid N (listwise)	67				

Fig. 20 Descriptive statistics for all variables

The high mean value of the scale measuring satisfaction with Swiss institutions and the corresponding low mean value of the scale that measures dissatisfaction confirm expectations. The positive perceptions of the Swiss political and institutional system were reflected in the previously conducted interviews. It is surprising that one of the lowest mean values that were measured belongs to the scale measuring satisfaction with the current

development of e-Government. In fact, the score of 3.38 points rather at dissatisfaction than satisfaction. This finding indicates that respondents agree that the development of e-Government in Switzerland has so far been insufficient. In this connection, it is also useful to look separately at the two items that compose this scale. The figure below (Fig. 21) that provides their descriptive statistics shows that the difference in satisfaction with e-Government and e-Participation development is not significant. It is only slightly lower in the case of e-Participation.

	N	Mean	Minimum	Maximum	Std. Deviation
I am satisfied with the progress of e-Government in Switzerland.	125	3.42	1	6	1.010
I satisfied with the progress of e-Participation in Switzerland.	128	3.30	1	6	1.133
Valid N (listwise)	125				

Fig. 21 Descriptive statistics for e-Government satisfaction scale

The most unexpected finding that emerges from the descriptive analysis is the low mean of the scale measuring the impact of federalism on e-Government development. Contrary to expectations, the respondents do not consider the lack of communication and coordination between different governmental levels as a barrier to e-Government development. However, it is possible that they interpreted the items in relation to the development of e-Government on their level of government. Taking into account the local orientation of many e-Government projects in Switzerland, it is conceivable that in relation to these, the respondents do not consider the federalist division of powers as an obstacle. In accordance with this finding, the low mean value of the scale defining on which level of government e-Government should be regulated also shows the respondents' preference of its regulation on the cantonal level. This result should be interpreted with caution because the majority of respondents to the survey come from the cantonal level of government (68 to 32 percent from the federal level). The table below describing the negatively correlated relation between the two variables (Fig. 22) confirms this relation. Respondents coming from the cantonal level are indeed less likely to be in favour of e-Government being regulated on the federal level of government.

		H10c_government_level	GovernmentLevel
H10c_government_level	Pearson Correlation	1	-.430**
	Sig. (2-tailed)		.000
	N	102	99
GovernmentLevel	Pearson Correlation	-.430**	1
	Sig. (2-tailed)	.000	
	N	99	100

** . Correlation is significant at the 0.01 level (2-tailed).

Fig. 22 Correlation table for variables “H10c_government_level” and “GovernmentLevel”

Because the items of the scale describing the practical use of different ICTs were measured on a different scale of responses than all the other variables, the maximum value was 5 instead of 6. Furthermore, the items of the scale were coded in such a way that low values corresponded to more frequent use. The descriptive statistics show that, according to expectations, the most commonly used ICT applications is email and the least frequently used application is electronic voting, which is here understood in a broad sense and includes also different opinion polls. The analysis shows that the use of more participative applications, such as blogs, electronic surveys and electronic discussion fora is not common for the respondents. The highest ranked interactive medium is social networks. However, it is conceivable that the presence of public organisations on social networks focuses on one-way communication. Descriptives for the items of the scale are provided in Fig. 23.

	N	Mean	Minimum	Maximum	Std. Deviation
Electronic voting (opinion expression on the Internet)	111	4.74	2	5	.684
Blogs	110	4.51	1	5	1.147
Electronic surveys	112	4.39	1	5	.884
Electronic discussion fora	102	4.33	1	5	1.237
RSS news channels	112	4.06	1	5	1.538
Video sharing websites (YouTube, for example)	113	3.64	1	5	1.452
Electronic public service	112	3.56	1	5	1.576
Social networks (Facebook, LinkedIn, for example)	114	3.46	1	5	1.673
Dispatch of electronic messages (aside from emails)	114	2.73	1	5	1.668
Electronic information files	108	2.57	1	5	1.511
Email	115	1.04	1	5	.384
Valid N (listwise)	91				

Fig. 23 Descriptive statistics for the scale describing the practical use of ICT applications

4.6.5.3 Analysis of correlations

The relation between the five dimensions of the dependent variable and the independent variables was analysed using multiple linear regression analysis. However, firstly, the analysis of correlations between different variables was conducted with the goal of ascertaining the nature of relationships between different variables. The objective of the correlational analysis was to examine the existence of a linear relationship between the pairs of variables.

Correlations between the dimensions of dependent variable

The table below (Fig. 24) depicts the correlation values between the different dimensions of the dependent variable. Overall, one can observe relatively high positive and negative relations. The direction of relations corresponds to expectations in that the scales measuring the benefits of e-Government, its positive impact on information provision and accountability and the effects of e-Government on public-policy steering are positively correlated. In other words, if one of the values increases, the other two develop in the same direction. The highest positive correlation value (0.680) can be found between the dimensions H0_benefits_eGov and H0_information_accountability_eGov. The positive relation is expected because both scales measure positive perceptions of e-Government. The highest negative correlation is found between the scales H0_information_accountability_eGov and H0_dark_side_eGov. This relation is, again, logical. Because the second scale measures the negative perception of e-Government, it has to develop in the other direction than the first scale measuring the positive perceptions of e-Government. The scale H0_steering_PP_eGov measuring the effects of e-Government on the steering of public policies is less significantly positively correlated with the two scales measuring the positive effects of e-Government and negatively correlated with the scale measuring the dark side of e-Government. These directions of relations correspond to expectations. The biggest surprise is the weak and statistically insignificant relation between the scale H0_eGov_satisfaction and other dimensions of e-Government, which is further discussed in the following subchapter.

		H0_eGov_satisfaction	H0_benefits_eGov	H0_dark_side_eGov	H0_information_accountability_eGov	H0_steering_PP_eGov
H0_eGov_satisfaction	Pearson Correlation	1	.038	.042	-.101	.009
	Sig. (2-tailed)		.683	.647	.271	.926
	N	125	119	120	121	119
H0_benefits_eGov	Pearson Correlation	.038	1	-.567**	.680**	.475**
	Sig. (2-tailed)	.683		.000	.000	.000
	N	119	121	120	120	119
H0_dark_side_eGov	Pearson Correlation	.042	-.567**	1	-.663**	-.340**
	Sig. (2-tailed)	.647	.000		.000	.000
	N	120	120	123	122	121
H0_information_accountability_eGov	Pearson Correlation	-.101	.680**	-.663**	1	.552**
	Sig. (2-tailed)	.271	.000	.000		.000
	N	121	120	122	123	121
H0_steering_PP_eGov	Pearson Correlation	.009	.475**	-.340**	.552**	1
	Sig. (2-tailed)	.926	.000	.000	.000	
	N	119	119	121	121	122

** . Correlation is significant at the 0.01 level (2-tailed).

Fig. 24 Correlations between dimensions of dependent variable

Partial correlations between independent variables

The partial correlation analysis between different independent variables was conducted while controlling for the pre-defined control variables (age, gender, language, education, government level, work sector, number of employees, professional position, contact with citizens, organisational tenure and interest in politics). Several interesting results can be observed. The variable H4 ICT reform potential and the variable H1 perceived usefulness are strongly positively correlated (0.736). The positive relation between the two variables was expected; however, its strength exceeds expectations. An unexpected negative relation is found between the variables H2a perceived ease of use and H4b need for reform (-0.314). This findings implies that the respondents who suppose that the functioning of public administrations should be reformed do not consider their ICT-related skills sufficient. The perceived need for reform therefore does not seem to be necessarily linked to ICTs.

Other expected positive relations are observed between dissatisfaction with existing participation and the potential of ICTs to reform public administrations (0.448) and between the need for reform and the need for reforming relations between citizens and public administrations (0.599). The two scales measuring organisational innovativeness are also strongly positively correlated (0.712).

Unexpected correlations are found principally in relation to resource-related factors. It seems that the respondents who suppose that their organisations have sufficient resources for the development of e-Government functionalities are likely to not to consider ICT applications useful for the performance of their work tasks (-0.239). Likewise, the respondents who are

positive about the sufficiency of resources also consider that the economic rationality of projects is important (-0.319). In relation to the coordination of e-Government development, the findings imply that the respondents who consider the federalist division of competencies as an obstacle are also likely to agree that the necessary changes in legal bases complicate the introduction of projects (0.397). This last finding seems rather logical; the findings from interviews previously indicated that the impact of the federalist repartition of competencies was reflected in the impossibility to legally regulate e-Government in a more centralised manner.

The correlations between the scale H3_ICTusePractice and the dimensions of the dependent variable were tested separately (Fig. 26) due to the previously mentioned insufficient reliability of the scale and the straightforward relation that it is supposed to test. The correlations show a positive relation between the frequent use of ICT applications and 1) the perceived benefits of e-Government, 2) perceived positive effects of e-Government on information and accountability and 3) perceived effects of e-Government on the steering of public policies. The correlation with the dimension measuring the perceived negative effects of e-Government shows that the less frequently a respondent uses ICT applications, the more likely he is to perceive the effects of e-Government as negative. These four findings correspond to expectations. One surprising finding that the correlation analysis discovered is the relation between the practical use of ICTs and e-Government satisfaction that signals that the less often the respondents use different ICT applications, the more satisfied with the state of e-Government development they are likely to be. I suppose that this finding can be explained by a comparatively lower comprehension of the potential of e-Government of respondents who do not have experiences with the use of a variety of applications. As a consequence, they might perceive the current development level of e-Government as satisfactory.

Based on the analysis of partial correlations between independent variables and the previous analysis of correlations between the dimensions of the dependent variable, I conclude that issues related to potential collinearity between independent variables are not significant and multiple linear regression can therefore be performed. Pollock (2016) states that the values of correlation coefficients that would cause collinearity-related problems are those equal to or higher than 0.8.

		H1_perceived_usefulness	H2a_perceived_ease_of_use	H2b ICT_anxiety	H4a ICT_reform_potential	H4b_need_for_reform	H56a_dissatisfaction_existing_participation	H56b_satisfaction_swiss_institutions	H56c_need_relational_reform	H7_perceived_innovative_culture	H8_presence_of_innovative_leaders	H9a_economic_rationality	H9b_resource_sufficiency	H10a_federalism_barrier	H10b_organisational_sufficiency	H10c_government_level	H12_legal_bases
H1_perceived_usefulness	Correlation	1.000	0.569	0.501	0.736	-0.080	0.351	0.176	0.381	0.184	0.210	-0.034	-0.239	0.250	0.105	-0.196	0.344
	Significance (2-tailed)		0.000	0.000	0.000	0.542	0.006	0.176	0.002	0.156	0.105	0.794	0.063	0.052	0.421	0.129	0.007
	df		59	59	59	59	59	59	59	59	59	59	59	59	59	59	59
H2a_perceived_ease_of_use	Correlation	0.569	1.000	0.522	0.320	-0.314	0.144	0.159	-0.027	0.111	0.142	0.081	-0.240	0.095	-0.139	0.048	0.146
	Significance (2-tailed)	0.000		0.000	0.012	0.014	0.270	0.222	0.835	0.395	0.275	0.535	0.063	0.467	0.284	0.723	0.261
	df	59		59	59	59	59	59	59	59	59	59	59	59	59	59	59
H2b ICT_anxiety	Correlation	0.501	0.522	1.000	0.340	-0.036	0.057	0.125	0.155	0.080	0.238	0.021	-0.201	0.025	-0.103	-0.035	0.131
	Significance (2-tailed)	0.000	0.000		0.007	0.786	0.863	0.338	0.234	0.540	0.065	0.674	0.121	0.846	0.427	0.788	0.314
	df	59	59		59	59	59	59	59	59	59	59	59	59	59	59	59
H4a ICT_reform_potential	Correlation	0.736	0.320	0.340	1.000	0.264	0.448	0.225	0.557	0.103	0.168	0.142	-0.150	0.203	0.222	-0.165	0.243
	Significance (2-tailed)	0.000	0.012	0.007		0.040	0.000	0.081	0.000	0.428	0.197	0.274	0.260	0.116	0.086	0.204	0.059
	df	59	59	59		59	59	59	59	59	59	59	59	59	59	59	59
H4b_need_for_reform	Correlation	-0.080	-0.314	-0.036	0.264	1.000	0.180	-0.096	0.599	-0.205	-0.247	0.073	0.100	-0.068	0.294	-0.023	-0.068
	Significance (2-tailed)	0.542	0.014	0.786	0.040		0.166	0.464	0.000	0.114	0.055	0.575	0.443	0.804	0.021	0.861	0.804
	df	59	59	59	59		59	59	59	59	59	59	59	59	59	59	59
H56a_dissatisfaction_existing_participation	Correlation	0.351	0.144	0.057	0.448	0.180	1.000	-0.288	0.380	0.114	-0.016	0.003	0.040	0.197	0.274	-0.249	0.241
	Significance (2-tailed)	0.006	0.270	0.663	0.000	0.166		0.025	0.004	0.380	0.903	0.982	0.761	0.129	0.032	0.043	0.061
	df	59	59	59	59	59		59	59	59	59	59	59	59	59	59	59
H56b_satisfaction_swiss_institutions	Correlation	0.176	0.159	0.125	0.225	-0.096	-0.288	1.000	-0.018	0.264	0.494	0.059	-0.074	-0.172	-0.310	0.067	-0.049
	Significance (2-tailed)	0.176	0.222	0.338	0.081	0.464	0.025		0.890	0.040	0.000	0.651	0.571	0.186	0.015	0.607	0.708
	df	59	59	59	59	59	59		59	59	59	59	59	59	59	59	59
H56c_need_relational_reform	Correlation	0.381	-0.027	0.155	0.557	0.599	0.380	-0.018	1.000	-0.145	-0.107	0.078	-0.043	0.129	0.257	-0.174	0.023
	Significance (2-tailed)	0.002	0.835	0.234	0.000	0.000	0.004	0.890		0.264	0.413	0.553	0.743	0.321	0.045	0.179	0.863
	df	59	59	59	59	59	59	59		59	59	59	59	59	59	59	59
H7_perceived_innovative_culture	Correlation	0.184	0.111	0.080	0.103	-0.205	0.114	0.264	-0.145	1.000	0.712	0.022	-0.338	-0.007	-0.395	-0.157	0.021
	Significance (2-tailed)	0.156	0.395	0.540	0.428	0.114	0.380	0.040	0.264		0.000	0.868	0.006	0.855	0.002	0.228	0.875
	df	59	59	59	59	59	59	59	59		59	59	59	59	59	59	59
H8_presence_of_innovative_leaders	Correlation	0.210	0.142	0.238	0.168	-0.247	-0.016	0.494	-0.107	0.712	1.000	0.047	-0.161	0.038	-0.412	-0.178	0.079
	Significance (2-tailed)	0.105	0.275	0.065	0.197	0.055	0.903	0.000	0.413	0.000		0.720	0.163	0.771	0.001	0.170	0.545
	df	59	59	59	59	59	59	59	59	59		59	59	59	59	59	59
H9a_economic_rationality	Correlation	-0.034	0.081	0.021	0.142	0.073	0.003	0.059	0.078	0.022	0.047	1.000	-0.319	-0.159	-0.070	-0.037	-0.052
	Significance (2-tailed)	0.794	0.535	0.874	0.274	0.575	0.982	0.651	0.553	0.868	0.720		0.012	0.222	0.590	0.774	0.690
	df	59	59	59	59	59	59	59	59	59	59		59	59	59	59	59
H9b_resource_sufficiency	Correlation	-0.239	-0.240	-0.201	-0.150	0.100	0.040	-0.074	-0.043	-0.338	-0.161	-0.319	1.000	-0.092	0.145	-0.120	-0.194
	Significance (2-tailed)	0.063	0.063	0.121	0.250	0.443	0.761	0.571	0.743	0.008	0.163	0.012		0.479	0.263	0.358	0.134
	df	59	59	59	59	59	59	59	59	59	59	59		59	59	59	59
H10a_federalism_barrier	Correlation	0.250	0.095	0.025	0.203	-0.068	0.197	-0.172	0.129	-0.007	0.038	-0.159	-0.062	1.000	0.199	0.074	0.397
	Significance (2-tailed)	0.052	0.467	0.846	0.116	0.604	0.129	0.186	0.321	0.955	0.771	0.222	0.479		0.124	0.570	0.002
	df	59	59	59	59	59	59	59	59	59	59	59	59		59	59	59
H10b_organisational_sufficiency	Correlation	0.105	-0.139	-0.103	0.222	0.294	0.274	-0.310	0.257	-0.395	-0.412	-0.070	0.145	0.199	1.000	-0.066	0.124
	Significance (2-tailed)	0.421	0.284	0.427	0.086	0.021	0.032	0.015	0.045	0.002	0.001	0.590	0.263	0.124		0.509	0.342
	df	59	59	59	59	59	59	59	59	59	59	59	59	59		59	59
H10c_government_level	Correlation	-0.196	0.046	-0.035	-0.165	-0.023	-0.249	0.067	-0.174	-0.157	-0.178	-0.037	-0.120	0.074	-0.086	1.000	0.174
	Significance (2-tailed)	0.129	0.723	0.788	0.204	0.861	0.053	0.607	0.179	0.228	0.170	0.774	0.358	0.570	0.509		0.180
	df	59	59	59	59	59	59	59	59	59	59	59	59	59	59		59
H12_legal_bases	Correlation	0.344	0.146	0.131	0.243	-0.068	0.241	-0.049	0.023	0.021	0.079	-0.052	-0.194	0.397	0.124	0.174	1.000
	Significance (2-tailed)	0.007	0.261	0.314	0.059	0.604	0.061	0.708	0.863	0.875	0.545	0.690	0.134	0.002	0.342	0.180	
	df	59	59	59	59	59	59	59	59	59	59	59	59	59	59	59	

Fig. 25 Correlation table for independent variables (controlled)

		H3_ICTusePr actice	H0_eGov_sa tisfaction	H0_benefits_ eGov	H0_dark_sid e_eGov	H0_informati on_accounta bility_eGov	H0_steering_ PP_eGov
H3_ICTusePractice	Pearson Correlation	1	.112	-.131	.117	-.166	-.142
	Sig. (2-tailed)		.292	.218	.269	.116	.180
	N	91	90	90	91	91	91
H0_eGov_satisfaction	Pearson Correlation	.112	1	.038	.042	-.101	.009
	Sig. (2-tailed)	.292		.683	.647	.271	.926
	N	90	125	119	120	121	119
H0_benefits_eGov	Pearson Correlation	-.131	.038	1	-.567**	.680**	.475**
	Sig. (2-tailed)	.218	.683		.000	.000	.000
	N	90	119	121	120	120	119
H0_dark_side_eGov	Pearson Correlation	.117	.042	-.567**	1	-.663**	-.340**
	Sig. (2-tailed)	.269	.647	.000		.000	.000
	N	91	120	120	123	122	121
H0_information_account ability_eGov	Pearson Correlation	-.166	-.101	.680**	-.663**	1	.552**
	Sig. (2-tailed)	.116	.271	.000	.000		.000
	N	91	121	120	122	123	121
H0_steering_PP_eGov	Pearson Correlation	-.142	.009	.475**	-.340**	.552**	1
	Sig. (2-tailed)	.180	.926	.000	.000	.000	
	N	91	119	119	121	121	122

** . Correlation is significant at the 0.01 level (2-tailed).

Fig. 26 Correlation table for H3_ICTusePractice

4.6.5.4 Multiple linear regression analysis

After having divided the dependent variable between its five dimensions and insured the sufficient reliability of the new scales, I conducted a multiple linear regression analysis for each dimension. Regression is a more powerful analysis than correlation because it allows for the investigation of causal relationships between independent variables and the dependent variable. It goes therefore further than correlation analysis that provides information on the direction and approximate strength of relation between two variables. Regression analysis allows for testing of the null hypothesis that states that the relation observed between variables occurred solely by chance (Pollock, 2016). All regression analyses were conducted using the IBM SPSS Statistics software.

The choice to use the SPSS software is motivated primarily by the degree of complexity of the analysis. Because regression analyses belong to rather straightforward statistical operations, SPSS was considered the best option due to its easy and intuitive interface (Ozgun et al., 2017). The objective of the choice was to avoid “using a sledgehammer to crack a nut”. The R software has been increasingly used in the fields of political science and public administration and represents the main competitor of SPSS (Ozgun et al., 2017). However, it requires programming skills since R uses its own programming language. Additionally, because the software is developed in an open source manner, technical support of users is often lacking (Ozgun et al., 2017). Overall, even though R is the more sophisticated statistical software, its use is more time-consuming than is the case with SPSS (Jankovic, n.d.). Consequently, I decided to work with the latter. Other reasons to use SPSS were rather pragmatic. SPSS belongs to statistical packages whose licences are offered by the

University of Lausanne and it also constitutes the software used in the University's courses on public administration.

The scale of responses to survey questions did not include a neutral, "middle" response and it was consequently also not obligatory to answer every question. For this reason, the dataset contained several missing data. The literature offers a number of techniques used for dealing with missing data. The premise of these methods is that missing data can weaken the generalisability of results and decrease the statistical power of tests (Dong and Peng, 2013). For the purposes of the present research, which is of explanatory nature and limited to the Swiss case study, these arguments were somehow less pertinent. For this reason, the only method that deals with the problem of missing data that is applied here was their replacement by means.

The scientific literature has not found an agreement on the acceptable rate of missing data in social science studies. However, missing rates of 15% to 20% seem to be common (Dong and Peng, 2013). The part of missing values attained here twenty-two to thirty-two percent for different dimensions of the dependent variable and it can therefore be considered rather significant. For this reason, the regression analyses were conducted in two versions. In the first version, the missing data was replaced by the means of particular variables with the objective of maximising the number of observations. In the second version, the missing data was excluded from the analysis and the regressions were conducted using uniquely actual observations. The findings were not remarkably different in terms of the explained percentage of variance in the two cases. The explained variance was overall even slightly higher for analyses where missing data was excluded. The variables that were found influential in the two types of models were also similar in most cases. The choice to replace or exclude missing values reflects on a trade-off between the maximisation of the number of observations and the precision of results. In general, the precision of results should outweigh the maximum number of observations. For this reason and due to the similarity of results shown by the two models, the findings below describe the analyses where missing values were excluded and the data sample was composed uniquely of real observations. Overall, the regression results were rather positive and four out of five dimensions of the dependent variables were satisfactorily explained by the models.

Dimension "Benefits of e-Government"

Based on the results of the regression analysis, the first dimension of the dependent variable related to the perceived benefits of e-Government seems to be explained by 1) the belief that ICTs have a potential to reform public administration, 2) the positive perceptions of e-Government's effects on information and accountability and by 3) the perceived need for relational reform. The relations

between the independent and dependent variables are rather straightforward: respondents who supposed that ICTs could constitute an instrument of public administration reform and were in favour of a reform of relations between public administrations and citizens were also more likely to perceive e-Government as beneficial. Furthermore, given the positive value orientation of the two dimensions of the dependent variable and their high correlation value, the relation measured by the model seems to confirm its goodness of fit. The same is signalled also by the explained variance of the dependent variable that is more than satisfactory (0.67). The collinearity statistics determined by the values of tolerance and the Variance Inflation Factor (VIF) are in accordance with the established conventions in the field. The VIF values between 1 and 3 can be considered satisfactory whereas small tolerance values (less than 0.3) are a cause for concern.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.767 ^a	.588	.581	.46363	
2	.813 ^b	.661	.649	.42410	
3	.829 ^c	.687	.671	.41063	1.809

- a. Predictors : (Constant), H4a_ICT_reform_potential
- b. Predictors : (Constant), H4a_ICT_reform_potential, H0_information_accountability_eGov
- c. Predictors : (Constant), H4a_ICT_reform_potential, H0_information_accountability_eGov, H56c_need_relational_reform
- d. Dependent Variable : H0_benefits_eGov

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	2.252	.275		8.202	.000		
	H4a_ICT_reform_potential	.548	.059	.767	9.246	.000	1.000	1.000
2	(Constant)	1.378	.351		3.925	.000		
	H4a_ICT_reform_potential	.362	.075	.506	4.805	.000	.519	1.929
	H0_information_accountability_eGov	.370	.104	.375	3.564	.001	.519	1.929
3	(Constant)	1.220	.347		3.512	.001		
	H4a_ICT_reform_potential	.288	.080	.403	3.594	.001	.429	2.330
	H0_information_accountability_eGov	.320	.103	.324	3.103	.003	.493	2.027
	H56c_need_relational_reform	.181	.081	.217	2.222	.030	.564	1.774

a. Dependent Variable : H0_benefits_eGov

Dimension “Impact of e-Government on information and accountability”

The dimension of the dependent variable that relates to the impact of e-Government on information and accountability shows the highest explained percentages of variance of the five models (adjusted R-squared values of 0.79) and also the highest number of explanatory variables. In total, there are seven variables that contribute to the explanation of the dependent variable: 1) perception of positive effects of e-Government, 2) dissatisfaction with existing participation, 3) language of the

respondent, 4) presence of innovative leaders in the organisation, 5) effects of e-Government on the steering of public policies, 6) government level on which e-Government should be coordinated and 7) opinion of respondents regarding political bargaining. The correlations between the dependent variable and independent variables are positive for the first five variables and negative for the last two. The nature of relations overall corresponds to expectations. The relation with the language of the respondent seems to imply that German and Italian speakers were more likely to perceive the effects of e-Government on information and accountability. The relation with the level of government indicates that respondents who supposed that e-Government should be regulated on the federal level were less likely to perceive its effects on information and accountability. This finding seems to indicate that these effects would be more present if e-Government was to be regulated on the cantonal level. The explained percentage of variance is high (0.79) and the model therefore represents the best fit of all regression analyses that were conducted here.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.727 ^a	.528	.520	.50274	
2	.771 ^b	.594	.580	.47001	
3	.821 ^c	.673	.656	.42531	
4	.858 ^d	.736	.717	.38600	
5	.876 ^e	.767	.746	.36563	
6	.891 ^f	.795	.772	.34626	
7	.904 ^g	.817	.793	.33035	1.822

- a. Predictors : (Constant), H0_benefits_eGov
- b. Predictors : (Constant), H0_benefits_eGov, H56a_dissatisfaction_existing_participation
- c. Predictors : (Constant), H0_benefits_eGov, H56a_dissatisfaction_existing_participation, Language
- d. Predictors : (Constant), H0_benefits_eGov, H56a_dissatisfaction_existing_participation, Language, H8_presence_of_innovative_leaders
- e. Predictors : (Constant), H0_benefits_eGov, H56a_dissatisfaction_existing_participation, Language, H8_presence_of_innovative_leaders, H0_steering_PP_eGov
- f. Predictors : (Constant), H0_benefits_eGov, H56a_dissatisfaction_existing_participation, Language, H8_presence_of_innovative_leaders, H0_steering_PP_eGov, H10c_government_level
- g. Predictors : (Constant), H0_benefits_eGov, H56a_dissatisfaction_existing_participation, Language, H8_presence_of_innovative_leaders, H0_steering_PP_eGov, H10c_government_level, Je ne tolère pas les marchandages politiques.
- h. Dependent Variable : H0_information_accountability_eGov

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Statistiques de colinéarité	
		B	Std. Error	Beta			Tolérance	VIF
1	(Constant)	1.151	.430		2.676	.010		
	H0_benefits_eGov	.736	.090	.727	8.191	.000	1.000	1.000
2	(Constant)	.668	.431		1.550	.126		
	H0_benefits_eGov	.615	.093	.607	6.638	.000	.823	1.216
	H56a_dissatisfaction_existing_participation	.293	.094	.284	3.106	.003	.823	1.216
3	(Constant)	-.121	.443		-.274	.785		
	H0_benefits_eGov	.605	.084	.597	7.215	.000	.822	1.217
	H56a_dissatisfaction_existing_participation	.369	.088	.358	4.210	.000	.778	1.285
	Language	.400	.107	.290	3.748	.000	.941	1.063
4	(Constant)	-.558	.420		-1.330	.189		
	H0_benefits_eGov	.549	.078	.541	7.060	.000	.789	1.267
	H56a_dissatisfaction_existing_participation	.364	.080	.353	4.573	.000	.778	1.285
	Language	.413	.097	.299	4.262	.000	.940	1.064
	H8_presence_of_innovative_leaders	.180	.049	.257	3.663	.001	.946	1.058
5	(Constant)	-.635	.399		-1.594	.117		
	H0_benefits_eGov	.450	.082	.444	5.496	.000	.637	1.569
	H56a_dissatisfaction_existing_participation	.349	.076	.339	4.620	.000	.774	1.292
	Language	.396	.092	.287	4.309	.000	.936	1.069
	H8_presence_of_innovative_leaders	.196	.047	.280	4.184	.000	.930	1.075
	H0_steering_PP_eGov	.144	.053	.204	2.744	.008	.755	1.325
6	(Constant)	.041	.452		.090	.929		
	H0_benefits_eGov	.400	.080	.395	5.026	.000	.604	1.655
	H56a_dissatisfaction_existing_participation	.298	.074	.289	4.027	.000	.724	1.381
	Language	.419	.087	.304	4.796	.000	.927	1.079
	H8_presence_of_innovative_leaders	.181	.045	.259	4.060	.000	.917	1.090
	H0_steering_PP_eGov	.186	.052	.263	3.572	.001	.689	1.451
7	(Constant)	.536	.473		1.133	.262		
	H0_benefits_eGov	.398	.076	.393	5.239	.000	.604	1.656
	H56a_dissatisfaction_existing_participation	.265	.072	.256	3.679	.001	.699	1.430
	Language	.356	.087	.258	4.089	.000	.850	1.176
	H8_presence_of_innovative_leaders	.178	.043	.254	4.179	.000	.916	1.091
	H0_steering_PP_eGov	.189	.050	.266	3.794	.000	.689	1.451
	H10c_government_level	-.116	.041	-.190	-2.856	.006	.771	1.297
	Je ne tolère pas les marchandages politiques.	-.076	.030	-.156	-2.535	.014	.898	1.114

a. Dependent Variable : H0_information_accountability_eGov

Dimension “Dark side of e-Government”

The third dimension of the dependent variable is related to the dark side of e-Government. The items from the scale refer to the perceived negative effects of e-Government and the regression model identifies their three predictors: 1) perceived usefulness of ICT applications, 2) impact of e-Government on information and accountability and 3) education level of the respondent. The percentage of explained variance is satisfactory (0.44). Whereas the correlation between variables is negative in the case of the first two variables, it is slightly positive in the case of the third one.

These results can be interpreted in the following way. The respondents who perceived ICT applications as useful in general and in relation to their effects on information and accountability were less likely to perceive the effects of e-Government as negative. The relation between the dependent variable and the independent variable “Education” shows a weak positive relation between the lower level of education and perception of negative effects of e-Government.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.594 ^a	.353	.342	.61967	
2	.644 ^b	.415	.395	.59425	
3	.680 ^c	.463	.435	.57448	1.812

a. Predictors : (Constant), H1_perceived_usefulness

b. Predictors : (Constant), H1_perceived_usefulness, H0_information_accountability_eGov

c. Predictors : (Constant), H1_perceived_usefulness, H0_information_accountability_eGov, Education

d. Dependent Variable : H0_dark_side_eGov

Model		Unstandardized Coefficients		Standardized Coefficients	t	Collinearity Statistics	
		B	Std. Error	Beta		Tolerance	VIF
1	(Constant)	4.609	.405		11.376		
	H1_perceived_usefulness	-.508	.089	-.594	-5.723	1.000	1.000
2	(Constant)	5.381	.496		10.841		
	H1_perceived_usefulness	-.309	.117	-.361	-2.646	.532	1.879
	H0_information_accountability_eGov	-.359	.144	-.341	-2.499	.532	1.879
3	(Constant)	5.032	.504		9.982		
	H1_perceived_usefulness	-.317	.113	-.371	-2.808	.532	1.881
	H0_information_accountability_eGov	-.326	.140	-.310	-2.334	.527	1.899
	Education	.096	.043	.220	2.265	.986	1.014

a. Dependent Variable : H0_dark_side_eGov

Dimension “Impact of e-Government on the steering of public policies”

The fourth dimension of e-Government related to the impact of e-Government on public-policy steering is in the regression model predicted by 1) perceptions related to the impact of e-Government on information and accountability, 2) sector in which respondents acquired their work experiences (public or private), 3) perceived innovativeness of organisational culture, 4) level of government and 5) perceived potential of ICTs to reform public administrations. The correlations between independent and dependent variables are positive except in the case of work sector and perceived innovativeness of organisational culture. The latter relation seems rather illogical; it seems that respondents who did not perceive their organisation’s culture as innovative were more likely to perceive the positive effects of e-Government on the steering of public policies. The negative relation between the work sector and the dependent variable reflects the negative relation between the previous work experience in the private sector and the probability to perceive the

impact of e-Government on the steering of public policies. The model shows a satisfactory percentage of explained variance (0.45).

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.502 ^a	.252	.239	.89296	
2	.598 ^b	.357	.336	.83449	
3	.643 ^c	.414	.384	.80367	
4	.676 ^d	.456	.418	.78082	
5	.705 ^e	.497	.452	.75804	2.223

- a. Predictors: (Constant), H0_information_accountability_eGov
b. Predictors : (Constant), H0_information_accountability_eGov, WorkSector
c. Predictors : (Constant), H0_information_accountability_eGov, WorkSector, H7_perceived_innovative_culture
d. Predictors : (Constant), H0_information_accountability_eGov, WorkSector, H7_perceived_innovative_culture, H10c_government_level
e. Predictors : (Constant), H0_information_accountability_eGov, WorkSector, H7_perceived_innovative_culture, H10c_government_level, H4a ICT_reform_potential
f. Dependent Variable : H0_steering_PP_eGov

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.569	.739		.770	.444		
	H0_information_accountability_eGov	.708	.158	.502	4.491	.000	1.000	1.000
2	(Constant)	1.899	.812		2.338	.023		
	H0_information_accountability_eGov	.672	.148	.476	4.547	.000	.994	1.006
	WorkSector	-.700	.225	-.326	-3.115	.003	.994	1.006
3	(Constant)	2.421	.812		2.980	.004		
	H0_information_accountability_eGov	.769	.148	.545	5.195	.000	.917	1.091
	WorkSector	-.680	.216	-.317	-3.142	.003	.992	1.008
	H7_perceived_innovative_culture	-.265	.112	-.248	-2.369	.021	.922	1.084
4	(Constant)	.874	1.078		.811	.421		
	H0_information_accountability_eGov	.884	.154	.626	5.747	.000	.803	1.246
	WorkSector	-.530	.222	-.247	-2.388	.020	.891	1.123
	H7_perceived_innovative_culture	-.242	.109	-.227	-2.217	.031	.913	1.095
	H10c_government_level	.202	.096	.233	2.108	.039	.779	1.284
5	(Constant)	.716	1.049		.682	.498		
	H0_information_accountability_eGov	.614	.196	.435	3.127	.003	.464	2.154
	WorkSector	-.514	.216	-.240	-2.384	.021	.889	1.124
	H7_perceived_innovative_culture	-.230	.106	-.215	-2.169	.034	.911	1.098
	H10c_government_level	.215	.093	.248	2.306	.025	.776	1.289
	H4a ICT_reform_potential	.286	.135	.280	2.116	.039	.515	1.942

a. Dependent Variable : H0_steering_PP_eGov

Dimension “Satisfaction with e-Government”

The regression model that was constructed for the last, fifth dimension of the dependent variable that measures the overall satisfaction with e-Government development was the only one that did not return convincing results. The overall variance of the dependent variable explained by the model is

very low (0.15) and the model therefore cannot be considered a good fit. The analysis shows that the only variable that seems to explain e-Government satisfaction is H56c_need_relational_reform. The negative correlation between the two variables would seem to imply that the respondents who supposed that the reform of relations between public administrations and citizens would be desirable were less likely to be satisfied with the development of e-Government. This finding could be interpreted in the following way: respondents who found a relational reform desirable considered the current state of e-Government in Switzerland insufficient and not leading to the needed reform of relations. However, because the reliability values are not satisfactory and the relation between the explanatory and explained variables is very weak, it can be concluded that this dimension of the dependent variable was not satisfactorily explained by the model.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.400 ^a	.160	.146	.84438	1.985

a. Predictors : (Constant), H56c_need_relational_reform

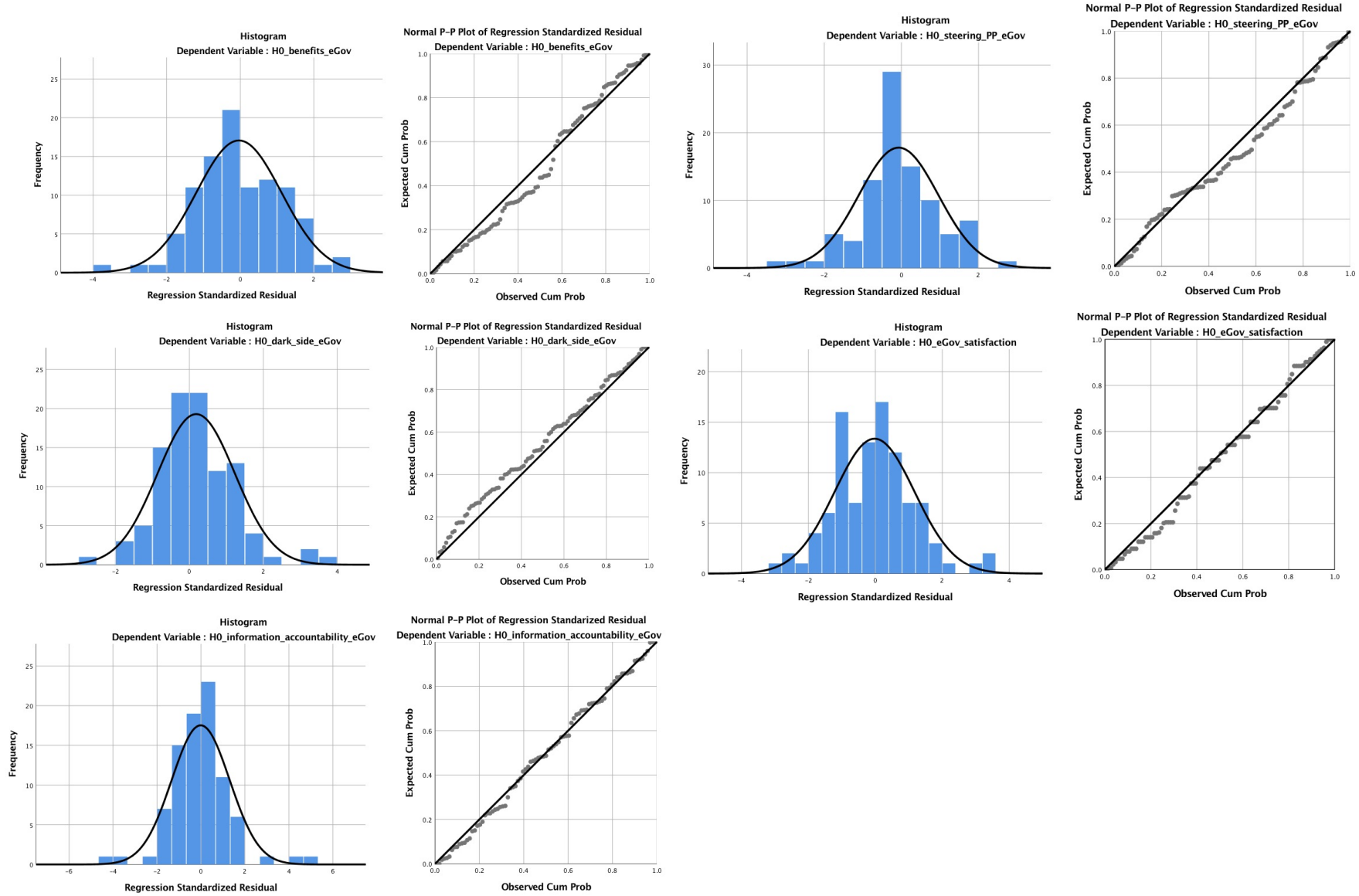
b. Dependent Variable : H0_eGov_satisfaction

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	5.108	.516		9.904	.000		
	H56c_need_relational_reform	-.424	.125	-.400	-3.379	.001	1.000	1.000

a. Dependent Variable: H0_eGov_satisfaction

Besides the explained percentage of variance, the goodness of fit of a statistical model can be estimated from the plots of residual values and histograms measuring the desired normality of residuals' distribution. The plots and histograms that were modelled for all dimensions of the dependent variable can be found below (Fig. 27).

Fig. 27 Plots of residual values and histograms for all dependent variables



The histograms and residual plots show that the models were a good fit for the dimension of the dependent variable H0_information_accountability_eGov that is closest to the normal distribution of residuals. The histograms and plots of residuals also confirm a relatively good fit of the models for the dimensions H0_steering_PP_eGov, H0_benefits_eGov and H0_dark_side_eGov even though all three dimensions show the presence of extreme values. In the former two dimensions, the extreme values seem to be present on both sides of the linear curve and, at least partly, compensate for each other's effects. This does not seem to be the case for the dimension H0_dark_side_eGov and the model therefore seems to constitute a comparatively worse fit. For the dimension H0_eGov_satisfaction the two plots confirm that the model did not constitute a good fit; the distribution of residual values cannot be described as normal and is rather random.

Elliott and Woodward (2007) state that for samples larger than forty, the central limit theorem can be invoked to justify the use of parametric procedures even when the distribution of data is not normal. The theorem states that "sample means are approximately normal for sufficiently large sample sizes even when the original populations are nonnormal" (Elliott and Woodwards, 2007, p. 26). The conditions of normality therefore seemed to be overall fulfilled.

4.6.6 Research hypotheses in the light of empirical findings

In this chapter I present the first conclusions related to the research hypotheses that were defined in the chapter 4.6.2. The explanatory models of the five dimensions of the dependent variable constructed on the basis of regression analysis did not comprise all variables that were used in the original model because their explanatory significance was not statistically significant (the level of significance was higher than 0.05). As a consequence, several hypotheses could not be confirmed. Because the dependent variable was divided into five dimensions, the hypotheses are here discussed in relation to particular dimensions.

***H1:** Respondents that perceive their experiences with the use of ICTs overall positively will be more likely to be positive toward e-Government than respondents whose experiences with the use of ICTs are perceived negatively.*

The hypothesis H1 related to the perceived usefulness of e-Government applications is confirmed by the results of this research for the dimension of the dependent variable related to the perceived negative effects of e-Government (H0_dark_side_eGov). The relation between the dependent variable and perceived usefulness of ICTs is negative; respondents who were likely to perceive the effects of e-Government as negative were also more likely to not perceive e-Government as useful.

This result can be considered as confirmatory of the hypothesis H1 for this dimension of the dependent variable even though the hypothesis is formulated in opposite terms.

H2: *Respondents that perceive themselves as digitally skilful will be more positive toward e-Government than respondents that are uncertain about their digital skills.*

The second hypothesis H2 related to the perceived ease of use of e-Government applications and perceived digital skills could not be confirmed by the findings of this study; none of the constructed models identified the perceived ease of use as an explicative factor. Contrary to expectations, the relation between the high levels of perceived digital skills and the perceived benefits of e-Government was not confirmed. The second scale used for evaluating the validity of the H2 hypothesis, H2b_ICT_anxiety, similarly did not figure as a predictor in any of the models and therefore the hypothesis H2 could not be confirmed on this basis either.

H3: *Respondents who have experiences with the use of various electronic applications and use them frequently will be more likely to support e-Government than respondents who lack experiences with electronic applications.*

Due to the insufficient reliability of the scale, the hypothesis H3 could not be reliably confirmed by the results of this research. However, the correlation values of the variable H3_ICTusePractice point at a positive relation between the frequency of use of ICT applications and the three dimensions of the dependent variable measuring the positive effects of e-Government and at the negative correlation with the perceived negative effects of e-Government.

H4: *Respondents with the positive perception of the quality of services provided by his/her organisation will be less likely to favour e-Government than respondents who suppose that the quality of services should be improved.*

Based on the results of the performed analyses, the fourth hypothesis H4 could be confirmed for two dimensions of the dependent variable. The positive perceptions of ICTs' potential as an instrument of public administration reform constituted the main predictor of the positive benefits of e-Government and one of the predictors of perceptions related to the positive effects of e-Government on the steering of public policies. In the latter model, the percentage of explained variance of the model increased by 3.5 percent after adding the variable H4a_ICT_reform_potential. These findings overall correspond to expectations.

H5: *Respondents who are satisfied with the existing relations between citizens and public administrations will be less likely to favour e-Government than respondents who suppose that the*

relations could be improved.

H6: *Respondents who are satisfied with the Swiss democratic system will be less likely to support e-Government than respondents who suppose that the Swiss democratic system could be improved.*

Following the testing of the reliability of scales and the redistribution of items, the items from the two scales that were used for testing the hypotheses H5 and H6 were mixed together and divided according to their three dimensions. The dimension related to dissatisfaction with the existing system of citizen participation in Switzerland was identified as the second most important predictor of the dimension of the dependent variable related to the positive effects of e-Government for information provision and accountability. Furthermore, the dimension of the H5+H6 scale measuring the need for reform of citizens-public administrations relations contributed to the explanation of the perceived benefits of e-Government. The first finding implies that respondents who were dissatisfied with the current participation were also likely to perceive the positive effects of e-Government for information provision and accountability. The second finding implies that the respondents who supposed that the relations between public administrations and citizens should be reformed were also more likely to perceive e-Government effects positively. The perceived need for a relational reform was assessed as a weak predictor of satisfaction with e-Government. However, because this regression model had a very low explained percentage of variance and overall did not constitute a good fit, this finding will not be further considered.

Based on the previous, the hypothesis H5 is therefore confirmed by the results of this research for the dimension of e-Government related to its perceived benefits. The hypothesis H6 is confirmed for the dimension of e-Government related to its perceived positive effects on information and accountability.

H7: *Respondents who perceive their organisational culture as innovative will be more positive toward e-Government introduction than respondents who do not perceive their organisational culture as such.*

The variable testing the hypothesis H7 figured as an explicative factor in the regression model predicting the dimension of the dependent variable related to the effects of e-Government on the steering of public policies. The explained percentage of variance of the model increased by five percent when the variable was added. However, the relation between H7_perceived_innovative_culture and H0_steering_PP_eGov does not correspond to the relation predicted by H7. In fact, the models shows that the relation between the perceived innovativeness of organisational culture and the perceived positive effects of e-Government is negative. The

hypothesis H7 could therefore not be confirmed by the results of this research.

H8: *The presence of “innovation leaders” in a department or an office will make the introduction of e-Government projects more likely than in departments or offices where these projects do not have concrete personal support.*

The variable testing the hypothesis H8 figures as one of the most important factors in the explicative model of the perceptions of positive effects of e-Government on information provision and accountability. It can therefore be accepted in regard to this dimension based on the results of this research. The discovered relation suggests that respondents who suppose that their public managers and leaders are innovative are also more likely to perceive the effects of e-Government as positive.

H9: *Public departments will give priority to e-Government projects that are not resource-intensive and/or allow for saving of resources as opposed to projects that are resource-intensive and/or demand additional resources in terms of workforce and money.*

The variables testing the hypothesis H9 did not figure as explicative factors in any of the statistical models and is therefore not confirmed by the results of this research.

H10: *The introduction of e-Government projects in Switzerland is hindered by insufficient coordination and cooperation between different governmental levels and between different federal departments and offices.*

The hypothesis H10 related to the importance of the federalist state structure and the coordination structures on e-Government development is partially confirmed by the results of this research. The scale measuring these aspects was divided into three dimensions following the testing of scales' reliability. The scale measuring the optimal level of government that should be in charge of e-Government strategies figures as a predictor in the models explaining the dimension of e-Government related to its effects on information and accountability and dimension related to the effects of e-Government on the steering of public policies. The two findings seem to complement each other. Whereas in the former case the relation seems to indicate that respondents who were in favour of e-Government being regulated on the federal level were less likely to perceive its effects on information and accountability, the latter result indicates that respondents who supposed that e-Government should be regulated on the cantonal level were more likely to perceive the positive effects of e-Government on the steering of public policies. Consequently, it seems that perceptions

that e-Government should be regulated on the cantonal level lead to positive perceptions of e-Government effects.

***H11:** The ambiguity of documents guiding the introduction of e-Government in Switzerland hinders its development.*

***H12:** The necessary changes to legal framework hinder e-Government development.*

The hypotheses H11 and H12 related to the importance of legal framework for e-Government development could not be confirmed by this research for any dimension of the dependent variable.

Even though it was not possible to decide on the validity of certain hypotheses due to the insufficient reliability of scales, the descriptive statistics related to these scales and items provide us with interesting findings. For example, 35 percent of the respondents rather agreed than disagreed that the work processes in their organisation worked well and did not require any reforms. However, even though this answer was selected by the highest percentage of respondents, the bigger part of respondents (53 percent) agreed that the work processes in their organisation needed optimising.

The majority of respondents (65 percent) also supposed that their organisational culture offered a lot of opportunities to exchange and come up with innovative ideas. However, only a little less than a half of respondents (49 percent) agreed that their organisation acknowledged innovative employees. In accordance with this finding, most respondents (58 percent) supposed that their organisation did not provide sufficient resources for the exploration of innovative ideas. It seems that there is a contradiction in the perception of innovativeness of organisational culture because contrary to the two preceding findings, a bigger part of respondents (54 percent) also agreed that innovation was a part of the organisation's mission and values.

The question of digital skills does not seem to be crucial in the process of e-Government uptake. Over 90 percent of respondents considered it easy to learn to work with ICTs for work-related purposes, a quarter of respondents (28 percent) claimed to distrust ICTs and only three percent of respondents admitted to be intimidated by the use of ICTs in their line of work. These findings seem reassuring and could be interpreted as a confirmation of good levels of digital skills in the Swiss public administration. However, the overall positive evaluation of digital skills could be also caused by a relatively simple nature of ICTs that are used in the Swiss public administration.

4.7 Discussion of quantitative findings

The objective of the quantitative part of the research design was to extend and increase the validity of findings drawn from the previously conducted semi-structured interviews. Overall, four of the five regression models that explain the five dimensions of the dependent variable represent a good fit and explain to a satisfactory degree the variance of dependent variables. However, the number of variables that were confirmed as predictors of the given dependent variables was rather low. When considering that the total number of independent variables that were entered in each regression analysis (including control variables) was more than thirty, the numbers of predictors for each dimension of the dependent variable (3, 7, 3 and 5) are not overwhelming. The highest explained percentages of variance were found for the dimensions with the highest number of predictors (H0_benefits_eGov and H0_information_accountability_eGov). The explained variance of the other two dimensions (H0_dark_side_eGov and H0_steering_PP_eGov) was lower, but still satisfactory given the exploratory nature of the research, the self-constructed scales and the limited size of the sample.

The analysis of quantitative data seems to be especially convincing in the dimensions of e-Government related to the perceived benefits of e-Government and to the impact of e-Government on accountability and information provision. Their explanatory models constitute better fit than is the case in the other three dimensions. The two dimensions that were best explained by the models are positive correlated and constitute each other's major predictors. Because the findings related to the dimension H0_eGov_satisfaction were not statistically significant and the reliability of the scale itself was problematic, this dimension of the dependent variable is not further included in the final discussion of findings.

The independent variables that were in the analysis identified as predictors of different dimensions of the dependent variable were dominantly those of the individual or personal nature. In fact, the only two influential variables from the organisational and institutional levels of analysis were those related to the level of government and perceived organisational innovativeness. This came as a surprise given the findings from the interviews that seemed to attribute more important roles to the organisational and institutional groups of factors. The statistical results ascribe the most important role to factors such as perceived usefulness, presence of innovation leaders, dissatisfaction with the existing participation and perceived quality of the system. The role of individuals for the introduction of e-Government therefore seems to be primordial. These findings are not surprising by itself; on the contrary, it seems logical that public employees who evaluate the impact of ICTs on their work performance in a positive manner and suppose that ICTs could be instruments of public administration reform are also more favourable toward a broader use of technologies. Furthermore,

it seems fitting that the respondents who felt the need for reform of relations between public administrations and the public and/or were dissatisfied with the existing participation channels were more likely to perceive the positive effects of e-Government.

Because the three dimensions of the dependent variable that describe the positive effects of e-Government often figure in their regression models as each other's predictors, it can be said that the perceptions of positive effects of e-Government go hand in hand. In other words, it seems that the respondents who perceived the positive effects of e-Government on information and accountability were also more likely to perceive its effects on the steering of public policies in a positive way. These findings seem to signal that respondents who perceived one kind of benefits were likely to perceive several of them. The promoters of projects should therefore ideally communicate the beneficial impact of e-Government as a package, in relation to all its dimensions.

To limit the risks related to collinearity, the regression analyses were conducted in the stepwise form that allows for adding variables to the model based on their pertinence. The influence of several independent variables could be not confirmed by this method. An important limitation of the statistical analysis was in this regard the rather low sample size whose increase would likely improve the power of the test. It is therefore possible that for larger sample sizes more of the hypotheses could be confirmed (Elliott and Woodward, 2007). The results that were not significant on the 0.05 level of significance could become significant in larger data samples.

One of the explanatory factors of the dimension of the dependent variable measuring the positive effects of e-Government on the steering of public policies was the government level on which e-Government should be regulated. According to the respondents, in order for these effects to be produced, e-Government should be a cantonal affair. The qualitative findings tell us that the lack of coordination and communication between different governmental levels leads to the repeated "reinvention of the wheel" for the same e-Government functionalities. Furthermore, it seems that the impact of federal e-Government regulations has been limited in cantons and municipalities. However, most respondents still agree that e-Government should be regulated on the level of cantons.

4.8 Chapter summary

This fourth chapter presented the core of the empirical approach of this project. The importance and innovativeness of the mixed-method approach for the research problem was discussed in the beginning of the chapter. The process of both qualitative and quantitative data collection that was conducted entirely by the author was described in detail with its advantages and drawbacks. In the

first part of the chapter, I provided a detailed description of findings from the analysis of conducted interviews. In the second part, the focus was on the quantitative part of the research.

The principal qualitative method employed in this research consisted in semi-structured interviews with different actors involved in e-Government projects in Switzerland. The quantitative part consisted in the dispatch of an expert survey that was constructed based on the interview findings and literature review that was described in the first chapter. The qualitative and quantitative parts of the research design offer an interesting spectrum of findings that complement each other and are further discussed in the following chapter. The focus of both types of analysis was on factors related to the institutional, organisational and individual aspects of e-Government reforms.

In the next chapter, I discuss the mixed-method findings. Furthermore, after having described the empirical part of the research, I return to the theoretical framework constructed in the third chapter and reflect on the theoretical concepts in the light of empirical findings.

5 Discussion of findings and contributions of the study

5.1 Discussion and interpretation of mixed-method findings

The use of modern information and communication technologies in the public sector has been met with different reactions: unwarranted optimism, controversy or mistrust related to its utility. In the field of academic research, the topic has instigated a broad range of questions related to both its theoretical and empirical aspects. Referring to the seeming discrepancy between the potential of e-Government in Switzerland and its actual level of development, this research aimed to identify the main factors that impact on the introduction of e-Government and, in a larger perspective, evaluate its utility in the context of Swiss institutional and political system. Electronic government was here understood as a type of public administration reform and as a public innovation with significant intra- and extra-organisational effects. In accordance with the literature, it was approached as a concept composed of two dimensions: electronic provision of public services and electronic citizen participation. One thing that the two dimensions have in common is that their offline versions are in Switzerland considered to be of comparatively very good quality. Whereas the electronic provision of public services seems to be principally the question of transformation on the level of organisational culture, online citizen participation depends on the more fundamental views of democracy and on the relations between citizens and public administrations.

This study adopted a mixed-method approach by combining semi-structured interviews with an expert survey. The mixed-method research is original in the field of e-Government and has been recently found promising in the fields of public administration and public policy (Hendren et al., 2018). In the Swiss context, this research is the first one that has approached the question of e-Government development in this manner. It confirms that the combination of qualitative and quantitative findings constitutes a good fit for studying perceptions related to the development of e-Government. Whereas the semi-structured interviews provided a detailed insight into the most important factors that impact on the uptake of e-Government projects in Switzerland, the expert survey allowed for the validation and extension of a certain number of these findings.

The discrepancy between the potential and actual state of e-Government development in Switzerland that motivated this study has in the course of the research shifted from a seeming paradox to a rather logical consequence of Swiss administrative culture and institutional setting. As was evoked in the chapter 4.1 on case selection methods, the status of the Swiss case changed and its seemingly deviant nature was explained by contextual and cultural factors that are proper to the country. The federalist structure and broad policy-making autonomy of cantons have not

historically created a fertile ground for public innovations; this fact is confirmed by this study. It seems that the consensual character of government that prevails in Switzerland on all governmental levels has a strong moderating effect on the type of e-Government reforms that are preferred. The findings of this study indicate that less controversial initiatives are favoured at the expense of more ambitious and revolutionary projects that risk to meet more opposition. Furthermore, the lack of public demands for e-Government and high trust in Swiss institutions cement the status quo instead of inciting reforms that are perceived as unnecessary. Whereas the incompatibility of innovations with administrative culture has been observed in other contexts, these last factors are typical for the Swiss public administration.

An important step accompanying the use of mixed methods is the final discussion and synthesis of findings in an effort to complement findings from one type of data by insights provided by the other type of data. The first objective of this step is to look at quantitative results and precise their significance in the light of qualitative findings. The second objective is to connect the two types of findings and draw research conclusions on this basis. Consequently, in the first part of this chapter, I address factors that were found influential in the quantitative part of the research and interpret them in relation to qualitative findings. At this point, I also address contradictions that emerged from the two types of data. An important difference in the responses to interview and survey questions relates to the position of interviewee/survey respondent. Whereas in the interviews, the interviewees answered questions that were often related to their organisation as a whole and therefore acted as their representatives, in the survey the respondents expressed their personal opinions and perceptions. Whereas the validation purpose of quantitative approach was previously addressed in relation to the pre-defined hypotheses, the extension aspect is further discussed in the next subchapters. In this regard, the data from the survey provides notably a closer look at the importance of individual factors and personal values for the perceptions of e-Government. In the second part of this chapter, I provide a synthesis of both types of findings and interpret their joint significance for the future of e-Government in Switzerland.

5.1.1 Interpreting quantitative findings in the light of qualitative data

INDIVIDUAL LEVEL OF ANALYSIS

Perceived usefulness and the question of digital skills

One of the factors that was identified as a predictor of negative perceptions of e-Government by the statistical analysis is the perceived usefulness of ICT applications. The relation between the two variables is rather straightforward; respondents who did not perceive ICT applications as useful were more likely to remark the negative effects of e-Government. However, in contradiction to

qualitative findings, the perceived ease of use and ICT anxiety were not statistically confirmed predictors of negative e-Government perceptions and the respondents to survey overall claimed to feel competent to use ICTs in their line of work. This contradiction can be explained by a difference in populations that were interviewed and that took the survey. Because the group of interviewees was mostly composed of project managers and heads of departments who are presumably distanced from lower hierarchical echelons, it is possible that these actors did not paint a completely reliable picture of digital skills of public employees. An alternative explanation is that because it was not possible to select in a representative way respondents to the survey, the latter was composed mostly of employees who feel comparatively more digitally competent.

Even though the statistical analyses did not find a relation between the level of digital skills of respondents and perceptions of e-Government, the findings from interviews indicate that public administrations generally lack the expertise necessary for evaluating risks related to e-Government technologies. This situation seems to be a consequence of the historical role of public administrations and their culture. Public administrations have historically not been considered keen innovators and it has not been their role to undertake innovations. It can be said that their role has been even contradictory to innovation: they are supposed to be the symbols of state continuity and security. Undertaking innovations therefore does not come naturally to public organisations and exceeds the mind-set inherent to public employees. The institutionalised actions of public authorities that risk to be disrupted by innovations have for a long time constituted an important source of their legitimacy.

The expertise of public administrations in the realm of modern technologies has historically not been considered important and has stayed rather underdeveloped until today. Public officials have tended to be experts rather in legal and political affairs. The findings from interviews indicate that this lack of variety in public employees' background causes problems in relation to technology-intensive projects that is manifested, for example, in the framework of the cooperation of public administrations with private companies. To prevent the negative consequences of the principal-agent relation in which public administrations find themselves and attenuate the anxiety of public employees, I conclude that public organisations should prioritise the internal recruitment of technological experts who would be able to oversee the development and implementation of projects. Even if the projects are developed in cooperation with private companies, public organisations would have their own experts who would be able to safeguard their interests. The re-structuring of jobs within public organisations seems to be a necessary, albeit a challenging task. A typical negative effect of e-Government reforms that was cited by a number of interviewees and

is related to ICT anxiety is the fear of job loss. Public managers therefore have the task of balancing the two sides of the coin and that in an environment where one an important motivation of employees relates to their job security.

As the findings from interviews imply, private companies are, indeed, important partners in the development of e-Government projects. Collaboration with external private partners, in the form of so-called public-private partnerships or outsourcing, is nothing new in the Swiss public sector. Due to the comparatively low numbers of public employees and overall low levels of professionalization, Swiss public administrations have in the past often resorted to these types of arrangements. Consequently, public tenders have historically constituted lucrative contracts for private companies (Giauque and Emery, 2008).

Based on the findings from interviews, I suppose that the dramatic changes in working procedures that e-Government can imply constitute an important source of uncertainty for public employees. The statements of certain interviewees indicated that technological innovations sometimes cast doubt on the role of public employees and could lead to the feelings of impertinency in regard to their roles in an organisation. In this connection, the interviewees indicated that it was important to not to ignore or downplay these concerns. They constitute serious issues that the changing technological environment triggers and, when ignored, could cause identity crisis in an organisation.

The importance of continuous communication and discussion for the acceptance of e-Government should not be underestimated. It is necessary for public managers and supporters of innovations to explain the purpose and effects of projects, be open to suggestions and not overlook concerns expressed by their subordinates. The little by little approach that has been considered important by the interviewees in regard to the one-stop-shop seems to be the only process leading to a durable cultural change. I suppose that communication is key in relation to the levels of perceived usefulness of technologies that constituted in the statistical analysis one of the main predictors of the perceived benefits of e-Government. Perceived usefulness in the analysis measured the utility of ICTs for the work performance of respondents. The findings from interviews have repeatedly shown that the ability to communicate in an intelligible way the positive effects of a given technology increases its acceptance and perceived usefulness. Whereas younger generations may learn to work with technologies “on the go” through various forms of informal learning, formal education and adult courses are of crucial importance for older generations (Van Dijk, 2014).

The findings from interviews imply that younger generations are less attached to the institutionalised patterns of behaviour practised by public organisations and more confident in

regard to the use of e-Government technologies. A number of interviewees talked about an existing cleavage between generations or, more generally, between groups of people representing the pro- and anti-e-Government attitudes. The socialisation of younger employees in regard to new ICTs is comparatively longer and the institutionalisation of organisational procedures is comparatively weaker. It is surprising that age was not in the statistical model one of the predictors of the negative perceptions of e-Government. The results would therefore seem to show that the levels of ICT anxiety are not significantly different across different age groups. However, the absence of relation might be caused by the uneven number of respondents from different age groups, especially the low number of younger respondents (11.7% of respondents were under 35 years of age).

Task of innovation leaders: increasing the acceptance of e-Government

The previously discussed perceived usefulness of ICTs stimulated by the so-called innovation leaders, that is to say individuals who support e-Government projects and are able to, on the one hand, communicate their positive effects and, on the other, address risks related to them. The findings from both quantitative and qualitative analyses indicate that the role of innovation leaders for the success of e-Government is even primordial. The main purpose of innovation leaders seems to consist in their ability to address concerns, attenuate resistance and provide solutions to the risks related to new ICTs. Thus, they are able to act as a mediators of a more durable change on the level of organisational culture.

The factor “presence of innovation leaders” was in the statistical analysis one of the predictors of the positive perceptions of e-Government’s impact on information provision and accountability. The respondents who supposed that innovation leaders were present in their organisation were also more likely to perceive positively the effects of e-Government for information provision and accountability. In other words, the results indicate that the presence of leaders who are able to explain the effects of projects for his/her organisation is especially important in regard to this dimension of e-Government. The role of innovation leaders that consists in the communication and explanation of e-Government projects seems to be in compliance with the principle of consensus that is pervasive in the Swiss policy-making. The purpose of this communication can be explained in terms of gaining more and more allies for the given project and thus achieving ever broader consensus.

It is likely that one of the main objectives of innovation leaders is gathering support for an e-Government project. In this connection, an important element that has been repeatedly emphasised in the findings from interviews is the ability to lead by good examples. It seems that the ability to show clearly demonstrated benefits of an e-Government project is crucially important for its future

success. The positive effects that the project produced elsewhere act as a catalyst for its implementation by other organisations. The fact that one of the main motivations for public organisations to adopt e-Government projects is their previously demonstrated success implies that it is also very difficult to start a new initiative that has not been tested elsewhere. It is in this kind of situations that the role of public managers and “believers” in a project is especially important. The behaviour of public organisations is in this regard exemplarily neo-institutionalist. The isomorphic tendencies of organisations are demonstrated at the same time when e-Government projects gain in legitimacy.

The findings from interviews indicate that innovation leaders are less attached to institutionalised actions related to the functioning of public organisations. It was especially the experience from the private sector that was considered decisive by the interviewees for the worldview of the leader. In the statistical analysis, the role of previous work experiences (private or public sector) was important for the dimension of e-Government that measured the positive impact of e-Government on the steering of public policies. However, contrary to expectations, it was the work experiences achieved uniquely in the public sector that were more likely to lead to positive perceptions of e-Government effects. It is possible that the dimension of e-Government related to the steering of public policies is exceptional in this regard; maybe the experiences of public professionals lead to their better understanding of the effects of e-Government in this domain. Another explanation could be related to the fact that respondents who have previously worked in the private sector found that the positive effects of e-Government had not been sufficiently demonstrated in Swiss public administrations and were not satisfied with its current state of development.

Dissatisfaction with existing participation and the development of a successful online presence

The variable measuring dissatisfaction of respondents with existing participation and their opinions related to the utility of new forms of participation was in the statistical analysis one of the predictors of the positive perceptions of e-Government effects on information provision and accountability. The respondents who supposed that the existing participation should be broadened and diversified were also more likely to perceive the positive impact of e-Government in this area. The items from the scale measuring dissatisfaction with existing participation are also related to the transparency of public administrations. Because the ability to make informed decisions is the pre-requisite of meaningful participation, the provision of information to the public goes hand in hand with citizen engagement. One can thus see a seemingly logical connection between the level of dissatisfaction with the transparency of public organisations and the perceptions of positive effects that e-Government could have in this area.

The transparency of public administrations was one of the topics that were enquired about in the interviews and was often linked to the provision of open data. The overall impression from the interviews was that public departments were not willing to put more of their data at the disposition of the public. However, at the same time, more transparency could constitute a part of the solution to the drawbacks of existing participation that were also listed by the interviewees. The interview findings show that the culture of secrecy is related to the traditional relation of authority between public administrations and the public. As such, it is closely linked to the shift in relations that is discussed in the next subchapter.

The statistical analyses indicate that dissatisfaction with the existing modes of citizen participation exists within Swiss public administrations. However, the findings from interviews and the analysis of official documents issued by Swiss public authorities show that the development of online citizen participation will not in the near future progress beyond e-Voting and open data. Both these initiatives, and e-Voting especially, bring new political cleavages and questions that slow down their future progress. Quantitative and qualitative findings of this study indicate that there are certain drawbacks of the existing participation that could be resolved, but also potentially worsened, by digital democracy. One of the examples is the ongoing discussion around the optimal number of signatures needed for launching a popular initiative. The interviewees implied that because the collection of signatures may be quicker when conducted electronically, it would have to be decided whether the current number of signatures should be increased. The number of signatures has not been changed in decades and does not reflect on changes in the population count that have occurred in the meantime. It seems that it is due to this and other unresolved challenges related to the existing participation that public authorities prefer to not to address the topic of online citizen participation. I suppose that it is also the political character of online participation that could potentially have as a consequence the strengthening of certain political groups and the weakening of others that discourages public authorities from progressing in this area. The established role of the existing participation instruments, most prominently of facultative referenda and popular initiatives, in the Swiss institutional system seems to act as the insurance of their efficiency. On the contrary, the role of electronic forms of citizen participation has not been institutionally defined and their effects are therefore perceived as questionable (Klinger et al., 2015).

When abstracting from projects such as e-Collecting that is accompanied by a number of issues related to the “good” number of signatures and to technical issues related to the harmonisation of different systems, I suppose that the area related to citizen participation where digitalisation would at present make most sense in Switzerland is the consultation phase of the legislative process that is

theoretically open to all actors that want to partake in it. However, in practice, the consultation process is not very transparent, focuses uniquely on the most important stakeholders and does not include direct interaction. Its digitalisation could lead to its acceleration through more immediate coordination of different points of view. The digitalisation and openness of the consultation process would also address concerns related to the insufficient transparency of Swiss authorities that were detected by this research.

Another way to boost electronic interaction with citizens and thus address the discontent with the existing participation seems to reside in the building of interactive online presence of public administrations. A number of Swiss public departments and offices on the federal and cantonal levels are already present on different social networks and strive to develop a dialogue with the public through these media. However, strategies defining the objectives of these activities are often missing. Being present on social media for the sole reason of following the trend set by other organisations is not the correct way to proceed. The findings from interviews indicate that even if public organisations are present on platforms, such as Facebook and Twitter, many of them are not able to elicit interactive debates. Certain interviewees tended to explain the situation in terms of lacking interest of the public. However, it seems that the situation is also partly caused by the approach of departments that have not previously solved challenges related to maintaining a successful interactive online presence. The internal division of responsibilities that would lead to a more interactive character of interactions and the elaboration of strategies defining their purpose should always precede the establishment of online presence. The interview findings show that this is today rarely the case. The presence of public offices on social networks was criticized by the interviewees on the basis of persisting hierarchy and formality that were transferred to the online environment. Overall, it seems that public administrations have not been able to embrace the main benefits of electronic interaction over traditional communication channels; immediacy, informality and focus on practical information provision.

ORGANISATIONAL LEVEL OF ANALYSIS

Need for the reform of relations conditioned by a cultural change

Factors measuring the perceived need for the reform of relations between public administrations and citizens and the reform potential of ICTs were in the statistical analysis evaluated as predictors of the positive perceptions of e-Government. The respondents who agreed that the relations between public administrations and the public should be altered were therefore more likely to find e-Government beneficial. The findings from interviews show that the shift in relations that is referred to here might be related to changes in lifestyles and to a more general shift in the perception of

technologies in the general society. Citizens are much closer to the denomination of clients today than in the past. Their contact with public administrations evolves around the delivery of services that they wish to obtain just as efficiently as from private companies. The findings from interviews imply that, in a sense, citizens are less respectful of public authorities and perceive them to a larger extent as service providers. As a consequence, they are also less likely to differentiate between public and private companies. Respondents to the survey seemed to have realised the need for a shift in relations, which have become much more service-centred than in the past. The statistical findings imply that e-Government and ICTs are considered as tools that could mediate this shift.

Need for reforms and for increased transparency of public organisations are in Switzerland attenuated by the comparatively high trust and legitimacy of Swiss public authorities. The findings from interviews indicate that the resistance to changing their work procedures might stem from public administrations' fear of losing their good reputation as a consequence of badly implemented reforms. For this reason, they are comparatively more demanding in regard to the quality of electronic services. These do not have to be at least as good, but clearly better than the existing channels of service provision. To take the risk of implementing a new procedure, public administrations have to be reasonably assured that it represents a clear improvement. Unless this is the case, the existing institutionalised actions are not open to alterations. As the interviews and the expert survey showed, however, the seeds of discontent do exist within public administrations. A number of interviewees and respondents to the survey approved of e-Government-related public administration reforms, realised the shift in the perception of citizens and the necessity to overcome the inertia of public organisations.

Due to the good public standing of Swiss public authorities, the objectives usually associated with e-Government in the literature, such as increasing trust in government and overcoming the growing distance between citizens and their representatives are less important in Switzerland than in other contexts. As a consequence, the introduction of e-Government is in Switzerland justified rather in terms of a necessary assimilation to changing external environment and increasingly important role of technologies in the society. When compared to the situation in Switzerland, public administrations in other countries face more scrutiny from the public and media. As a consequence, they are forced to more often provide the public with explanations of their behaviour. The empirical findings of this research do not provide clear insight in regard to the significance of external demands for more e-Government. According to some interviewees, these demands are seldom and their lack further validates the status quo of public organisations. However, others claim that

demands for change emanating from the public are clearly present. It is possible that the first group of interviewees downplayed the demands or were not as receptive to them.

The question is whether the success story of Swiss public administrations continues in the future if the latter do not reevaluate, in a more significant manner, their position in regard to citizens. The institutionalised actions that are attached to the legitimacy of different institutions are extremely hard to alter. However, the objective in this connection should be preventing the success of the system from becoming also its pitfall. I do not suppose that public organisations should copy the practices of private companies as such strategies may lead to the disruption of public values, but they also should not be content with their old patterns of behaviour in the situation where their external environment undergoes important changes. The challenge consists in balancing the steady and with the discontinuous state triggered by an innovation (Tidd and Bessant, 2005).

Perceived innovativeness of organisational culture

Related to the introduction of innovations is the necessary orientation of organisational culture toward more innovation acceptance. The perceived innovativeness of organisational culture figured as a predictor notably in the statistical model describing the dimension related to the effects of e-Government on the steering of public policies. Respondents who perceived the culture in their organisation as innovative were therefore also more likely to perceive these effects of e-Government. Overall, the descriptive statistics of the variable show that respondents to the survey considered the culture in their organisations by a small margin (0.25 point) rather innovative than not innovative. This finding is rather alarming in that it indicates that Swiss public administrations are not really ready to culturally absorb the effects of innovations. Similar findings emerge also from the interviews. Among the effects of innovations that are the most problematic to accept for public administrations, the interviewees cited the impossibility to predict all effects of innovations, the fact that innovations may demand know-how that public administrations do not have readily available and the possibility of failure that is inherently related to the process of innovating.

The findings from interviews indicate that public administrations should in the process of innovation or reform not rely solely on their own resources. On the contrary, they should use the expertise of third parties; citizens, companies, civil society organisations and the like. What public administrations do not seem to realise is that reforms may be more durable and perceived as more legitimate if they are developed in closer cooperation with different external expert groups. The ability to cooperate on a regular basis with external actors also implies a shift in relations that was discussed in the previous paragraphs.

INSTITUTIONAL LEVEL OF ANALYSIS

Division of competencies between governmental levels and coordination challenges

The variable determining on which governmental level e-Government should be regulated figured in the statistical analysis as a predictor of the dimensions of e-Government related to the steering of public policies and to the information and accountability. The results would seem to indicate that the respondents who supposed that e-Government should be regulated on the federal level were more likely to perceive the benefits of e-Government for the steering of public policies and less likely to perceive its benefits related to the provision of information and accountability. I suppose the first finding is linked to the fact that more centralist and thus also more coherent introduction of e-Government might have as a consequence more palpable effects of e-Government for the steering of public policies than in a system typical of the fragmented division of competencies where cantons have the decisive role. The second finding is more complicated to interpret as it contradicts previous assumptions. It is possible that respondents supposed that the regulation of e-Government on a lower governmental level would allow them to cooperate more freely with other governmental and non-governmental actors due to closer relations that they would be able to establish.

Due to the historical “baggage” related to the Swiss institutional and political systems, the division of competencies in the process of e-Government introduction is given and not open to alteration. The centralist strategies of e-Government introduction that were successfully deployed elsewhere thus cannot be applied in the Swiss context. Although the quantitative findings did not provide decisive insight into the impact of the federalist state structure on the coordination of e-Government projects, there is an important message that emerges from the qualitative findings. The approach of the federal government toward the introduction of e-Government on lower governmental levels has so far been rather cautious; the federal administration has tried to limit its influence to incitation and nudges in accordance with the spirit of Swiss federalism. However, the findings from interviews indicate that in the framework of certain projects cantons would welcome larger implication of the federal government. For example, it seems that the cantonal administrations realise that it does not make sense to introduce electronic identification tools separately on cantonal level because unless these are usable for a range of services on all governmental levels, their utility is questionable. Cantonal managers should therefore strive to communicate this message to the federal government. A possible scenario would be, for example, that the federal government offers a concrete technology for a particular functionality and cantons have the choice to join. It seems that the restriction of the federal government’s role to the one of facilitator and coordinator is not always desirable.

The project of the law on e-ID proposed by the federal government in 2017 was criticised due to the assignment of the key role in the process to private companies that are supposed to be the main developers of electronic identity systems. At the same time, the federal administration sidelined its own role in the process and restricted it to the formulation of key guidelines that e-ID developers would have to respect. An interviewee co-responsible for the project explained this decision on the basis of comparatively higher innovativeness of private companies, which are also supposed to be more up-to-date in regard to technological development. I suppose that this approach is not desirable as it translates into the federal administration admitting to its own rigidity and inflexibility and exempting itself from the process on this basis.

The interviewees from the federal administration were overall very cautious about proposing that the federal government should assume a more important role in the process of e-Government introduction. The interviewees from cantonal administrations were comparatively more open to this possibility. Even though the formal distribution of roles does not allow the federal administration to impose its authority over the cantons, the introduction of e-Government projects could become more centralised if the two governmental levels wished so. In this connection, I argue that it is the interests of citizens and companies that should outweigh the interests of public administrations.

The findings from interviews indicate that the lack of coordination in the framework of e-Government projects is related to organisational narcissism and to the fear of dissolving one's own identity. The stovepipe functioning of federal, cantonal and municipal administrations encourages the introversion of individual departments and complicates cooperation between them. Unlike the division of competencies between the governmental levels, there are no similar restrictions related to cooperation between departments on the same governmental level. However, apart from obstacles on the level of organisational culture, different cantons and departments are often prevented from collaborating due to different systems that they use for the same purposes. The necessary harmonisation of systems that conditions the existence of a coherent e-Government functionality thus further complicates the coordinated introduction of projects. I suppose that public organisations should overcome their own narcissism for the sake of making service delivery easier for citizens and companies. The organisation-centric culture should shift to a more citizen-centric one.

At present, it seems that the introduction of e-Government may start to be more coordinated due to growing cooperation between different cantons that has already been demonstrated in the framework of certain projects (for example, electronic voting, guichet unique and open data) than due to more initiative coming from the federal government. The findings from the interviews show

that the federalist division of powers and the political culture of consensus cause e-Government-related decision-making to be lengthy. However, most interviewees considered this as a fact and tried to develop solutions that would be successful given the constraint.

5.1.2 Drawing conclusions from mixed-method findings: The uptake of e-Government as a matter of organisational culture

In the previous subchapter, I interpreted the findings obtained from statistical analyses in relation to the qualitative findings that were drawn from semi-structured interviews. In the following paragraphs, I attempt to interpret the significance of quantitative and qualitative findings for the process of e-Government introduction in Switzerland. The quantitative findings assign the main role in the process of e-Government uptake to individual factors and personal values of public employees. The individual factors whose importance was statistically confirmed include the role of innovation leaders and perceived usefulness for the perceptions of e-Government. The personal values include notably the perceived reform potential of ICTs, dissatisfaction with the existing forms of citizen participation and the perceived need for a reform of relations. The qualitative findings accentuate the importance of intra-organisational cultural change that would lead to a quicker acceptance of e-Government functionalities and their effects. The two types of findings seem to be, at the first sight, contradictory. However, even though the data from interviews accentuates the role of organisational culture, they also show that the cultural change essentially depends on factors related to the organisation's members. It is the individuals who compose the organisation who have to fuel and perpetuate the cultural change. The contradiction between the two types of findings can be explained also by methodological differences. Firstly, it is difficult to evaluate the importance of a cultural change by a quantitative survey. Secondly, most questions in the survey could be classified as individual or personal. Thirdly, even though the questions were related to the individual level of analysis, they often referred to elements that incite public administrations to change their culture.

These reflections bring us back to the discussion of what constitutes an organisation and theoretical considerations that were addressed in the third chapter. Berger and Luckmann (1967) wrote about the space for uninstitutionalised actions in an organisation, which is supposed to be negatively correlated with the extent of relevant structures that are shared by the members of an organisation. The empirical findings of this study show that the cultural change that is at the core of e-Government acceptance advocates for an organisational culture that would enlarge possibilities to conduct uninstitutionalised actions. Furthermore, the findings indicate that the extent of structures whose relevance is shared by organisation's members is shrinking in the Swiss public

administration for reasons related to generational cleavage, unequal levels of digital skills and variety in the background of public employees. In other words, it seems that the fragmentation of characteristics of public employees has been increasing. I argue that in order for public organisations to address this challenge and safeguard their legitimacy in the process, they need to internally accommodate the diversity of opinion streams by implementing a culture that would allow for the enlargement of space for uninstitutionalised actions. In this sense, e-Government represents an emblematic example of a process that draws attention to these issues. At the same time, it may also constitute a tool of this cultural change.

Having spoken at length about the need for a cultural change, it is desirable to specify the characteristics of culture that should be propagated in the Swiss public administration. Its three characteristics can be defined in terms of openness, citizen-centric focus and innovation-friendliness. The cultural openness refers to more transparency of public administrations, but also to the readiness to cooperate with other governmental and non-governmental actors and profit from their expertise. The citizen-centric focus should replace the intra-organisational emphasis; public administrations should put themselves in the shoes of citizens/clients. In this spirit, the disruption of organisational silos, facilitation of public service delivery across different departments and de-jargonisation seem to represent resolutely good practices that public administrations should adopt. The findings of this study show indisputably that the roles of citizens and public administrations are in their mutual relation changing. For this reason, I suppose that the frequently advocated arguments related to the lack of external demands and high trust in Swiss public authorities that can be resumed in “why change what works” cannot be accepted as valid anymore. The position of Swiss public administrations when the latter “rest on their laurels” might not be tenable in the future. The vision of public administration may have to change more decisively from internal to external orientation that would be marked by more openness and availability.

The survey findings show that the “seeds of discontent” that would encourage the cultural acceptance of e-Government exist in the Swiss public administration. Responding to these factors of individual nature could lead to the installment of a culture that would not necessarily have as a result the uptake of e-Government, but that would be more open to innovations and more communicative in relation to the concerns and ideas of organisations’ members. One of the principal conclusions of this research is that Swiss public administrations should not necessarily strive to introduce e-Government or other reforms at all costs, but rather make a step toward being more open to the possibility and communicative about the benefits and consequences of such changes. The introduction of e-Government should not be perceived as a solely intra-organisational

matter, but rather take advantage of experiences and expertise of different stakeholders. The findings of this study show notably that Swiss public administrations tend to perceive e-Government as an answer to different issues that they experience, but they do not necessarily realise that it is not the only answer.

Besides being open, citizen-focused and innovation-prone, the new administrative culture has to be legitimate in the eyes of organisation's members: public employees. If this is not the case, it risks to be undermined by internal resistance. It is principally the findings from interviews that show that solving cleavages related to the use of technologies, digital skills and misunderstanding of e-Government conditions the acceptance of e-Government-related reforms. The lack of digital skills could be addressed through targeted courses. The misunderstanding of "why change what works" could be resolved by continuous communication and discussion with concerned parties. The role of innovation leaders whose importance is confirmed by qualitative and quantitative findings should in this connection be, once again, underlined. Their role is even more prominent in Switzerland than in other countries due to the autonomy of cantons in many policy domains and the lacking coordination of e-Government efforts. At the same time, it should be accentuated that introducing an e-Government functionality at all costs does not always constitute the best possible course of action and that the utility of e-Government should be evaluated in regard to the particular context. The introduction of e-Government is a complex process that should be accompanied by intra- and extra-organisational discussions. The concerns of employees could in certain cases outweigh the propagated utility of the proposed initiative.

To summarise, to achieve a durable cultural change that seems to condition the uptake of e-Government, public administrations have to balance external changes to their work processes with internal alterations to their functioning. If the members of the organisation feel that their concerns have been addressed and understand the utility of changes, they may become themselves their advocates. The cultural change has to first happen on the level of individuals who then transmit it to the organisation. **The organisational cultural acceptance of e-Government fuelled by individual members thus constitutes the most important element and the foremost condition of its successful introduction.**

Due to the impossibility to change the building elements of the Swiss federalist system, the importance of institutional factors for the uptake of e-Government seems to be of a secondary importance. However, the incoherent introduction of projects that is today a reality in the Swiss public administration should be addressed in order to avoid the repetitive development of identical functionalities and avoid the multiplication of projects such as e-ID where coherence in

development should be prioritised. Because the centralised introduction of projects is not possible in Switzerland, the system of incitations and nudges practised by the federal government stays the only possible official way forward. The findings of this study indicate that the centralisation of e-Government development is also not desirable due to the historically strong identity of cantons and municipalities in the Swiss political system.

I suppose that the multiplicity of actors involved in the development of e-Government that is a consequence of the federalist arrangement is beneficial in the process. It is the connection between different actors and their cooperation that should be improved. The most important benefit of a network of actors consists in the possibility to share expertise and experiences. The community in question could be in Switzerland established through informal community-building efforts that could bring together both non-governmental and governmental stakeholders. Similar efforts have been attempted in Switzerland in the past; however, they have often been limited territorially and in regard to topics that they addressed. Non-governmental actors such as think tanks and public innovation laboratories could in the future become important actors in public innovation processes. Due to their non-profit focus, they could also lead to the attenuation of previously discussed risks related to cooperation with private companies. **The exchange of expertise and ideas in the community could further foster the intra-organisational change in public administrations. The role of individuals for the organisational culture change and of community-building are therefore linked.**

The following schema (Fig. 28) depicts the most important factors that could enable the instalment of a more innovation-friendly, open organisational culture that would, in turn, facilitate the introduction of e-Government projects.

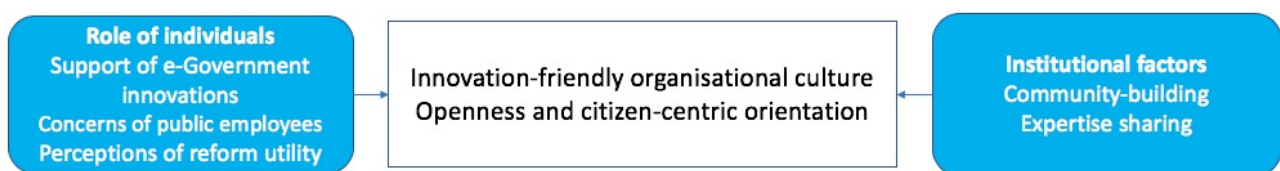


Fig. 28 Enablers of organisational cultural change

5.2 Contributions to the theory and practice of the field

After evaluating the validity of proposed hypotheses that were developed on the basis of previously defined research propositions, I discuss in this subchapter the most important contributions of this research to the theory and practice of the disciplines of public administration and e-Government. I thus proceed backwards in the proposed theoretical framework that I started by conducting the literature review in the first chapter. Whereas in the previous two chapters, the theoretical framework was refined by the formulation of concrete research propositions and hypotheses, at this

point, I double back to the first and second columns of the proposed research framework (Fig. 17) and evaluate the empirical findings of this project with regard to the findings of previous studies on e-Government and public innovation.

Theoretical contribution of the research

In the third chapter, I linked individual influential factors to the theoretical concepts that described the nature of their impact on the introduction of e-Government. The following scheme (Fig. 29) depicts the division of factors according to this criterium. The squares mark variables that were confirmed as influential by the statistical analysis. The main question that I aim to answer in regard to the theoretical contribution of this research is whether the factors that impact on the development of e-Government in Switzerland can be described rather by neo-institutionalist or contingency concepts.

The neo-institutionalist factors whose importance was not confirmed by the statistical analysis (cultural changes, resistance to change, hierarchy and bureaucratic culture) are all related to the same mechanisms that seem to condition the uptake of e-Government: the ability to change institutionalised actions, patterns of behaviour and work procedures that have been previously undisputed in an organisation. One factor whose importance was confirmed by the statistical analysis is the role of personal support of e-Government that mediates the necessary cultural change. Furthermore, the factor “perceived usefulness” that also figures in one of the statistical models measured in the expert survey the perceived positive effects of ICT applications on the work performance of respondents. I suppose that its impact can be assimilated to the effect of personal support of e-Government and therefore linked to the cultural change because public employees who evaluate the impact of ICTs on their performance positively are also more likely to perceive e-Government positively.

The factor that was in the initial table (Fig. 17) labeled as “redesign of processes” is related to three factors that were identified as influential in the statistical analysis: 1) need for a reform of relations between public administrations and the public, 2) dissatisfaction with existing participation and 3) the reform potential of ICTs. The reasoning behind the impact of the three factors is strongly neo-institutionalist. As was discussed previously, the redesign of existing processes seems to be conditioned by the clearly superior quality of the new processes. Good examples of successful e-Government initiatives go a long way in regard to the dismantling of institutionalised actions. The reaction of public organisations can be explained in terms of isomorphic actions that are undertaken with the objective of increasing organisation’s legitimacy.

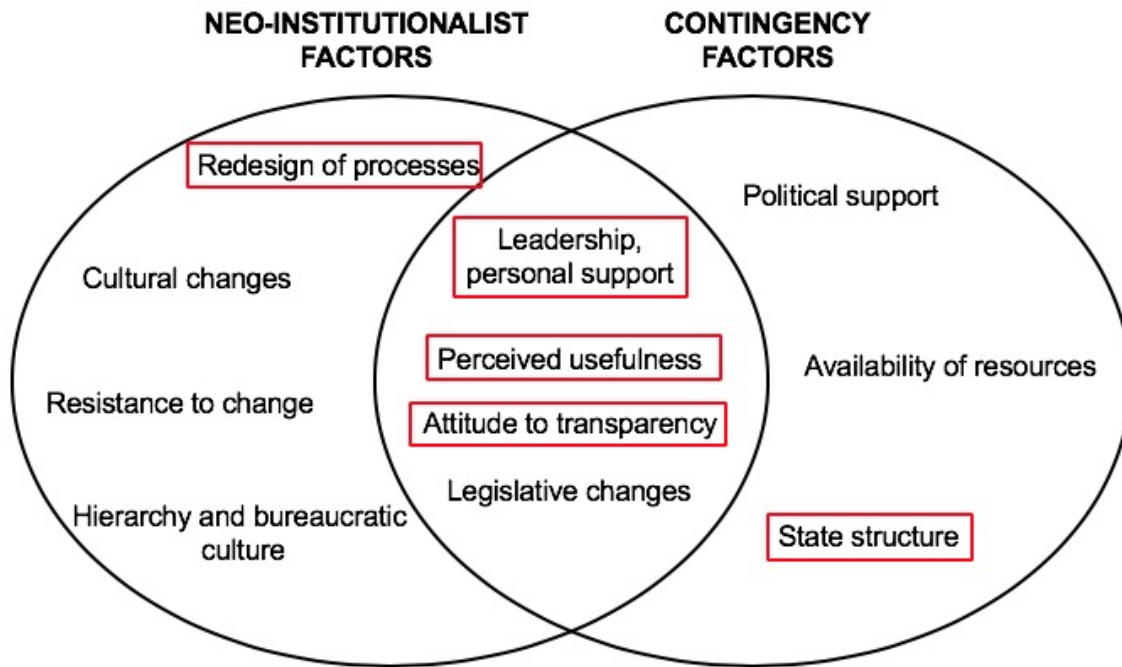


Fig. 29 Visual representation of factors divided by the neo-institutionalist or contingency nature of their impact

The scheme above shows that the impact of most factors that were found influential in the statistical analysis can be described in terms of both the neo-institutionalist and contingency theories. Additionally, one other factor can be described as a contingency and one factor as a neo-institutionalist one. Two out of the three factors whose effects can be described in terms of both theories are related to the individual level of analysis. The question that I attempt to answer is whether it is the neo-institutionalist or contingency side of the three factors that explains better their impact on e-Government introduction.

The impact of leadership and personal support can, according to the findings from interviews, be explained in terms of stickiness to institutionalised actions whose extent is supposed to be defined by the duration of the institutionalisation and by the nature of previous socialisation environments. Particularly previous work experiences from the private sector are supposed to be decisive for the innovativeness of public employees. The contingency impact of the factor is supposed to consist in the strategic choice of organisations; to react or not to react to a change in an external contingency (in this case in the technological environment). However, this contingency impact of the variable is not confirmed by the empirical findings. E-Government was considered rather as a top-down political objective that public departments had to somehow conform to. The impact of the strategic choice was therefore not found. However, if e-Government was to be considered purely a part of political mandate, its implementation would proceed in a manner described by the core concepts of the contingency theory; it could be interpreted as a change in an external contingency that the

organisations have to react to. As stipulated previously, the impact of perceived usefulness of ICTs on work processes can be assimilated to the neo-institutionalist effect of personal support and related to the erosion of institutionalised actions that condition the acceptance of ICTs.

Attitudes to transparency that constituted in the expert survey a part of the scale measuring dissatisfaction with existing citizen participation can be explained in both neo-institutionalist and contingency terms. The neo-institutionalist function can be understood in terms of the unofficial, but internally institutionalised procedures and rules related to the openness of an organisation. The contingency dimension of the variable consists principally in the impact of legal regulations on transparency that public organisations have to respect. Even though the Swiss federal law on the freedom of information that entered into force in 2006 constituted an important step toward the change of paradigm away from the traditional culture of secrecy, the low number of demands for information emanating from the public and the absence of rules related to the active provision of information has not provoked significant changes in attitudes to transparency on the level of organisational culture. Once again, the impact of organisational culture on the transparency of an organisation seems at present decisive and the effect of legal regulations as an external contingency is limited.

The effects of individual variables predicted in terms of the contingency theory were overall found weak. In fact, the only contingency factor that was found influential was state structure, which constitutes a highly stable contingency factor. Overall, the findings overwhelmingly show that the uptake of e-Government projects is perceived, first of all, as an internal affair of public organisations and cannot be resolved by one-sidedly adapting organisational structures to the changes in external environment as the contingency theory would lead us to believe. The findings indicate that such an approach would lead to the intra-organisational rejection of the new system. This research thus confirms that e-Government is, indeed, an institutional innovation (Giauque and Emery, 2008; Meijer and Zouridis, 2006; Politt and Bouckaert, 2004) and different neo-institutionalist notions are applicable in the process.

Besides deciding whether the process of e-Government introduction in Switzerland corresponds rather to the teaching of neo-institutionalist or contingency theory, I also proposed the notion of technological determinism as the opposite to the role of social and cultural determinants for the acceptance of innovations. Following the previous paragraphs where I demonstrated the dominant role of neo-institutionalist reasoning in the process, I argue that the assertions of technological determinism and one-sided impact of external environment on organisational structures are not applicable. Based on the findings from the empirical part of the research, I confirm that the effects

of institutionalisation in public organisations are decisive in the process of e-Government introduction. Public employees are highly attached to values, procedures and rules related to their work. References to the ways things have always been done constitute important justifications of organisational inertia. The path dependency of organisations is palpable. The tenets of the neo-institutionalist theory constitute better explanatory concepts also due to the fact that the link between contingencies and organisational performance is comparatively less important in public organisations. The concerns for legitimacy that is achieved through institutionalised actions are more important than achieving high performance. The role of organisational structures that are structured by their environment, but, at the same, structuring of it, is palpable in the process of e-Government uptake in Switzerland.

Empirical contributions of the research

The principal empirical contributions of this research can be divided between contributions related specifically to the discipline of e-Government and larger contributions to the conceptualisation of public innovations. E-Government was here approached as a public administration reform and as a type of public innovation. For this reason, the following empirical contributions of this research are assessed from these two angles. The present study confirms a certain number of findings that were gathered from the previous studies on e-Government development. It is evident that the identified drivers of and barriers to e-Government in Switzerland are, at least in part, similar to those that were found influential in other contexts. The table (Fig. 30) represents a simplified version of the research framework (Fig. 17) and focuses on the most important drivers of and barriers to e-Government projects that have been detected in the literature. Because the literature review was one of the sources guiding the empirical analysis and principally the construction of the interview guide, the findings from interviews reflect to an important extent its results. However, there are also certain factors that were, despite expectations, not found influential in the process of e-Government introduction in Switzerland.

The importance of personal support for e-Government-related innovations was stressed in the interviews and confirmed by the statistical analysis. Political support, or rather political mandate, was underlined as influential in the interviews, but was not involved in the statistical analysis for feasibility reasons. The preferred approach in the survey was to measure the importance of innovative leaders for the uptake of e-Government projects. In the interviews, the impact of political mandate was accentuated, for example, in regard to the open data project.

The importance of previous experiences with electronic public services was not confirmed by the empirical findings of this research. I suppose that this is due to the relatively novel character of e-

Government that limits the previous experiences of public actors with this kind of functionalities. The last individual factor mentioned in the table is the lack of digital skills that was found especially important for the perceptions of e-Government and its acceptance overall. It is linked to the demographic characteristics of public employees.

Level of analysis	Influential factors (drivers and barriers)	Explanatory theoretical concepts
INDIVIDUAL LEVEL	Leadership, personal support	Social construction of reality - Importance of previous socialisation for the strength of institutionalised actions Neo-institutionalism - Path dependency - Stickiness of institutionalised actions Contingency theory - Strategic choice in regard to changes in external contingencies
	Political support	Contingency theory - Change in an external contingency
	Perceived lack of digital skills	Social construction of reality - Institutionalised actions in relation to the use of technologies and to the performance of organisation's tasks. Contingency theory - Attainment of fit between external contingency (new technology) and organisation's members capacities.
ORGANISATIONAL LEVEL	Redesign of processes	Neo-institutionalism - Path dependency - Isomorphism
	Changes to organisational culture	- Importance of social coalitions Organisational culture - Cultural continuity of reforms
	Resistance to change	Theory of autopoiesis - Organisational self-reference - Importance of positive feedback
	Hierarchy and bureaucratic culture	
	Attitude to transparency	Neo-institutionalist - Organisational culture Contingency theory - Legal regulations and mandate as external contingencies
	Availability of resources	Contingency theory - External contingency
INSTITUTIONAL LEVEL	Changes to legal framework	Contingency theory - External contingency Neo-institutionalist theory - Coercive pressures for isomorphism
	Inter-departmental coordination/cooperation	Organisational culture - Organisational narcissism - Stovepipe functioning
	Decentralised state structure	External contingency - Federalist division of powers

Fig. 30 Summary of the relevant findings from previous studies on e-Government with their explanatory concepts

The necessary redesign of processes constitutes one of the most important factors that impact on the success of e-Government that were cited by the interviewees. The failure related to the digitalisation of a service in the exactly same form it has in the non-digital environment was emblematic of the first Swiss experiences with the digitalisation of public services. It seems that this type of errors was caused by the organisational culture that did not encourage the “thinking out of the box” mind-set.

The importance of the availability of resources was accentuated in two seemingly contradictory ways. On the one hand, cost-saving was cited by the interviewees as an important motivation for developing e-Government. On the other, it did not seem as if the insufficiency of resources would represent a problem for e-Government development. The resistance to change is related, on the one hand, to the cultural mind-set of public organisations that is not able to deal with the effects of innovations. On the other hand, it is also connected to the lack of the type of skills that e-Government functionalities demand. The lack of transparency was stated as a fact by the interviewees, but did not seem to represent an important issue. It was addressed mostly in relation to the open data project, but did not seem important for the shift in relations between public administrations and citizens, which constituted the most important reason for its inclusion in the interview guide. Even though changes on the level of organisational culture were considered very important for the uptake of e-Government, the impact of hierarchical culture as such was not confirmed. The culture of public organisations was not described in these terms either by the interviewees or by the respondents to the survey.

On the institutional level of analysis, it was mostly the lack of coordination and cooperation between different governmental levels that was considered problematic. The repartition of competencies in the matter of e-Government between the federal and regional levels of government was considered an advantage, but also an inconvenience. The inconvenient part seemed to consist in the repeated necessity to “reinvent the wheel” when designing applications with the same functionalities in different departments and cantons. The main reason why the repartition of competencies was considered advantageous was the possibility to choose the most fitting application for one’s particular situation. The changes to legal frameworks that certain projects necessitated were perceived as an accompanying effect of certain e-Government projects, but not as a barrier to their introduction per say. Overall, the drivers and barriers related to e-Government development in Switzerland that were caused by the particularities of the Swiss political and institutional system were presented as something given and were not called into question.

Following the depiction of e-Government as a type of public innovation that was discussed in the third chapter, I borrow the left half of the framework developed by De Vries et al. (2016) that illustrates the variety of factors that impact on the uptake of public innovations (Fig. 31). The right half of the table is less pertinent here as the objectives of the research are related uniquely to the antecedents of e-Government. At the first sight, it is evident that the findings of the present research converge on several points with the recapitulative table even though the identified drivers and barriers are sometimes labelled in a different way.

The most important antecedent of innovations identified by De Vries et al. (2016) that relates to the findings of this study is in the table classified as an environmental one: compatible agencies adopting the same innovation. The significance of this factor was showed here principally in the findings from interviews and in the previous subchapter was explained in terms of the neo-institutionalist concept of isomorphism. The main motivation that drives organisations to implement



the same innovation that has been adopted in similar agencies is the legitimacy that they presumably gain. I suppose that the significance of potential legitimacy gain related to the uptake of a public innovation is even greater than in the case of other factors that De Vries et al. (2016) categorise in this first group of factors. Because public organisations operate in comparatively uncompetitive environment, the achievement of legitimacy is one of the crucial objectives.

As discussed previously, the importance of environmental pressures was neither confirmed nor rejected by this research. It seems that its impact is in Switzerland attenuated by the consensual nature of government and by the good public standing of Swiss authorities. The factors “participation in networks” and “regulatory aspects” are related to two variables that were measured by the expert survey: cooperation

Fig. 31 Heuristic framework in the light of empirical findings (De Vries et al., 2016, adapted by the author).

Leadership styles that according to De Vries et al. (2016) figure among organisational antecedents of innovations were in the present study considered as individual factors. They were not perceived as inherent to organisations, but rather to individuals. As such, they were also more open to alteration than would be the case if, for example, they constituted a part of organisational culture. The importance of slack resources and of the degree of risk aversion was accentuated in the findings from semi-structured interviews. The degree of risk aversion and room for learning can be

assimilated to the readiness of organisational culture to absorb the effects of innovations. The factors that are in the table referred to as “conflicts” and “organisational structures” were not included in the statistical analysis and were not found influential by the interviewees.

Out of the third group of factors identified by De Vries et al. (2016) that are related to the innovation itself, the factors whose impact on the innovativeness of public organisations was confirmed by the present study involve relative advantage expressed in the form of perceived usefulness of ICTs and compatibility. Because the focus of this project was on perceptions, the evaluation of the factors was essentially subjective and thus closely related to individuals. The compatibility of innovations was found important principally in relation to its importance for a cultural change that would lead to more innovation acceptance in an organisation. The triability of innovations was not found crucial by this study.

Out of the last group of factors that are in the table appraised as individual antecedents, the most important factors that were found influential in this research were the job-related knowledge and skills. The impact of perceived or real digital skills of public employees constituted an important finding from the interviews. The demographic aspects that also constitute one of the individual antecedents in the table were by my interviewees considered crucial for the level of digital competencies and know-how. Overall, the validity of a number of factors that are enumerated by De Vries et al. (2016) was confirmed by the present study. The most important ones are accentuated in the adapted table (Fig. 31).

Out of the factors that were found influential by this study, it is principally the impact of the good perceived quality of public services that discourages Swiss public administrations to undertake innovations that is specific to the Swiss context. The previous studies on the development of e-Government in other environments implied that e-Government was introduced because the quality of public services was inferior. In Switzerland, the reasoning seems to be completely different. The quality of public services seems to act as a barrier to and not as a driver of e-Government. Swiss public administrations thus lack an important argument in favour of e-Government that seems to be taken for granted in other contexts. Similarly, the empirical findings indicate that the maturity of the Swiss system of direct democracy is likely to hinder rather than encourage the introduction of online citizen participation. The shift in relations between public administrations and citizens that was discussed in the previous subchapters is not considered a priority in a country where the people are already supposed to have the supreme decision-making power. An important contribution of this project thus consists in the selection of the Swiss case study, which is different from most others in regard to its motivations to reform its public administrations. Furthermore, this research provides a

number of interesting findings related to the implementation of e-Government in federalist countries. It especially accentuates the impact of state structure on the way in which e-Government is introduced and offers solutions to the fragmentation of initiatives caused by federalist, autonomous division of powers between the levels of government.

My hope is that the findings presented here could be tested in other contexts or in the framework of particular e-Government projects. Even though the present research stays exploratory in nature, several of the scales that were developed with the objective of testing different dimensions of e-Government were found reliable and could be used in future studies. From the methodological point of view, the main contribution of this study thus consists in the development of the expert survey that provides the first global insight on factors that impact on the development of e-Government. The question that should be answered by future studies is whether it is possible to approach the development of e-Government in such an encompassing way as I propose here. I argue that the answer is yes because the empirical data presented here suggests that certain drivers and barriers transcend the scope of particular projects.

With reference to the branch of neo-institutionalist theory that emphasises the importance of intra-organisational coalitions for the success of reforms (Hall, 2016), I suppose that the momentum for e-Government-inspired reforms may have not yet occurred in Switzerland. The satisfaction with public institutions, trust and legitimacy of government are in Switzerland still comparatively high. The embeddedness and resistance to change of public organisations seems to still triumph over the desire to innovate. In the situation where their approval is high, public organisations have difficulties understanding reasons why they should alter their working processes. I suppose that the momentum for e-Government is in Switzerland building, as its recent leap in international rankings confirms, but that it is not yet strong enough. It remains to be seen whether the uptake of e-Government accelerates or slows down in the future. In the light of empirical findings and theoretical concepts that were used to answer the research questions, it seems that the discrepancy between the comparative underdevelopment of e-Government in Switzerland and the level of technology proliferation in the country no longer seems paradoxical, but rather logical given the Swiss political and institutional setting.

The five years that I had for the elaboration of this PhD project can be perceived as a relatively short period in terms of the advancement of public administration reforms. However, during that time, the development of e-Government in Switzerland has undergone important changes. At present, it seems that coordination and cooperation issues are less problematic than in the past and cooperation and technological transfer, notably on the cantonal level, are becoming more present.

Switzerland's recent progress in international rankings confirms this trend (UN, 2018). It is possible that Switzerland will in the matter of e-Government once again follow its pattern of adapting to international trends: developing them later, but in a manner specifically tailored to the Swiss institutions.

5.3 Future of e-Participation in Switzerland

The question of why online citizen participation has not been in Switzerland referenced as much as the digitalisation of public services constituted one of the important puzzles related to the research problem. The insights on its answer can be collected principally from the qualitative data and the literature. The preference of more “managerial” type of e-Government reforms (Chadwick and May, 2003) seems to be partly explained by a more political character of e-Participation and its effects that can lead to substantial changes in power structures and in the functioning of the existing political system. Because such systemic changes would probably encounter opposition from a number of political parties and interest groups, they might be consciously avoided in favour of less controversial instruments. In a country whose system of government is based on consensus, potentially controversial policies have a hard time being accepted as legitimate. Similar preferences of managerial elements from participative ones have been in Switzerland observed in the process of implementation of reforms inspired by the New Public Management (Giauque and Emery, 2008).

The future of the second dimension of e-Government, online citizen participation, and particularly of e-Participation that comprises new interactive forms of participation that are introduced in addition to the existing ones is thus as of yet uncertain in Switzerland. Contrary to expectations, the abundance of the existing participation channels seems to be an obstacle to, rather than the driver of digital democracy. The introduction of e-Participation is clearly not a burning topic in Switzerland. It is not considered a priority by public authorities and due to the availability of traditional participation channels, there is no urgent external need to enhance citizen participation further. It therefore seems that the ethos of citizen participation has its limits. A question that should be answered is what is really the significance of direct democracy in the modern-day Switzerland. It is evident that direct democracy has historically contributed to the exceptional stability and lack of conflict in the Swiss political system. However, it also seems that external and internal changes that have affected Swiss policy-making since the creation of the direct democracy instruments in the 19th century have altered its meaning. What was originally the weapon of the interests that were not represented in the official policy-making bodies had become an instrument of government parties used as a way to bypass risky negotiations in the parliamentary arena.

The research puzzle presented in the beginning that referred to the discrepancy between the traditional and electronic forms of participation seems at the second look to be a logical consequence of the Swiss political reality. The symptoms of the crisis of democracy such as the lack of legitimacy of public policies or low trust in public authorities have so far bypassed Switzerland. Whereas the building blocks of the Swiss direct democracy should not be disturbed and the existing participation channels should not be replaced by the digital ones, I argue that they could be complemented and refined using electronic functionalities. The electronic collection of signatures and the digitalisation of the consultation phase of the legislative process are good examples of such applications. Disapproving attitude toward any electronic participation denies the role of technologies in other aspects of people's lives. The complete rejection of the use of technologies in the sphere of political rights could close the door to channels that could improve the current conditions of citizen participation. Besides using e-Democracy technologies as another channel for the existing forms of participation, certain forms of e-Participation, such as online discussion fora, could also allow new groups of population to express their opinion. Switzerland is a country with a high percentage of foreign population. With electronic participation, the groups of population who cannot take part in elections and popular votes could use the electronic channels of opinion expression and thus provide the public leaders with their insight on different issues.

It is also possible that other groups of population, typically young people, would be more at ease in the electronic environment. In this way, e-Participation could indirectly boost official participation (voter turnout), which is in Switzerland the lowest among OECD (Organisation for Economic Cooperation and Development) countries (Pew Research Center, 2018). The findings from semi-structured interviews imply that the importance of online participation for increasing voter turnout is overall not considered crucial. This came as a surprise given the comparatively very low participation rates. The principal justification for this state of affairs is the high number of referenda that take place in the country. To give an example, a citizen of the city of Zurich who lived there his whole life will have been asked to vote on 1800 issues over the span of sixty years (Ladner, 2011). It is evident that keeping up to date with all issues that they have the opportunity to vote on requires a substantial effort from citizens. However, can a decision taken by only a minority of the population be considered legitimate? (Trechsel, 2004).

The importance of elections and of citizen participation is also a function of political system. It seems that the negative perceptions of low voter turnout are attenuated by the practise of direct democracy. Linder (2010) advances that "the more a political system realises high influence of voters by elections, the less it can grant influence by direct participation, and vice versa" (p. 153).

Thus, it seems that there is a trade-off between the forms of regular citizen participation and voter turnout at elections, which do not constitute the most important political event in countries with established direct democracy.

Voter turnout has been in Switzerland traditionally low and has declined since the beginning of the 20th century. The average turnout at popular votes fell from seventy to fifty percent between the years 1900 and 1950 and from fifty to forty percent since the 1950s until today (OFS, 2017). The last National Council elections when voter turnout surpassed fifty percent were those held in 1975 (OFS, n.d.). The overall average yearly participation in all popular federal votes since 2010 has been 46 percent (OFS, 2017). An interesting statistic is in this regard also related to the cleavage in voter turnout between different age groups. The difference in participation rate between 55+ group and 16-35 years old group is in Switzerland one of the highest ones among OECD countries. It seems that the motivation of young people to vote and participate in public affairs is among the lowest of developed countries. In fact, age is the only socio-economic factor whose importance is in Switzerland statistically significant for electoral participation (Wernli, 2004). It is possible that for the younger groups of population, the traditional channels of opinion expression seem outdated and more attractive electronic ways of opinion expression would help remedy the trend. The ever-increasing use of technologies and the rise in social networking lead to the individualisation and fragmentation of political participation (Van Dijk 2000b). The data from interviews indicates that public officials do realise the shift in perception between older and younger generations and the necessity to react to the technology-related changes in the external environment. An obstacle to more technology-based interaction that was often hinted at by the interviewees is the deep embeddedness of public employees in their work routines and procedures. The disruption of these has been considered an attack against the established public values.

The most important e-Democracy initiative that has been tested in Switzerland is e-Voting. However, it is not yet possible to precisely measure its effects on voter turnout because the percentage of voters who are allowed to vote electronically is still restricted. This is due to the fact that e-Voting project is in Switzerland still in the testing phase. Serdült et al. (2015a) provide a limited insight on the topic. They claim that the impact of age, income and education is moderated by computer-related skills and trust in the Internet. Younger voters do not use e-Voting because they are young, but because their Internet affinity is overall higher (Serdült et al., 2015a).

Goos et al. (2016) also provide some insight into the explanation of non-participation. They distinguish between three groups of non-voters: 1) technical non-voters who do not vote due to technical, administrative or personal difficulties; 2) principle non-voters who refuse to vote due to

religious beliefs or opposition to the political system; and 3) cyclical non-voters who constitute the biggest group of non-voters. Cyclical non-voters occasionally abstain. The reasons for their decision are not always known or differ significantly. The main factors that explain absenteeism are related to context and can be found on the individual level. Contextual factors that may be important in the Swiss context are the frequency of votes and type of party competition. Because in Switzerland the federal government decides consensually, the intensity of party competition is to a significant extent attenuated. Whereas voter turnout was still high between the years 1919-1959, after the establishment of the magic formula related to the composition of government in 1959, it started to decline steadily (Wernli, 2004). It seems that the most important factors influencing the decision to participate are trust in political institutions, interest in politics and interest in the issue (Trechsel, 2004). In 1998, 84 percent of the Swiss population was satisfied with the way Swiss democracy works. This number was almost the highest among OECD countries, bested only by Norway with 88 percent of average satisfaction (Armingeon, 2000).

Although the trust in government is still comparatively high in Switzerland, it has been decreasing over the last decades. This trend has been observed in many countries around the world. However, in Switzerland, its impact is more severe because trust and legitimacy of political institutions were traditionally very high (Papadopoulos, 2001). Due to the increasing complexity and multiplicity of issues present in the society, the number of popular initiatives has doubled since the 1970s. This trend also points at the insufficient capacity of public authorities to address all the important policy issues (Papadopoulos, 2001). Together with the augmentation in the number of initiatives, the legislative activity in the federal parliament has also increased several-fold between 1970 and 2000 (Sciarini et al., 2015). This trend is caused by the increasing complexity of problems related to the growing globalisation of issues enabled by technological progress (Kriesi and Trechsel, 2008). The knowledge and experiences of different national and international actors have become of significant importance to policymakers who can no longer grasp the complexity of issues with supra-national impact (Aichholzer and Strauss, 2016; Hennen, 2016). The Swiss consensus model has also undergone transformations that have been demonstrated in less consensus and more conflict and unpredictability. “Our claim is that this model has changed to a far greater extent than usually maintained – or that institutional stability would suggest” (Sciarini, 2015a, p. 2).

I suppose that the benefits of electronic citizen participation in Switzerland are related principally to its potential to increase participation and interest in politics. I have addressed here the principal changes to the Swiss policy-making that have occurred in the last decades and the redefinition of the significance of direct democracy that they caused. I argue that the rethinking of the existing

forms of citizen participation and the introduction of new ones are important for the sustainability of the Swiss stability and success. If the interest in politics continues to decline in younger generations, the legitimacy of public decisions risks to decrease. Direct democracy has already in certain cases acted as a tool of political parties who try to enforce their proper agenda. At the same time, the resource-related barriers related to launching and winning a popular initiative have increased. In order for the Swiss direct democracy to stay the system of reference for other countries that it has historically been, Swiss public authorities have to rethink their ways of communication and not be satisfied with approaching only the traditionally politically engaged parts of the population. On the contrary, they should be more transparent and inclusive in regard to their activities and should make more efforts to address the interests of younger generations. At present, it seems that Swiss public authorities often rest on their laurels and use their comparatively high approval rates as a reason to not to alter their functioning. However, the inter-generational shift in perception is with the constant advancement of modern technologies more important than ever before.

5.4 Limitations and paths for future research

The scope of data that was collected for the purposes of this project is unprecedented in Switzerland in the context of e-Government research. E-Government by itself is a relatively novel topic for Swiss public administrations. The main limitations of this project are related to the quantitative part of the empirical analysis, whose results stay exploratory in nature. Because certain scales used in the expert survey were self-developed, their reliability values were sometimes slightly lower than ideal. This was acceptable due to the novel nature of the research design; however, their more general validity should be confirmed using a more sizeable sample of respondents. The items that were deleted to increase the reliability of scales could be also reformulated and retested. It is possible that the exclusion of certain variables from the model was a consequence of the insufficient number of responses to the survey. The quantitative part of the research is limited to being exploratory also due to the insufficient representativeness of responses. The convenience sampling method was the only feasible one due to the impossibility to influence the selection of respondents or contact all units of analysis. For these reasons, the generalisability of findings presented here beyond the studied sample should be done with caution.

It is possible that the quality of data collected quantitatively was influenced by the so-called “satisficing”. Satisficing can occur when respondents either find the question too difficult or are tired with the same kind of responses. As a consequence, they are not motivated to think properly about the answer and tend to choose either extreme or middle responses (Winstone et al., 2016). A

similar sort of bias toward middle-way responses was observed in the survey data. This may be partly caused by satisficing, but also by the character of the Swiss political culture, which is overall consensual and radical opinions are avoided for the sake of compromise achievement. Furthermore, because the quality of democracy is in Switzerland perceived as comparatively very high, respondents are less likely to say positive things about democracy than in countries whose political systems are autocratic (Inglehart and Welzel, 2004).

Another limitation related to quantitative surveys, which may be particularly valid in the present case, is the similarity in perceptions and characteristics of respondents who chose to complete the survey. These individuals may have similar attitudes, which, in turn, may cause certain bias in responses. Even though the explanations of fundamental terms were provided on the introductory page to the survey and were repeated where pertinent, I suppose that public employees who did not have personal experience with e-Government projects were less likely to respond to the survey. Additionally, because the survey was for feasibility reasons administered online, it is possible that respondents that were not comfortable with using the technology refrained from participating. The findings might be therefore biased toward the perceptions of groups that are, on the average, digitally competent and well-informed on e-Government progress. Even though the results of this Swiss case study could potentially constitute the first step toward a more generalisable theory of e-Government introduction, one should be careful with the generalisability of findings and their applicability to other case studies.

A similar skewness toward the positive perceptions of e-Government may have also constituted a bias in the qualitative findings because the group of actors that were interviewed involved mostly those working in higher and expert professional positions. Due to the expert nature of e-Government and the novelty of the topic it was not possible to conduct interviews with all groups of public employees. In this connection, a possible future research path would be the analysis of perceptions of e-Government-related reforms within non-expert groups of public employees. It is possible that reasons for the discrepancy between technology proliferation and e-Government development, which was studied here, can be found also on this level. It is possible that the resistance to change is present even predominantly with these groups of employees and that e-Government is perceived negatively, as a directive dictated from the top. Another important omission of the research design is the non-inclusion of the demand side of e-Government. It is evident that whereas public administrations are the main initiators of projects, the latter will not be successful unless they are considered useful by their users. The study of e-Government development from the point of view of citizens thus constitutes another possible future research

path.

Another important limitation of this research is the focus on federal and cantonal levels of analysis. It is conceivable that further details and nuances in factors that impact on the uptake of e-Government could be discerned on the level of smaller territorial units or particular public offices. The choice to focus on the federal and cantonal levels of analysis was made for feasibility reasons, but also so as to be able to evaluate the effect of institutional factors, typically of Swiss federalism, on the introduction of e-Government. An important shortcoming of the study is the restriction of the analysis to one country. An interesting future research path would be comparing Switzerland with other suitable countries and identifying on which points the analyses converge and diverge. Another future research possibility would be applying the proposed model in other contexts or adapting it for use in the framework of concrete projects.

Overall, I am satisfied with the quality of the collected data. The qualitative data has revealed a number of nuances related to the introduction of e-Government projects. Furthermore, the semi-structured interviews helped me understand different logics related to the Swiss political and institutional system and their impact on public administration reforms. The analysis of qualitative data also allowed for a more detailed understanding of the underlying causes of the comparative underdevelopment of e-Participation in Switzerland. The quantitative analysis confirmed a certain number of qualitative findings and offered interesting avenues for its future refinement and reuse in other contexts. Unfortunately, it was not possible to evaluate here the dimensions of e-Government introduction that are related to the technological particularities of applications and that due to the lack of expertise in the field.

The literature that was consulted for the purposes of this research is representative of different disciplines. Because the study of e-Government is itself interdisciplinary, such an approach was considered the most suitable one. Previous studies on e-Government are overall typical of the fragmentation of topics that makes it difficult to discern the most important ideas. Furthermore, the findings obtained from studies conducted in different contexts are often contradictory. A more integral approach to e-Government development is missing. This study tried to remedy this shortcoming by incorporating factors from different levels of analysis into the explicative model. Thus, even though the analysis was limited to one country, it attempted to overcome the fragmentation of topics and the limitations of previous research to particular projects. It is also for this reason that I often cite literature that can be, considering the rapid development in the field of e-Government, considered slightly outdated. However, it is these contributions that often provide the most comprehensive view of different issues.

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Appendices

Appendix 1: List of interviews

No	Date	Position	Organisation	Language
1	30/08/2016	Middle-management employee	Federal Tax Administration	FR
2	3/10/2016	Two members of the executive committee	e-Government Switzerland association	FR
3	4/10/2016	Member of the federal parliament	Socialist party	FR
4	5/10/2016	Person responsible for the Swiss e-Participation strategy	Federal Chancellery	ENG
5	5/10/2016	Three employees, initiators of an electronic application	Federal Tax Administration	FR
6	19/10/2016	Director of the IT unit	Federal Office of Agriculture	FR
7	20/10/2016	E-Voting project manager	Federal Chancellery	FR
8	20/10/2016	Manager of the office's open data project	Federal Office of Topography	FR
9	27/10/2016	Middle-management employee	Federal Office of Communications	FR
10	4/11/2016	Manager of the federal open data project	Federal archives	ENG
11	1/12/2016	Two employees from the upper- and middle-management	Private company developing technologies for public administrations	ENG
12	12/12/2016	Co-owner, open data activist	Private company developing technologies for public administrations	ENG
13	15/12/ 2016	Manager of the office's open data project	Federal Statistical Office	FR
14	11/1/2017	Upper-management employee of the company	Private company developing technologies for public administrations	ENG
15	19/1/2017	Manager of the e-Voting project	Swiss Post	FR
16	19/1/2017	Co-founder	Think-tank on public innovation	FR
17	8/3/2017	Director of the IT unit	Federal Office of Justice	FR
18	6/4/2017	Two managers of the e-ID project	Federal Office of Police	FR
19	6/4/2017	Manager of the open data	SBB the Swiss Railway	ENG

		project		
20	10/4/2017	Person responsible for the communication of the office	State Secretariat for Economic Affairs	FR
21	10/4/2017	Professor studying transparency and open data	University of Bern	ENG
22	12/4/2017	Professor studying electronic government	University of Applied Sciences in Bern	ENG
23	12/4/2017	Manager of one-stop-shop project for companies	State Secretariat for Economic Affairs	FR
24	10/5/2017	Co-responsible person for open data project	Administration of the city of Zurich	ENG
25	29/5/2017	Director of the office	Federal Office of Information Technology	FR
26	31/5/2017	Manager of the office's open data project	Federal Office of Meteorology	FR
27	7/6/2017	Head of the office	Cantonal IT office	FR
28	12/6/2017	Member of the federal parliament	Green party	FR
29	20/6/2017	Head of the office	Cantonal IT office	FR
30	20/6/2017	Head of the office	Cantonal IT office	FR
31	28/6/2017	Professor of e-Government	University of Applied Sciences in Valais	FR
32	30/6/2017	Founder	E-Collecting project	ENG
33	5/7/2017	Person responsible for communication and social media presence	Cantonal Chancellery	FR
34	5/9/2017	Person responsible for communication and IT presence	Cantonal Chancellery	FR
35	2/3/2018	Chancellor	Cantonal Chancellery	FR

Appendix 2: List of thematic interview codes

Liste de codes	#
Liste de codes	1151
Technology is not the problem	6
Technological development/partners	45
Relations citizens-administrations	18
Follow developments in the society/"c'est dans l'air de temps"	17
Trust	5
(Lack of) external/internal pressures	23
Organisational level of analysis	0
Administrative culture	31
Stigma of innovation culture	10
Not be afraid/learning from mistakes	9
Personal level of analysis	0
Things work well/"It's in the Swiss DNA"	19
Individual level of analysis	0
Importance of innovation leaders/Vision	42
Political support/mandate	39
Resistance to change	9
Institutional level of analysis	0
Federalism	71
No obligation	1
Technological transfer	6
"Words teach, good examples draw"	11
"We are different"	6
Image of the office	11
Legal bases	36
Swiss e-Government/e-Participation/Digital CH Strategy	31
Comm/cooperation different gov levels/departments	24
Economic factors/money/resources	34
Trade-off with other investments	2
Being more effective/efficient	3
Cost-saving/Return on investment	15
Citizen participation formal/informal	31
Participation possibilities sufficient	6
Going in this direction	3
e-Participation	29
Information provision	18
Social networks	36
Strategy	4
Resources	5

	Interaction	10
	Discussion quality	4
	e-Democracy promises	4
	e-Collecting	16
	Shortcomings of direct democracy in CH	12
	Communication in general	7
	Transparency/Open data	120
	Mandate to publish data	5
	Factor of monetary gains	6
	Legislation on open data/transparency	13
	Transparency activists	4
Projects		5
	Guichet unique	18
	Client orientation	27
	Silos vs. horizontal re-organisation	16
	Rethinking of processes	10
	Little by little approach	7
	Failure of IT projects	4
	eHealth	8
	SuisseID/eID	43
	Vote électronique	49
Overarching themes		0
	Frequency of contacts with citizens	8
	Language problems	4
	Size of the population	3
	Generational/skill-related cleavage	10
International position of Switzerland		10
	Europeanisation	11
	Inspiration by other countries/cantons	27
Miscellaneous		0
	Citizen readiness/"the digital jump"	13
	Modern administration/eGov vision	11
	Future challenges	5
	Effects of reforms	5

Appendix 3: Final version of the survey

Questionnaire sur l'introduction de la cyberadministration en Suisse

La cyberadministration (e-Government) en Suisse s'appuie aujourd'hui sur de nombreux documents officiels qui guident son introduction (Stratégie suisse de cyberadministration, Convention cadre, différentes stratégies cantonales). Dans le cadre de la présente recherche, la cyberadministration se réfère principalement à l'introduction des prestations publiques électroniques, la digitalisation des contacts entre différents offices publics et la digitalisation des contacts entre les administrations publiques et les citoyens. Cette dernière se réfère, plus spécifiquement, à la participation électronique (e-Participation).

Par l'e-Participation, nous entendons les formes de communication électronique qui permettent aux citoyens et au grand public de discuter avec les politiciens/employés publics. L'objectif de ces discussions est de trouver une solution à un problème précis qui prend en considération les préférences de toutes les parties prenantes. Les discussions se déroulent typiquement sur des plateformes électroniques prévues à cet effet.

Le présent questionnaire vise à repérer les perceptions de l'e-Government des employés des administrations publiques suisses qui sont les acteurs principaux dans le processus de sa mise en œuvre. Malgré l'institutionnalisation du processus, la cyberadministration rencontre des défis relatifs aux différents contextes. Il est évident aujourd'hui que l'e-Government n'est pas une affaire purement technologique. Plusieurs logiques impactent sur la manière dont ce dernier est introduit. Pour cette raison, le questionnaire comprend également des questions relatives aux spécificités du système institutionnel suisse et au contexte organisationnel.

Je vous remercie d'avance pour votre précieuse collaboration.

Il y a 84 questions dans ce questionnaire.

Fragebogen zur Einführung der Cyberadministration (e-Government) in der Schweiz

Die Einführung der Cyberadministration (e-Government) in der Schweiz stützt sich aktuell auf verschiedene offizielle Dokumente (E-Government Strategie Schweiz, Swiss Open Government Data Strategy, verschiedene kantonale Strategien), die als Umsetzungsrichtlinien dienen. Im Rahmen des vorliegenden Forschungsprojektes wird im Speziellen die Einführung der elektronischen öffentlichen Dienste, die Digitalisierung der Kommunikation zwischen verschiedenen öffentlichen Einrichtungen und die Digitalisierung des Kontaktes zwischen Bürgern und der öffentlichen Verwaltung untersucht. Letzteres bezieht sich insbesondere auf die elektronische Bürgerbeteiligung (e-Participation).

Unter der e-Participation versteht man die elektronische Kommunikationsform, die sowohl der Öffentlichkeit, wie auch einzelnen Bürgern, erlaubt mit Politikern und Angestellten der öffentlichen Verwaltung zu interagieren. Das Ziel solcher Kommunikation ist das gemeinsame Finden eines Lösungsansatzes für Probleme von öffentlichem Interesse. Solche Diskussionen finden typischerweise auf spezialisierten elektronischen Plattformen der Bundesverwaltung statt.

Die vorliegende Umfrage hat das Ziel, den Eindruck des e-Governments in den öffentlichen Verwaltungen der Schweiz aufzuzeichnen. Trotz der Institutionalisierung dieses Prozesses hat die Cyberadministration noch viele Herausforderungen zu meistern. Es ist beispielsweise heutzutage so, dass das e-Government keine rein technische Hürde mehr ist. Verschiedenste andere Faktoren beeinflussen die Implementierung und Umsetzung des e-Governments. Aus diesem Grund enthält dieser Fragebogen ebenfalls Fragen zu den Eigenheiten des schweizerischen Verwaltungssystems und dessen Organisation.

Ich bedanke mich im Voraus für Ihre geschätzte Mitarbeit.

Diese Umfrage enthält 84 Fragen.

® = reverse-coded

For each of the statements below, please indicate the extent of your agreement or disagreement by placing a tick in the appropriate box.

Pour chacune des assertions suivantes, veuillez indiquer le degré de votre accord/désaccord en cochant la case appropriée.

Geben Sie bitte für jede der unten genannten Aussagen das Ausmass Ihrer Zustimmung oder Ablehnung an, indem Sie ein Kreuz in das korrespondierende Feld machen.

Strongly disagree, disagree, somewhat disagree, somewhat agree, agree, strongly agree	Pas du tout d'accord, pas d'accord, plutôt pas d'accord, plutôt d'accord, d'accord, tout à fait d'accord	Gar nicht einverstanden, Nicht einverstanden, eher nicht einverstanden, eher einverstanden, einverstanden, Ganz einverstanden
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DEPENDENT VARIABLE

Overall, e-Government has positive effects on the functioning of Swiss public administrations.	En général, l'e-Government est positif pour le fonctionnement des administrations publiques en Suisse.	Generell hat das e-Government einen positiven Einfluss auf die öffentliche Verwaltung der Schweiz.
Overall, e-Participation should be fostered in Switzerland.	En général, l'e-Participation devrait être favorisée dans notre pays.	Generell sollte e-Participation in der Schweiz gefördert werden.
I am satisfied with the progress of e-Government in Switzerland.	Je suis satisfait/-e par les progrès en matière d'e-Government en Suisse.	Ich bin zufrieden mit dem Fortschritt des e-Government in der Schweiz.
I am satisfied with the progress of e-Participation in Switzerland.	Je suis satisfait/-e par les progrès en matière d'e-Participation en Suisse.	Ich bin zufrieden mit dem Fortschritt der e-Participation in der Schweiz.
e-Government has the potential to improve relations between public administrations and citizens.	L'e-Government a le potentiel d'améliorer les relations entre les administrations publiques et les citoyens.	e-Government hat das Potential das Vertrauen zwischen den Bürgern und der öffentlichen Verwaltung zu verbessern.
e-Government causes more problems than it solves.*	L'e-Government apporte plus de problèmes que de bénéfices.	e-Government hat mehr Nachteile als Vorteile.
e-Participation disrupts fundamental democratic principles.*	L'e-Participation perturbe les principes démocratiques fondamentaux.	e-Participation ist gegen die fundamentalen demokratischen Prinzipien.

Effects of e-Government

In your opinion, what are the effects of e-Government?

Dans votre opinion, quels sont les effets de l'e-Government ?

Ihrer Meinung nach, welches sind die Effekte des e-Governments?

Improved governmental decision-making	Amélioration de la prise de décision au niveau	Erleichtert der Regierung das treffen von Entscheidungen
---------------------------------------	--	--

	gouvernemental	
Better policies	Meilleure qualité des politiques publiques	Bessere öffentliche Politiken
Revitalisation of public debate	Revitalisation du débat public	Fördert die öffentliche Debatte
Distortion of political information and facts *	Déformation des informations et faits politiques	Verdreht politische Informationen und Fakten
Undermining of democratic practices *	Dégradation des pratiques démocratiques	Untergräbt die demokratischen Abläufe
Improvement of information dissemination to external stakeholders and citizens	Amélioration de la diffusion d'informations aux parties prenantes externes et citoyens	Erleichtert den Informationsfluss zu Bürgern und externen Organisationen
Increased opportunity to interact and collaborate with other public officials	Amélioration des opportunités d'interaction et de collaboration avec d'autres employés publics	Verbessert die Interaktion und Zusammenarbeit mit der Regierung
Increased access to government services	Amélioration de l'accès aux services du gouvernement	Besserer Zugang zu öffentlichen Diensten.
Possibility to give feedback on service quality	Possibilité de commenter sur la qualité des services publics	Ermöglicht eine Rückmeldung zu der Qualität der öffentlichen Dienste
Enhanced citizen trust of government	Augmentation de la confiance des citoyens dans le gouvernement	Erhöht das Vertrauen der Bürger in die Regierung.
Increased conflict with citizens *	Augmentation des conflits avec les citoyens	Erhöhter Konflikt mit Bürgern.
Improved efficiency and lower costs of the department	Amélioration de l'efficacité et baisse des coûts pour l'organisation	Bessere Effizienz und tiefere Kosten für eine öffentliche Organisation.

INDEPENDENT VARIABLES

INDIVIDUAL FACTORS

On the basis of your personal experiences, please indicate the extent of your agreement or disagreement with the following statements by placing a tick in the appropriate box.

Sur la base de vos expériences personnelles, veuillez indiquer le degré de votre accord/désaccord avec chacune des assertions suivantes en cochant la case appropriée. (TIC = technologies de l'information et de la communication)

Gemäss Ihren persönlichen Erfahrungen, geben Sie bitte für jede der unten genannten Aussagen das Ausmass Ihrer Zustimmung oder Ablehnung an, indem Sie ein Kreuz in das korrespondierende Feld machen. (IKT = Informations- und Kommunikationstechnologien)

Perceived usefulness

Using ICTs in my job enables me to accomplish tasks	Les TIC me permettent d'accomplir mes tâches de travail	Dank ICTs kann ich Aufgaben in meinen Beruf schneller
---	---	---

more quickly.	plus rapidement.	ausüben.
Using ICTs in my job improves my job performance.	L'usage des TIC améliore ma performance au travail.	Dank ICTs bin ich im Beruf leistungsfähiger.
The use of ICTs makes my job easier.	Les TIC rendent mon travail plus facile.	ICTs erleichtern meinen Beruf
There are aspects of my job in which I would like to use ICTs more.	Il y a des aspects dans mon travail où j'aimerais utiliser davantage les TIC.	Es gibt Bereiche in meinem Beruf in dem ich ICTs mehr nutzen möchte
The use of ICTs makes my work more interesting.	L'usage des TIC rend mon travail plus intéressant.	Der Gebrauch von ICTs macht meinen Beruf spannender.

Perceived ease of use

Learning to work with ICTs in my job is easy for me.	Apprendre à travailler avec les TIC dans le cadre de mon travail est facile pour moi.	Der Umgang mit ICTs in meinem Beruf ist einfach für mich.
I find it easy to accomplish tasks using ICTs.	Il est facile pour moi d'accomplir mes tâches de travail en utilisant les TIC.	Das erledigen von Aufgaben ist einfacher durch den Gebrauch von ICTs
The use of ICTs in my job is clear and understandable for me.	La manière d'utiliser les TIC dans le cadre de mon travail est claire et compréhensible pour moi.	Die Benutzung der ICTs ist einfach verständlich für mich
It is easy to become skilful at using ICTs.	Il est aisé selon moi d'apprendre à utiliser des TIC.	Es ist einfach für mich den Gebrauch von ICTs zu erlernen.
Overall, I feel competent to communicate online on social media and other electronic channels.	En général, je me sens compétent/-e pour communiquer avec le public sur les réseaux sociaux et sur d'autres plateformes électroniques.	Generell fühlich ich mich kompetent bei der Kommunikation auf sozialen Netzwerken oder anderen elektronischen Kanälen.

ICT anxiety

I feel apprehensive about using ICTs in my job.	J'ai une méfiance envers l'usage des TIC dans le cadre de mon travail.	Ich bin besorgt über den Gebrauch von ICTs in meinem Beruf.
It scares me to think that I could make a serious mistake by hitting the wrong key.	J'ai peur de faire une erreur sérieuse en appuyant sur la mauvaise touche.	Es macht mir Angst, dass ich einen groben Fehler machen könnte durch das drücken einer falschen Taste.
I hesitate to use ICTs for fear of making mistakes I cannot correct.	Je suis hésitant/-e à utiliser les TIC par peur de faire une erreur que je ne pourrais pas corriger.	Ich vermeide ICTs da ich Angst habe einen unkorrigierbaren Fehler zu machen.
The use of ICTs in my job is somewhat intimidating to me.	L'usage des TIC dans le cadre de mon travail est intimidant pour moi.	Der Gebrauch von ICTs in meinem Beruf macht mir Angst.

Practical use of ICTs

How often do you use the following electronic applications in the course of your professional activities? (Answers: daily, three times a week, once a week, twice per month, never)

A quelle fréquence utilisez-vous les applications électroniques suivantes dans le cadre de vos activités professionnelles ? Veuillez indiquer vos réponses en cochant la case

appropriée. (Réponses : tous les jours, trois fois par semaine, une fois par semaine, deux fois par mois, jamais)

Wie häufig benutzen Sie die folgenden elektronischen Anwendungen im Rahmen Ihrer beruflichen Aktivität ? (täglich, drei mal wöchentlich, ein mal wöchentlich, zwei mal pro Monat, weniger als zwei mal pro Monat)

Blogs	Blogs	Blogs
Discussion forums	Forums de discussion électroniques	Online Diskussionsforen
E-Mail	E-Mail	E-Mail
Online newsletters	Fiches d'informations électroniques	Online newsletters
Text messaging	Envoi des messages électroniques (autres que les e-mails)	Textnachrichten (andere als E-Mail)
RSS feeds	Fils d'actualités RSS	RSS feeds
Social networking sites	Réseaux sociaux (Twitter, LinkedIn, Facebook, par exemple)	Soziale Netzwerke (Facebook, Twitter, LinkedIn usw.)
Video sharing sites	Sites de partage vidéo (YouTube, par exemple)	Video webseiten (z.b. Youtube)
Web surveys or polls	Enquêtes ou sondages électroniques	Online Umfragen
Electronic polling	Vote électronique (expression d'opinion sur Internet)	Elektronisches Abstimmen
Electronic public service	Service public électronique	Elektronische öffentliche Dienste

PERSONAL VALUES

For each of the statements below, please indicate the extent of your agreement or disagreement by placing a tick in the appropriate box.

Pour chacune des assertions suivantes, veuillez indiquer le degré de votre accord/désaccord en cochant la case appropriée.

Geben Sie bitte für jede der unten genannten Aussagen das Ausmass Ihrer Zustimmung oder Ablehnung an, indem Sie ein Kreuz in das korrespondierende Feld machen.

Perceived quality of the system

Working processes and public service delivery work well in my organisation and are in no need of reforming. ®	Les processus de travail et la livraison des prestations publiques fonctionnent bien dans mon organisation et ne nécessitent pas de réformes.	Arbeitsschritte und - abläufe funktionieren gut in meiner Abteilung und müssen nicht geändert werden.
Existing processes and working patterns in my organisation could be optimised.	Les processus de travail de mon organisation pourraient être optimisés.	Bestehende Arbeitsabläufe in meiner Abteilung könnten verbessert werden.

ICTs have the potential to improve working processes and service delivery in my organisation.	Les TIC ont le potentiel d'améliorer les processus de travail et la livraison des prestations publiques dans mon organisation.	ICTs könnten Arbeitsabläufe in meiner Abteilung verbessern.
Paper-based procedures are outdated and should be replaced with digital communication means.	Les processus sous forme papier sont dépassés et devraient être digitalisés.	Arbeitsabläufe in Papierform sind veraltet und sollten durch digitale ersetzt werden.
ICTs do not have the potential to increase the performance of public administrations. ®	Les TIC n'ont pas le potentiel d'augmenter l'efficacité des administrations publiques.	ICT haben nicht das Potential um die Effizienz von öffentlichen Diensten zu erhöhen.

Views of citizens-public administrations relations

Relations between citizens and public administrations are optimal and in no need of changing. ®	Les relations entre les citoyens et les administrations publiques sont optimales et ne nécessitent pas de réformes.	Der Kontakt der Bürger zu den öffentlichen Diensten ist optimal und muss nicht verändert werden.
Relations between citizens and public administrations should be re-defined toward more electronic communication between the two groups.	Les relations entre les citoyens et les administrations publiques devraient être redéfinies vers plus de communication électronique entre les deux groupes.	Kontakt zwischen Bürgern und öffentlichen Diensten sollte mehr Richtung elektronischen Kontakt gehen.
E-Government should be introduced in order to follow developments related to the use of ICTs in today's society.	L'e-Government devrait être introduit afin de suivre les développements de l'usage des TIC dans la société.	e-Government sollte eingeführt werden um dem Trend in Richtung Elektronik zu folgen.
The possibilities for citizens and the wide public to express their opinions on different issues related to my office/job are sufficient. ®	Les possibilités pour les citoyens et le grand public d'exprimer leurs opinions sur des sujets relatifs à mon travail/ organisation sont suffisantes.	Bürger haben genug Möglichkeiten ihre Meinung bezüglich Angelegenheiten aus meiner Abteilung zu äussern.
My organisation would benefit from more citizen participation in the discussion of different issues.	Il serait bénéfique pour mon organisation d'introduire plus de participation citoyenne dans les discussions sur différents sujets.	Meine Abteilung würde durch vermehrte Bürgerteilnahme profitieren.
Public administrations should be more transparent about their activities in order to foster citizen participation and discussion.	Les administrations publiques devraient être plus transparentes par rapport à leurs activités afin de favoriser la participation citoyenne.	Öffentliche Dienste sollten transparenter sein um Bürgerteilnahme und Diskussionen zu fördern.
My organisation should provide the public with more information on its activities.	Mon organisation devrait fournir plus d'informations sur ses activités au public.	Meine Abteilung sollte die Öffentlichkeit besser über Ihre Aktivitäten informieren.

Satisfaction with democracy and citizen participation in Switzerland

Par l'e-Participation, nous entendons les formes de communication électronique qui permettent aux citoyens et au grand public de discuter avec les politiciens/employés publics. L'objectif de ces discussions est de trouver une solution à un problème précis qui prend en considération les préférences de toutes les parties prenantes. Les discussions se déroulent typiquement sur des plateformes électroniques prévues à cet effet.

Unter der e-Participation versteht man die elektronische Kommunikationsform, die sowohl der Öffentlichkeit wie auch einzelnen Bürgern erlaubt mit Politikern und Angestellten der öffentlichen Verwaltung zu interagieren. Das Ziel solcher Kommunikation ist das gemeinsame Finden eines Lösungsansatzes für Probleme von öffentlichem Interesse. Solche Diskussionen finden typischerweise auf spezialisierten elektronischen Plattformen der Bundesverwaltung statt.

I am generally satisfied with how democracy works in Switzerland.	En général, je suis satisfait/-e de la manière dont la démocratie fonctionne en Suisse.	Ich bin generell zufrieden mit dem Funktionieren der Demokratie in der Schweiz.
Overall, I trust Swiss public authorities.	En général, j'ai confiance dans les autorités publiques suisses.	Generell vertraue ich den schweizerischen Behörden.
Citizen participation instruments that exist in Switzerland (referenda, popular initiatives, petitions) provide sufficient participation options for everybody.*	Les instruments de participation citoyenne existants en Suisse (référendums, initiatives, pétitions) offrent des possibilités de participation suffisantes pour tout le monde.	Es gibt genug instrumente der Bürgerteilnahme in der Schweiz (Referendum, Initiativen, Petitionen).
It would be useful to develop new forms of citizen participation to foster citizen participation.	Il serait utile de développer des nouvelles formes de participation afin de favoriser la participation citoyenne.	Es wäre nützlich neue Interaktionsformen zu entwickeln um Bürgerteilnahme zu fördern.
The use of existing participation instruments could be facilitated and improved by introducing certain forms of e-Participation.	L'usage des instruments de participation existants pourrait être facilité et optimisé par l'introduction de l'e-Participation.	Bestehende Interaktionsformen könnten verbessert werden durch das Einführen von e-Participation.

ORGANISATIONAL FACTORS

For each of the statements below, please indicate the extent of your agreement or disagreement by placing a tick in the appropriate box.

Pour chacune des assertions suivantes, veuillez indiquer le degré de votre accord/désaccord en cochant la case appropriée.

Geben Sie bitte für jede der unten genannten Aussagen das Ausmass Ihrer Zustimmung oder Ablehnung an, indem Sie ein Kreuz in das korrespondierende Feld machen.

Innovation culture

There are many opportunities to exchange and generate ideas in my organisation.	Il y a beaucoup d'opportunités pour échanger et générer des idées dans mon organisation.	In meiner Abteilung gibt es viele Gelegenheiten um neue Ideen zu entwickeln und auszutauschen.
My organisation recognises and rewards innovative and enterprising employees.	Mon organisation reconnaît et récompense les employés innovants et entrepreneurs.	In meiner Abteilung werden innovative und unternehmerische Personen gefördert.
My organisation has active programs to upgrade employees' knowledge and skills.	Mon organisation offre des formations pour améliorer les connaissances et compétences de ses employés.	Meine Abteilung bietet Weiterbildungen an um das Wissen und die Fähigkeiten der Angestellten zu verbessern.
My organisation gives adequate resources to exploring and implementing innovative ideas.	Mon organisation accorde les ressources adéquates à l'exploration et la mise en œuvre d'idées innovantes.	Meine Abteilung stellt genügend Ressourcen bereit um neue Ideen zu erforschen und einzuführen.
Innovation is in my organisation perceived as risky and is	Dans mon organisation l'innovation est perçue comme	Innovation wird in meiner Abteilung als riskant angesehen

resisted.®	risquée et rencontre de la résistance.	und trifft auf Widerstand.
My work schedule allows me time to think of creative solutions to problems.	Mon horaire de travail me permet de trouver des solutions innovantes aux problèmes.	Mein Arbeitsalltag erlaubt mir Zeit um über kreative Lösungen nachzudenken.
Innovation is clearly a part of my organisation's mission or basic beliefs.	L'innovation fait clairement partie de la mission de mon organisation ou de ses croyances fondamentales.	Innovation ist ein Grundsatz und eine klare Aufgabe für meine Abteilung.

Presence of innovation leaders

The implementation of e-Government projects often depends on the initiative of concrete person/persons.	L'implémentation des projets d'e-Government dépend souvent de l'initiative d'une personne ou d'un groupe de personnes concrètes.	Die Einführung von e-Government-Projekten hängt häufig von einzelnen/wenigen Personen ab.
Success of an e-Government project depends on the importance that is attributed to it.	Le succès d'un projet d'e-Government dépend de l'importance qui lui est attribuée.	Der Erfolg von e-Government Projekten hängt von der Wichtigkeit ab, die ihnen zugeteilt wird.
Our direction and managers are approachable and communicative.	La direction et les managers dans mon organisation sont accessibles et communicatifs.	Meine Vorgesetzten sind kommunikativ und offen für Gespräche.
Our supervisors often challenge us to be more innovative and resourceful.	Nos superviseurs nous défient souvent d'être plus innovant et ingénieux.	Meine Vorgesetzten fordern mich häufig auf mehr Innovation und Kreativität zu zeigen.
Our top managers show great enthusiasm for innovation and work improvement.	La direction et les managers dans mon organisation se montrent très enthousiastes par rapport à l'innovation et l'amélioration des processus de travail.	Meine Vorgesetzten sind begeisterungsfähig für innovative und verbesserte Arbeitsabläufe.

ECONOMIC FACTORS

For each of the statements below, please indicate the extent of your agreement or disagreement by placing a tick in the appropriate box.

Pour chacune des assertions suivantes, veuillez indiquer le degré de votre accord/désaccord en cochant la case appropriée.

It is crucial for digitalisation projects to be economically reasonable in a long term.	Il est crucial que les projets digitaux soient raisonnables économiquement sur le long terme.	Es ist unerlässlich, dass digitale Projekte langfristig finanziell vorteilhaft sind.
Projects that are economically reasonable will be more likely to be introduced.	Les projets qui sont raisonnables économiquement auront plus de chance d'être introduits.	Finanziell vorteilhafte Projekte haben eine bessere Chance eingeführt zu werden.
Digitalisation projects are resource-intensive.	Les projets de digitalisation demandent beaucoup de ressources.	Projekte zur Digitalisierung brauchen viele Ressourcen.
My organisation has sufficient resources to develop and implement electronic communication platforms.®	Mon organisation a des ressources suffisantes pour développer et implémenter des plateformes de	Meine Abteilung hat genügend Ressourcen um elektronische Kommunikationsplattformen zu entwickeln

	communication électroniques.	und einzuführen.
Digitalisation projects are being hindered in my organisation by lack of resources (financial, personal).	Les projets de digitalisation sont dans mon organisation freinés par le manque de ressources (financières, humaines).	Projekte zur Digitalisierung können in meiner Abteilung nicht umgesetzt werden, da Ressourcen fehlen (finanziell, personell).

INSTITUTIONAL FACTORS

For each of the statements below, please indicate the extent of your agreement or disagreement by placing a tick in the appropriate box.

Pour chacune des assertions suivantes, veuillez indiquer le degré de votre accord/désaccord en cochant la case appropriée.

Geben Sie bitte für jede der unten genannten Aussagen das Ausmass Ihrer Zustimmung oder Ablehnung an, indem Sie ein Kreuz in das korrespondierende Feld machen.

Federalism/coordination factors

The decentralised state structure of Switzerland hinders the development of e-Government.	La grande décentralisation étatique est un frein au développement de l'e-Government.	Die staatliche Dezentralisierung in der Schweiz verhindert die Einführung des e-Government.
The existence of three government levels in Switzerland constitutes an obstacle to e-Government introduction.	L'existence de trois niveaux de gouvernance en Suisse constitue un obstacle à l'introduction de l'e-Government.	Das Existieren der drei Staatsebenen in der Schweiz erschwert das Einführen des e-Government.
The lack of communication between different governmental levels hinders the diffusion of e-Government.	Le manque de coordination entre différents niveaux gouvernementaux constitue un obstacle à la diffusion de l'e-Government.	Das Fehlen der Kommunikation zwischen den staatlichen Ebenen erschwert die Einführung des e-Government.
The lack of communication between different offices in my administration hinders the diffusion of e-Government.	Le manque de communication entre différents services dans mon administration constitue un obstacle à la diffusion de l'e-Government.	Das Fehlen der Kommunikation zwischen verschiedenen Abteilungen in meiner Organisation erschwert die Einführung des e-Government.
My organisation is sufficiently informed on what is happening on other governmental levels in the matter of e-Government. ®	Mon organisation est suffisamment informée par rapport à ce qui se passe à d'autres niveaux gouvernementaux en matière d'e-Government.	Meine Abteilung ist gut informiert über die Ereignisse bezüglich e-Government auf anderen staatlichen Ebenen.
My organization encourages its employees to maintain contacts with other organisations (public and private) in the matter of e-Government introduction. ®	Mon organisation encourage ses employés à maintenir les contacts avec d'autres organisations (publiques et privées) en matière de l'e-Government.	Meine Abteilung ermutigt Ihre Angestellten den Kontakt zu anderen Organisationen (öffentliche und private) bezüglich e-Government zu pflegen.

Legal regulations

The implementation of e-Government in Switzerland is guided by a number of federal and cantonal documents that define the principles of its diffusion (Swiss e-Government Strategy, Swiss Open Government Data Strategy, different cantonal e-Government strategies). On this basis, please indicate the extent of your agreement or disagreement by placing a tick in the appropriate box (ICT = information and communication technologies).

L'implémentation de l'e-Government en Suisse est guidée par des documents officiels (Stratégie suisse de cyberadministration, Swiss Open Government Data Strategy, différentes stratégies de cyberadministration cantonales). Sur cette base, veuillez indiquer le degré de votre accord/désaccord en cochant la case appropriée (TIC = technologies de l'information et de la communication) :

Die Einführung des e-Government in der Schweiz wird geregelt durch verschiedene Dokumente auf Bundes- und Kantonsebene (E-Government Strategie Schweiz, Swiss Open Government Data Strategy, verschiedene kantonale e-Government Strategien). Mit dieser Basis, geben Sie bitte für jede der unten genannten Aussagen das Ausmass Ihrer Zustimmung oder Ablehnung an, indem Sie ein Kreuz in das korrespondierende Feld machen (IKT = Informations- und Kommunikationstechnologien).

The introduction of documents guiding the implementation of e-Government in Switzerland had a positive impact on my organisation's approach to the use of ICTs.	L'introduction des documents officiels qui guident la mise en œuvre de l'e-Government en Suisse a eu un impact positif sur l'approche de mon organisation par rapport à l'usage des TIC.	Die Einführung von Richtlinien zur Implementierung des e-Governments in der Schweiz hatte einen positiven Einfluss auf den Gebrauch von ICTs in meiner Abteilung.
Documents guiding the introduction of e-Government in Switzerland are comprehensible and precise.	Les documents guidant l'introduction de l'e-Government en Suisse sont compréhensibles et précis.	Dokumente die zur Einführung des e-Governments in der Schweiz dienen sind verständlich und präzise.
Lack of binding legal regulations hinders e-Government introduction. *	Le manque des bases légales constitue un obstacle à l'introduction de l'e-Government.	Das Fehlen von bindenden legalen Richtlinien hindert die Einführung des e-Government.
The introduction of e-Government would be faster and more coherent if it was guided by binding legal regulations. *	L'introduction de l'e-Government serait plus rapide et cohérente si elle était prescrite par des bases légales.	Die Einführung des e-Government wäre schneller und strukturierter, wenn es bindende rechtliche Richtlinien gäbe.
The necessity to create a new legal basis for certain e-Government projects slows down their implementation. *	La nécessité de créer des nouvelles bases légales pour des projets d'e-Government ralentit leur implémentation.	Die Notwendigkeit neue rechtliche Grundlagen für e-Government projekte zu schaffen, verlangsamt deren Einführung.
To ensure its effectivity, e-Government should be regulated on the cantonal level. *	Pour être efficace, l'e-Government devrait être régulé au niveau cantonal.	Um eine hohe Effizienz zu garantieren, sollte e-Government auf kantonaler Ebene geregelt werden.
e-Government is a federal affair.	L'e-Government est du ressort de la Confédération.	e-Government ist eine Angelegenheit des Bundes.
The introduction of e-Government is much too important to be regulated on the cantonal level.	L'introduction de l'e-Government est trop importante pour être régulée au niveau cantonal.	Die Einführung des e-Governments ist zu wichtig um auf kantonaler Ebene gehandhabt zu werden.

CONTROL VARIABLES

1. **Age/Âge/Alter** (number)
2. **Gender/Genre/Geschlecht**

3. Mother tongue/Langue maternelle/Muttersprache

German/French/Italian/Romanche/other

Allemand/Français/Italien/Romanche/Autre

Deutsch/Französisch/Italienisch/Rätoromanisch/Andere

4. Education/Formation/Ausbildung

Formation attestée par le certificat ou diplôme correspondant. N'indiquer que le **degré de formation le plus élevé**. Si la formation a été acquise à l'étranger, inscrire si possible le code de la formation équivalente en Suisse.

Es ist nur die **höchste abgeschlossene Ausbildung** (durch Zeugnis oder Diplom bescheinigt) einzutragen. Für im Ausland erworbene Abschlüsse ist wenn möglich der Code für eine gleichwertige schweizerische Ausbildung einzutragen.

Tertiaire: haute école	Tertiär: Hochschule
1.Haute école universitaire (UNI, EPF)	1.Universitäre Hochschule (UNI, ETH)
2.Haute école spécialisée (HES), haute école pédagogique (HEP) ou équivalent	2.Fachhochschule (FH), Pädagogische Hochschule (PH) oder gleichwertige Ausbildung
Tertiaire: formation professionnelle supérieure	Tertiär: Höhere Berufsausbildung
3.Formation professionnelle supérieure avec brevet ou diplôme fédéral ou maîtrise, école technique, école supérieure, ETS, ESCEA, ESAA, IES ou formation équivalente	3.Höhere Berufsausbildung mit eidgenössischem Fachausweis, Diplom oder höherer Fachprüfung/Meisterdiplom, Techniker/in TS, Höhere Fachschule, HTL, HWV, HFG, IES oder gleichwertige Ausbildung
Degré secondaire II	Sekundarstufe II
4.Brevet d'enseignement à divers degrés: école normale (préparant à l'enseignement aux niveaux jardin d'enfants, école primaire, travaux manuels, économie ménagère) ou formation équivalente	4.Lehrerpatent auf verschiedenen Stufen: Primarlehrerseminar (für den Unterricht auf Stufe Kindergarten, Primarschule, Handarbeit und Werken, Hauswirtschaft) oder gleichwertige Ausbildung
5.Maturité gymnasiale, professionnelle ou spécialisée ou formation équivalente	5.Gymnasiale Maturität, Berufsmaturität, Fachmaturität oder gleichwertige Ausbildung
6.Apprentissage complet attesté par un certificat fédéral de capacité (CFC), école professionnelle à plein temps, école de degré diplôme ou de culture générale, formation professionnelle initiale (attestation fédérale de formation professionnelle - AFP) ou formation équivalente	6.Absgeschlossene Berufsausbildung, die zum Erwerb eines eidgenössischen Fähigkeitszeugnisses (EFZ) führt, Vollzeit-Berufsschule, Diplom- oder Fachmittelschule, berufliche Grundbildung (eidgenössisches Berufsattest - EBA) oder gleichwertige Ausbildung
Scolarité obligatoire	Obligatorische Schule
7.Formation professionnelle acquise exclusivement en entreprise non attestée par un certificat reconnu par l'Office fédéral de la formation professionnelle et de la technologie (OFFT)	7.Ausschliesslich unternehmensinterne, durch das Bundesamt für Berufsbildung und Technologie (BBT) nicht anerkannte Berufsausbildung
8.Scolarité obligatoire, sans formation professionnelle complète	8.Obligatorische Schule, ohne abgeschlossene Berufsausbildung

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Si vous avez terminé votre formation dans une université, une école polytechnique fédérale (EPF), une haute école spécialisée (HES) ou une haute école pédagogique (HEP), veuillez préciser le titre obtenu et la discipline :

Wenn Sie eine Ausbildung an einer Universität, einer Eidgenössischen Technischen Hochschule (ETH), einer Fachhochschule (FH) oder einer Pädagogischen Hochschule (PH) abgeschlossen haben, geben Sie den erlangten Titel an:

5. Career background/Expériences de travail/Karrierelaufbahn

Public sector only	Secteur public uniquement	Nur öffentlicher Sektor
Public and private sector: (number of years in the private sector:)	Secteurs public et privé: (nombre d'années dans le secteur privé:)	Öffentlicher und privater Sektor: (Anzahl Jahre im privaten Sektor:)

6. Number of employees/Nombre d'employés/Anzahl der Mitarbeiter

- 1-9
- 10-49
- 50-249
- 250-499
- 500 -

7. Government level/Niveau de gouvernement/Staatsebene

- Federal/cantonal
- Fédéral/cantonal
- Bundesebene/Kantonale Ebene

8. Professional position/Position professionnelle/Berufliche Stellung

1. Cadre supérieur: direction ou collaboration au sein de la direction générale de l'organisation.	1. Oberes Kader: Leitung oder Mitwirkung in der Geschäftsleitung.
2. Cadre moyen: direction d'un secteur de l'organisation, (responsabilité de la planification et de l'organisation dans un domaine déterminé, collaboration au développement de plans de mesures applicables à long terme).	2. Mittleres Kader: Bereichsleitung, hohe Stabsfunktionen (Verantwortung für Planung und Organisation in einem bestimmten Geschäftsbereich, Mitwirkung bei der Entwicklung von langfristigen Massnahmenplänen).
3. Cadre inférieur: direction axée sur l'exécution de tâches dans un segment d'activité (responsabilité de l'exécution de mandats dans son propre domaine d'activité, participation à la planification et à l'organisation).	3. Unteres Kader: Ausführungsorientierte Leitung eines Teilbereichs, qualifizierte Stabsfunktionen (Verantwortung für die Realisierung von Aufträgen im eigenen Tätigkeitsbereich, Beteiligung an Planung und Organisation).
4. Employé de terrain (contact direct avec les clients).	4. Mitarbeiter (direkter Kundenkontakt)

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9. Percentage of work time dedicated to the contact with citizens per week on the average/Pourcentage de temps de travail passé en contact direct avec les citoyens par semaine/Prozentsatz der Arbeitszeit, der pro Woche dem Bürgerkontakt zugeordnet

- 0-9
- 10-29
- 30-59
- 60-100

10. Organizational tenure

Please indicate how many years you have spent in your current organisation:

Veuillez indiquer le nombre d'années que vous avez passé dans votre organisation actuelle :

Bitte geben Sie an, wie lange Sie bereits in Ihrer Abteilung arbeiten:

A year or less/Moins d'un an/Ein Jahr oder weniger

1-3 years/ans/Jahre

3-5 years/ans/Jahre

5-10 years/ans/Jahre

10-20 years/ans/Jahre

More than 20 years/Plus de 20 ans/Mehr als 20 Jahre

11. How interested would you say you are in politics?/Dans quelle mesure êtes-vous intéressé/-e par la politique?/Wie fest interessieren Sie sich für Politik?

Je m'intéresse beaucoup à la politique.	Ich interessiere mich sehr für Politik.
J'aime débattre de sujets politiques.	Ich diskutiere gerne politische Themen.
Je ne tolère pas les marchandages politiques.	Ich mag das politische Verhandeln nicht.

Appendix 4: Final version of survey scales

H1_perceived_usefulness	Using ICTs in my job enables me to accomplish tasks more quickly.
	Using ICTs in my job improves my job performance.
	The use of ICTs makes my job easier.
	There are aspects of my job in which I would like to use ICTs more.
	The use of ICTs makes my work more interesting.
H2a_perceived_ease_of_use	Learning to work with ICTs in my job is easy for me.
	I find it easy to accomplish tasks using ICTs.
	The use of ICTs in my job is clear and understandable for me.
	It is easy to become skilful at using ICTs.
	Overall, I feel competent to communicate online on social media and other electronic channels.
H2b_ ICT_anxiety	I feel apprehensive about using ICTs in my job.
	It scares me to think that I could make a serious mistake by hitting the wrong key.
	I hesitate to use ICTs for fear of making mistakes I cannot correct.
	The use of ICTs in my job is somewhat intimidating to me.
H4a_ ICT_reform_potential	ICTs have the potential to improve working processes and service delivery in my organisation.

	Paper-based procedures are outdated and should be replaced with digital communication means.
	ICTs do not have the potential to increase the performance of public administrations. ®
H4b_need_for_reform	Working processes and public service delivery work well in my organisation and are in no need of reforming. ®
	Existing processes and working patterns in my organisation could be optimised.
H56a_dissatisfaction_existing_participation	My organisation would benefit from more citizen participation in the discussion of different issues.
	Public administrations should be more transparent about their activities in order to foster citizen participation and discussion.
	My organisation should provide the public with more information on its activities.
	The possibilities for citizens and the wide public to express their opinions on different issues related to my office/job are sufficient.®
	It would be useful to develop new forms of citizen participation to foster citizen participation.
	The use of existing participation instruments could be facilitated and improved by introducing certain forms of e-Participation.
H56b_satisfaction_swiss_institutions	I am generally satisfied with how democracy works in Switzerland.
	Overall, I trust Swiss public authorities.
	Citizen participation instruments that exist in Switzerland (referenda, popular initiatives, petitions) provide sufficient participation options for everybody.
H56c_need_relational_reform	Relations between citizens and public administrations are optimal and in no need of changing.®
	Relations between citizens and public administrations should be re-defined toward more electronic communication between the two groups.
	E-Government should be introduced in order to follow developments related to the use of ICTs in today's society.

H7_perceived_innovative_culture	There are many opportunities to exchange and generate ideas in my organisation.
	My organisation recognises and rewards innovative and enterprising employees.
	My organisation has active programs to upgrade employees' knowledge and skills.
	My organisation gives adequate resources to exploring and implementing innovative ideas.
	Innovation is in my organisation perceived as risky and is resisted.®
	My work schedule allows me time to think of creative solutions to problems.
	Innovation is clearly a part of my organisation's mission or basic beliefs.
H8_innovative_leaders	Our direction and managers are approachable and communicative.
	Our supervisors often challenge us to be more innovative and resourceful.
	Our top managers show great enthusiasm for innovation and work improvement.
H9a_economic_rationality	It is crucial for digitalisation projects to be economically reasonable in a long term.
	Projects that are economically reasonable will be more likely to be introduced.
H9b_resource_sufficiency	My organisation has sufficient resources to develop and implement electronic communication platforms.®
	Digitalisation projects are being hindered in my organisation by lack of resources (financial, personal).
H10a_federalism_barrier	The decentralised state structure of Switzerland hinders the development of e-Government.
	The existence of three government levels in Switzerland constitutes an obstacle to e-Government introduction.

	The lack of communication between different governmental levels hinders the diffusion of e-Government.
H10b_organisation_sufficient_information	The lack of communication between different offices in my administration hinders the diffusion of e-Government.
	My organisation is sufficiently informed on what is happening on other governmental levels in the matter of e-Government. ®
	My organization encourages its employees to maintain contacts with other organisations (public and private) in the matter of e-Government introduction. ®
H10c_governmental_level	To ensure its effectivity, e-Government should be regulated on the cantonal level. ®
	e-Government is a federal affair.
	The introduction of e-Government is much too important to be regulated on the cantonal level.
H12_legal_bases	Lack of binding legal regulations hinders e-Government introduction. ®
	The introduction of e-Government would be faster and more coherent if it was guided by binding legal regulations. ®
	The necessity to create a new legal basis for certain e-Government projects slows down their implementation. ®