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# Analysing the implementation of electronic communication strategies through legislation

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**Abstract.** E-government strategies have come a long way and often undergone several revisions until now. The scientific community has identified building blocks, singular cases and especially success factors for their implementation. However, as of now there is little evidence regarding the legal implementation of these strategies. To contribute to this gap in the scientific literature, in this paper we examine three central European countries regarding the implementation of legal measures that have been suggested or implied by their current e-government strategies. To achieve a focused observation of the legal frameworks, we decided to concentrate on the element electronic communication, which has recently gained relevance in European e-government. To achieve this, we carry out a document analysis as well as a legal analysis of current strategic and legal documents for the three cases. Our results show differences in strategy formulation that are defined by overarching European trends as well as an existing legal basis for electronic communication between public authorities and citizens that will need to be adapted for new ways of electronic communication in the future.

**Keywords:** e-government strategies, electronic communication, digital transformation, government services, strategy implementation, legislation

## 1 Introduction

E-government strategies have played an important role in the digitalisation of the public sector for some time now. However, in many countries new digital strategies or revisions of these are currently still in development. As one of the early adopters and best practice examples of e-government, Austria is currently working on the development of a new digital strategy, namely the “Digital Action Plan Austria” [1]. Administrative aspects and digital public services are a decisive part of digital strategies and new policies will benefit from building on earlier experiences. Consequently, a prerequisite of being able to formulate these learnings is the analysis of existing strategies and their implementation. While legislation is often seen as a barrier for the implementation of digital strategies [2] it can be an important driver that provides the framework for a secure and trustworthy digital service infrastructure in the public sector.

Such endeavours not only mirror national strategic and legislative initiatives but are also the basis for an interoperable cross-border digital public service. Only recently,

trustworthy, secure interactions that allow for a digital communication between the public sector and citizens, accompanied by regulatory frameworks, have been specified in the Berlin Declaration on Digital Society [3]. The principles codified in this and similar documents become part of national digital strategies and should consequently be translated into comprehensive legal frameworks. This article analyses the implementation of these strategic measures into legislative practice.

## 2 Background

With a rising number of e-government strategies in countries worldwide, the success of their implementation becomes increasingly visible. Consequently, methods and frameworks to analyse these strategies [4] and evaluate their implementation [5] are being developed. These new frameworks allow for a more critical reflection of strategic documents [4] while addressing changing developments of digital public services and creating a basis for the citizen-oriented provision and development of new services [6]. Additionally, frameworks of important elements of these strategies are being identified [7]. In this range, a wide array of possible focus points for e-government strategies exists [8], which are, however, often closely related to policy domains [9]. Consequently, e-government strategies not only provide a long-term outlook and a holistic perspective for the development of e-government services, but also address previously identified barriers [10]. They are based on an extended analysis and the framework of demand and envisaged outcome [11] and often need to consider a wide array of external factors, such as infrastructure, the impact of technologies, and others [12]. Building on Meijer's definition of an e-government strategy describing a "strategy for e-governance innovation means setting long-term goals and implementing actions for realizing e-governance" [10] the implementation of these strategies plays a central role to achieve the goal of their drafting and promulgation.

One aspect of this implementation is the translation of these strategies into rule of law. Legislative frameworks have already been identified as important aspects of e-government strategies [7]. However, the scientific literature so far mainly focuses on legislation as processes that are part of public service delivery [13] or as a barrier to successfully implementing e-government projects [2, 14, 15]. Scientific articles reviewing current legislation show a need for further connecting digitalisation efforts and legal realities [16]. Legislation becomes especially important when these strategies, e.g. through the application of new channels or technologies, facilitate structural change, as in electronic communication [17].

When contextualising electronic communication, it is important to distinguish a technological definition with a focus on e.g. broadband transmission [18] and electronic communication in the service provision context of e-government, which is our focus. This second type of electronic communication is characterised by a larger amount of automation, real-time data validation and consequently an increased responsiveness [19]. With special respect to the European framework, an essential part of electronic communication is interoperability [20]. Closely related to electronic communication frameworks is the question of qualified and trusted electronic identification [21].

When examining these strategies, many existing studies focus on either historic developments [9], regional success factors and characteristics [7, 8] or future-technology oriented strategies [22] in specific countries. While the literature shows an extensive discussion of the formulation of these strategies as well as their implementation or the implementation of specific digital public services, respectively, little research has been done on the legal implications of e-government strategies as well as international comparative analysis. To address this gap, we will examine e-government strategies of the DACH area (Germany, Austria, and Switzerland) for their practical effects on legislation by conducting a document and a legal analysis. By doing this, we strive to answer the following research question: **To what extent are electronic communication aspects of e-government strategies implemented into legal measures in German-speaking countries (DACH)?**

### 3 Method

To answer this question we examined three different cases on a national level with regard to current relevant strategic e-government documents as well as their legal counterparts. To enable a focused review we chose one specific aspect, electronic communication, for a more in-depth and deductive approach. This section explains our methodology by presenting the process of case selection and the means with which the respective cases have been analysed.

#### 3.1 Case selection

The Federal Republic of Germany, the Republic of Austria, and the Swiss Confederation, although countries with varying levels of e-government and administrative differences, show apparent similarities in administrative federalist structures, platform-oriented e-government models as well as the usage of strategic documents to manifest and communicate these efforts. The four case studies examined were close in terms of a federal administrative tradition, a common official language and geographic proximity. This has led to a variety of studies observing administrative and digitalisation trends in these countries [23, 24]. However, they have yet to be examined regarding their e-government strategies and the respective legal implementation of these strategies.

#### 3.2 Document analysis

Document Analysis as a qualitative research method can support the process of gaining insights into the formulation of as well as trends that can be found in policy documents [25]. As a valuable tool for qualitative enquiry, the method requires critical evaluation and can involve a broader contextualization of the documents [26]. Wach and Ward [25] describe the definition of “key areas of analysis” (p.2), which we applied by focusing on one specific element of e-government to be analysed. Since we observe only

a single factor of e-government strategies, i.e. electronic communication, a holistic analytical framework cannot be applied to the strategies at hand. Instead, we will adapt Hofmann’s analytical framework [4] and focus on

1. The contextualization of electronic communication in the strategy,
2. The goals and actions of electronic communication within the strategy,
3. Relevant stakeholders of electronic communication, if mentioned in the strategy,
4. The national context of electronic communication as well as
5. Conditions and consequences of implementing electronic communication.

The documents that have been identified as strategic e-government documents in the observed countries according to Chapter 3.1 “Specific political communications on digital public administration” of the EU Digital Public Administration factsheets [1, 27, 28] and consequently have been included in the analysis. Only strategies on the national level with the explicit aim of communicating a digital or e-government strategy have been included, and to ensure coherence between the strategic and legal documents, only the German versions of each document have been included. Finally, the following documents have been selected:

- Austria: Federal E-Government Strategy (The ABC guide of eGovernment in Austria) [29]
- Germany: National eGovernment Strategy (NEGS) [30], and “Shaping Digitalisation” (Digitalisierung gestalten – Umsetzungsstrategie der Bundesregierung) [31]
- Switzerland: eGovernment Strategy (2020-2023) [32]

### 3.3 Legal analysis

We identified seven documents as relevant legal documents in the observed countries:

- Austria: E-Government Act [33], and Explanatory Notes [34]
- Germany: E-Government Act [35], De-Mail Act [36], and Explanatory Notes [37]
- Switzerland: E-Government Act [38] and Explanatory Notes [39]

## 4 Results

For the selected cases, we analysed four strategic and seven legal documents. This section presents the results of each analysis according to country.

### 4.1 Results of document analysis

We analysed all documents in their German version to ensure coherence between the strategic and legal documents. With the German counterparts of keywords related to “communication”, “electronic traffic” (translation, would be part of communication in English), “digital post”, “electronic channel” and “electronic delivery” statements on the issue of electronic communication have been identified. During the coding process we additionally found the closely related issue of “identification”. We applied these codes to identify strategic measures concerning electronic communication in the four

strategic documents. In a second step the so identified parts have been observed according to the aforementioned adaptation of Hofmann's [4] framework.

#### **4.1.1 Austria**

The Austrian e-government strategy especially focuses on the aspects of current (i.e., the time of the strategy publication) electronic communication as well as delivery and its legal aspects. On third place, codes concerning electronic traffic and framework conditions are tied. In the strategy document, electronic communication is being contextualised as an essential factor of e-government, in coherence with understandings from the scientific literature [19]. Electronic communication in Austria is presented as a mature and holistic complex that is based on an elaborate and trustworthy back-end architecture, and allows easy as well as secure access to public services. An important part of this framework is electronic delivery, a tool that, according to the strategy document, is used increasingly and integrated in existing portals. The medium-term goal here is the replacement of paper-based processes through electronic communication between citizens and services, while e-government in Austria generally strives to allow electronic communication everywhere without media discontinuity. Currently, half of Austrian citizens use digital communication with public authorities, one additional third plans to do so [40]. The legal aspect accompanying this strategic project is the implementation of a right for electronic communication with public authorities for citizens. An additional plan is the integration of electronic delivery into a central portal by providing a digital postbox. This postbox shall function as a one-stop-shop for electronic delivery of official documents to Austrian citizens. Together with businesses, who are also mentioned as receiving parties of electronic public sector communication, citizens are the main stakeholders of the planned innovation initiatives. With a central digital postbox like this, electronic communication between the public sector and citizens has the potential to be centralised in the front-end, no matter the federal jurisdiction for a particular service delivery. Many technological framework conditions for these user-centered plans are already met, e.g. with the ELAK (electronical authority file) and with the delivery act first legal prerequisites are fulfilled. However, technological advances and international standards raise new issues, such as the need for a legal framework for a secure and trustworthy electronic identification and more general structural and organisational changes in the public sector.

#### **4.1.2 Germany**

For Germany, two documents have been available, an e-government strategy as well as a general strategy for digitalisation. As for the other countries, only the excerpts concerning electronic communication between the public sector and its stakeholders have been evaluated. The e-government strategy itself mainly provided a little information on plans for electronic communication and digital citizen accounts. The digitalisation strategy presented specific measures regarding electronic communication in specific areas of public life. To provide a holistic overview of German e-government endeavours, the results of both documents will now be examined together. In both documents, a broad view on electronic communication has been prevalent, that includes access to and interactions with the public sector. This holistic approach is also mirrored in the

goals, which center on the development of a secure and easy access point to, as far as possible, digitised public services via electronic citizen accounts with a secure authentication possibility, and comprehensive service integration, e.g. with a new digital postbox and e-payment options. These access points should be available for citizens as well as private businesses. This complex is supported by the implementation of German laws that require the pilotation of online services as well as European regulations and standards. In this context, uniform contacts as well as cross-border identification solutions are required. On a national level, plans for a central provision of infrastructure and basic services are stated, which requires extensive coordination for digital services on all federal levels. While legal requirements for the online access law and the e-government law have been included in the considerations of these strategies, new challenges emerge regarding the implementation of single digital gateway requirements and secure cross-border identification.

#### **4.1.3 Switzerland**

The Swiss e-government strategy is far more general than the other observed documents. With its easy to understand language, short overviews and wealth of visual illustrations, its target audience seems to be a broad public as the addressee of political communication. Still, general statements on electronic communication could be identified. Especially prevalent is- the formulation of electronic channel and identification technologies. The Swiss strategy emphasis the existing possibilities of electronic interaction with public authorities as well as the goal of an attractive public sector that makes electronic communication with public authorities the first choice for citizens and private businesses. While this user-centricity seems to be the central element of digital public service design, the strategy itself states that the public sector is an actor and not a facilitator of digitalisation. At the same time, and even though Switzerland is not a member state of the European Union, the strategy emphasis the adherence to European Principles, such as digital-by-default. Additionally, basic requirements for electronic communication, such as a secure and official electronic identity, have been implemented and are to be expanded, especially with regard to the usage of public sector databases. Consequently, even though little to no legislation has been mentioned in the strategy, legal frameworks for secure data exchange, digital identity and digital-by-default communications will be needed for the implementation of this user-centric vision.

## **4.2 Results of legal analysis**

This section presents the results of the legal analysis.

### **4.2.1 Austria**

In Austria, electronic communication with public authorities is regulated principally in the E-Government Act (E-GovG) [33]. Electronic communication includes communication with authorities and electronic delivery (although the electronic delivery specifically is regulated in a separate law). On January 1, 2020, the right to communicate electronically with public authorities entered into force (1a E-GovG). Furthermore § 1b



EGovG regulates the obligation for companies to accept electronic deliveries from authorities: "Companies [...] shall participate in electronic service". This avoids the need to physically visit the authorities. As is common practice under the current procedural law, the authority concerned must announce on the Internet any technical requirements or organizational restrictions on electronic communications.

It is debatable whether the right to communicate electronically with public authorities is a right for citizens or an obligation of the authorities [41]. The title of the section of the law "Right to Electronic Communications" suggests that it is a right for citizens and businesses. Conversely, those subject to the law are not obliged to make use of electronic communication. This is also made clear in the explanatory notes: "The introduction of this new right does not, however, change the admissibility of other intended forms of contact with courts and administrative authorities, such as by means of physical submissions" [34]. § 25 of the E-GovG clarifies that a right to electronic communication conversely implies the obligation for the administration to create the technical prerequisites for electronic receipt or transmission. The regulation provides a three-year transitional period for the establishment of the technical arrangements. This allowed the authorities concerned sufficient time to plan and expand their electronic communication services.

Excluded from the right to communicate electronically are procedures that cannot be handled electronically. The explanatory notes [34] to the law mention, for example, documents that are issued exclusively in physical form (passport) or enclosures such as samples in the patent system. By way of example, the explanations list procedures in which biometric data must be taken after the application has been submitted. Moreover, the right to electronic communication cannot be granted without restriction in cases of judicially ordered deprivation of liberty, since "the legal and factual framework conditions in prisons thus differ significantly from those in freedom" [34]. § 1b EGovG regulates the obligation for companies to accept electronic service: "Companies [...] shall participate in electronic service". According to the wording of § 1b EGovG, companies must participate in electronic delivery. Unlike citizens, companies therefore have no freedom of choice regarding electronic delivery but are obliged to participate passively in it. This results in the obligation to participate passively in electronic service, but not the obligation to participate actively. However, no sanctions are ordered in the event that the obligation to participate in electronic delivery is not fulfilled [42]. Moreover, delivery to non-registered recipients is not possible. Therefore, companies that do not register do not miss a service. In the absence of legal or factual consequences, this is a "toothless" regulation. In conclusion, the right to electronic communication exists in Austria insofar as the technical possibilities are made available by the authorities. Citizens are not obliged to use any electronic communication that may be made available.

#### 4.2.2 Germany

As in Austria, the German e-government act requires authorities to provide electronic access for citizens (§ 2 EGovG) [35]. It is not obligatory for public authorities to communicate electronically with citizens, nor is it obligatory for citizens to communicate electronically with public authorities [43]. The regulation merely imposes on public authorities the obligation to create electronic access that can be used voluntarily. The law deliberately leaves open how this access is to be designed in a technology-neutral manner. All public authorities are obliged to provide electronic access, for example by e-mail. The law goes further in obligating federal authorities. They must also open electronic access via De-Mail and ID cards. De-Mails main objective is to send and receive messages and documents via the Internet confidentially, securely and verifiably [44]. De-Mails are similar to conventional e-mails - however, they have important features that e-mails often lack: The identities of sender and addressee can be clearly verified and cannot be falsified and the messages are transmitted exclusively via encrypted channels and stored in encrypted form. They are therefore not accessible to unauthorized persons at any time and can neither be read nor changed [37].

#### **4.2.3 Switzerland**

Switzerland has a variety of e-government related legislation that often includes technical aspects as well as differing frameworks in the regions. A comprehensive e-Government Act (EMBaG) was planned, but failed due to resistance from the cantons [45]. The cantons have decided not to go ahead and instead want to pursue the organization 'Digital Administration Switzerland' [46]. The planned EMBaG [38] contained in its Art 4 regulations on electronic communication and provided that electronic means should be used for the interaction of federal authorities with each other and of the cantons and municipalities with each other and the interaction between authorities and companies and the interaction between authorities and natural persons. Article 4 (1) EMBaG should have explicitly required the federal authorities subject to this law to communicate electronically - the law does not specify which means the federal government should use to achieve this goal [39]. After the planned EMBaG failed due to the resistance of the cantons, there is no legal basis in Switzerland for electronic communication between authorities and citizens at the federal level.

## **5 Analysis and Discussion**

This section discusses the results gained from the analysis of the scientific literature and the digital strategies in order to answer the research question: **To what extent are electronic communication aspects of e-government strategies implemented into legal measures in German-speaking countries (DACH)?**

*The following aspects regarding electronic communication can be found in e-government measures of the DACH countries:* While the three countries show a similar administrative service structure and, over the past years, have shown efforts to increasingly improve and further develop their e-government strategies, significant differences can be observed in their formulation of e-government strategies. While the Austrian e-government strategy shows an extensive technical background and more immediate and concrete goals with the establishment of a digital public service communication as standard, Germany pursues a holistic approach with its inclusion of existing laws, digital citizen, respectively business, accounts as well as service digitalisation. Switzerland at the same time focuses on the communication aspect and puts attractiveness for the users at the center of its endeavours. These differences might be founded in the differences between the stakeholders these documents are aimed at as well as their structure. While Switzerland focuses on accessible communication, Austria provides a focus on an overview of its technical and strategic endeavours, and Germany underlines a holistic approach with sector-specific measures. Despite these differences, all three countries show the relevance of electronic communication in technology, practice as well as legislation and hint on (cross-border) identification standards as emerging challenges.

*From a legal perspective* the right for electronic communication is generally already implemented, usually for services on the national level. This is a particular challenge for federal states such as Germany, Austria and Switzerland. Even if legal regulations are introduced at the national level, it is the federal states that conduct the majority of cases involving contact with citizens, and it is therefore the federal states and municipalities where mandatory electronic communication would make the greatest difference. In general, a trend can be observed at the federal level from a legal point of view: Firstly, the authorities are obliged to communicate electronically with each other; secondly, businesses are/could be obliged to participate passively and actively in electronic delivery. The next step, which has not been taken in any of the three selected countries, but very much so in countries such as Norway, would be the obligation of citizens to participate actively and passively in electronic communications with the authorities. In summary, Austria and Germany have taken important legal steps by anchoring electronic communication at the federal level. It remains to be seen how the situation will develop in Switzerland. The involvement of the federal provinces and the municipalities in the obligation to use electronic communications must be further pursued.

*A summary of the analysis shows that* technological aspects of the analysed e-government strategies are already implemented, and the goal of a digital first electronic communication between citizens and the public sector shows itself in the right for digital communication in several nations. This right for electronic communication mainly affects public authorities, while other steps have more immediate consequences for service users. Our research also seems to indicate a relation between strategic focal points and legislation maturity for electronic communication. Austria, with its emphasis on a strong technical foundation has already implemented laws to ensure electronic communication between the public sector and citizens. Germany has an extensive legal foundation for preparing digital communication, but currently develops new strategic measures that surpass former tools, such as De-Mail. Switzerland, however, is still in the process of preparing the legal basis for its user-centric e-government vision.

## 6 Conclusion and Outlook

We examined the implementation of a specific aspect of DACH digital strategies into law, and consequently provided an overview of the legal frameworks for electronic communication between citizens, respectively businesses, and the public sector. Our results show the application of strategic projects in several maturity levels of legislation and we conclude that future strategic and legislative action in this field has to focus on a framework for digital communication, secure and interoperable identification as well as public services on the state level. However, our results are limited to official strategic sources that do not necessarily contain legally binding policy projects. Additionally, we could not include current strategies and legislation that might address the gaps we identified, but is currently still undergoing political evaluation. Another issue that we aimed to address during the coding is the difference in definitions of core e-government and electronic communication concepts in the three countries. While coding and analysis showed common aspects, core principles of differing administrative cultures will influence the implementation of legislation. Future research should add another level of analysis to the observation and connect strategic and/or legal documents with the practical implementation of these factors. A comparison with best practices for electronic legislation, such as Norway or Denmark, might also be possible. On a European level, the focus on the interaction of interoperable frameworks for electronic communication and identification will become increasingly important for the implementation of the Berlin declaration principles.

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