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# Digital transformation: from hierarchy to network-based collaboration? The case of the German "Online Access Act"

**Abstract**
To unlock the full potential of ICT-related public sector innovation and digital transformation, governments must embrace collaborative working structures and leadership, is commonly argued. However, little is known about the dynamics of such collaborations in contexts of hierarchy, silo cultures, and procedural accountability. A widely voiced but empirically insufficiently substantiated claim is that bringing cross-cutting digital endeavours forward requires more lateral, network-based approaches to governance beyond traditional Weberian ideals. We test this claim by shedding light on three distinct challenges (complexity, risk, and power imbalance) encountered when implementing the specific collaborative case of the German Online Access Act (OAA) and by examining how they have been addressed in institutional design and leadership. Our analysis, which combines desk research and semi-structured expert interviews, reveals that flexible, horizontal approaches are on the rise. Taking a closer look, however, vertical coordination continues to serve as complementary means to problem-solving capability.

*Keywords*: Digitalisation, intergovernmental collaboration, Online Access Act, leadership, institutional design

**Zusammenfassung**
*Digitale Transformation: Von Hierarchie zu netzwerkbasierter Zusammenarbeit? Das Onlinezugangsgesetz in Deutschland*
Dass Regierungen kooperative Arbeitsstrukturen und Führungsformen annehmen müssten, ist eine gängige Forderung, um das Potenzial von IKT-bezogener Innovation und digitaler Transformation im öffentlichen Sektor auszuschöpfen. Bislang ist jedoch wenig über die Dynamik solcher Kooperationen unter Rahmenbedingungen bekannt, die durch Hierarchie, Silokulturen und prozedurale Verantwortlichkeit charakterisiert sind. Auch empirisch nicht ausreichend untermauert ist die weit verbreitete Behauptung, die Förderung bereichsübergreifender, digitaler Bestrebungen erfordere laterale, netzwerkbasierte Governance-Ansätze, die über die traditionellen Weber'schen Ideale hinausgehen. Wir prüfen diese Annahme, indem wir drei spezifische Herausforderungen (Komplexität, Risikowahrnehmung und Machtasymmetrien), die bei der Umsetzung des deutschen Onlinezugangsgesetz (OZG) aufgetreten sind, näher beleuchten, und untersuchen, wie diesen mit Maßnahmen des institutionellen Designs und Leadership begegnet wurde. Unsere Analyse kombiniert Literaturrecherchen mit semi-strukturierten Experteninterviews und zeigt, dass flexible, horizontale Ansätze an Relevanz gewinnen. Gleichzeitig wird jedoch deutlich, dass vertikale Koordination weiterhin als komplementäres Mittel zur Problemlösung Anwendung findet.

*Schlagworte*: Digitalisierung, Verwaltungszusammenarbeit, Onlinezugangsgesetz, Führung, institutionelles Design

## 1 Introduction

Digitalisation offers great possibility to improve governmental service delivery by better linking and integrating it towards a need-based holism (Dunleavy, Margetts, Bastow & Tinkler, 2006), however, information and communication technologies (ICT) are not yet being used to their full potential (Weber, 2018). This has been frequently attributed to inadequate coordination, fragmentation, and 'siloization' in bureaucracy (Hustedt & Trein, 2020). Collaboration has been widely viewed as a promising means to effectively address these deficiencies because single organisations can no longer implement new solutions on their own given the speed and scope of digitalisation processes (Ferro & Sorrentino, 2010; Ku, Gil-Garcia, & Zhang, 2016). Bringing together diverse actors is said to leverage innovation and in turn may accelerate digital transformation by increasing cognitive variety (Bommert, 2010), adding potential for collective learning and development (Ansell & Gash, 2007), and enhancing technical capacity through the development of similar standards of operation (Chen & Lee, 2018).

The Online Access Act (*Onlinezugangsgesetz,* hereinafter OAA) has frequently been described as an essential turning point for government digitalisation in Germany, or even as the "largest collaboration effort of German government over the past 20 years" (Punz, 2020). Initiated by the federal government in response to the EU Single Digital Gateway Regulation (SDG) (European Union, 2018), the OAA was approved in August 2017 by both the German Bundestag and the German Bundesrat. The act not only obliges the federal, state, and local governments to provide all their public services online (*digital first*) but also to interlink these services within a joint gateway (*Portalverbund*) by 2022. The act also requires states providing certain services to comply with IT components and standards set by the federal government. In return, the states receive additional funding for the necessary investments at state and local government levels. Because this constitutes a major intervention in the federal system, the OAA was accompanied with the constitutional reform of Art. 91c GG (*Basic Law*, enacted July 2017), which establishes the implementation of OAA as a joint federal and state task (*Gemeinschaftsaufgabe*) (Martini & Wiesner, 2019).

Consequently, the implementation has called for intensive vertical and horizontal collaborative efforts spanning all government levels. This approach is notably ambitious and unique in light of the strongly legalistic, federalist German public administration, which has been characterised by a tradition of "negative coordination", the "joint-decision trap" (Scharpf, 1988), and strong commitment to departmental autonomy *(Ressortprinzip*) (Hustedt & Trein, 2020; NKR, 2018). These institutional factors have resulted in a system aimed at avoiding disturbances and reducing complexity (Scharpf, 1993), while having restricted the German government´s ability to innovate and reform (Hammerschmid & Oprisor, 2016). This has led to a fairly high level of dissatisfaction with the progress of German digitalisation and innovation in public service, the general sluggishness of which is also reflected in Germany's position in international rankings (e.g. DESI; European Commission, 2020). In view of these structural conditions, the cross-cutting nature of the OAA has ascribed great potential for the sustainable transformation of existing coordination mechanisms, as it may require reidentifying vertical and horizontal interdependencies and reorganising workflows in and between different public entities to provide a consistent ('joined-up'), across the board digital approach. It thus necessitates actors to transcend their 'silos' and to form partnerships within and

across organisations (Heuermann, Jürgens, Adelskamp, & Krins, 2018; Luna-Reyes, Gil-Garcia, & Cruz, 2007). However, the very concept of network-based collaboration collides with some cardinal administrative doctrines and traditional bureaucratic coordination (Scharpf, 1993; 2000), which makes the OAA's implementation a particularly complex and challenging endeavour and, for this research purpose, justifies framing it as an extreme case with the potential to deviate from usual practices (Yin, 2014). In this context, this paper seeks to answer the following questions:

How can such a multi-level, network-based collaboration be established in a federal system characterised by strong coordination requirements? What are the associated challenges and what measures can be taken to effectively address them? Can we observe a shift towards more lateral, network-based approaches, or does the OAA's implementation process facilitate more traditional patterns of control?

While recent research has mainly focused on the technical feasibility of the policies designed, less is known about the dynamics involved in developing and implementing new digital policies. As it stands, complex public networks such as those required by the OAA challenge traditional patterns of control, especially when multiple organisations are responsible for successful service delivery. Assigning responsibility, as well as measuring and rewarding good performance, are inherently more difficult in network-based structures than in hierarchical principal-agent structures (Klijn & Koppenjan, 2014). Scholars widely agree that for the successful implementation of cross-boundary projects, the public sector has to move beyond traditional principal-agent structures and instead employ more facilitative and flexible institutional responses. This usually requires new ways of working based on consultation, experimentation, and the strengthening of transparency (Crosby, 't Hart, & Torfing, 2017; Vangen & Huxham, 2003). In contrast to the overtly positive assessment of collaboration as a driver and source of innovation (Sørensen & Torfing, 2011; Torfing, 2019), more traditional public administration and policy theory puts forward a more sceptical picture of collaboration, noting the predominance of phenomena such as negative coordination or 'siloization' in bureaucracy (Mayntz & Scharpf, 1975). Some studies also give reason to believe that ICT-related projects tend to exacerbate ubiquitous government coordination problems and thus serve to strengthen existing organisational patterns of command and control (Cordella & Tempini, 2015; Fountain, 2001). This has led some to question the panacea of collaboration and reiterate the importance of authoritative intervention when managing public networks (Hartley, Sørensen, & Torfing, 2013; Wegrich, 2018). However, solid empirics on proven formal (i. e. structures, procedures, rules) and interpersonal approaches for steering and coordinating ICT-related networks remain scarce. Indeed, while studies on leadership for collaboration are manifold, the scope and impact of leadership in digital environments have been highlighted as a current gap in public administration literature (Roman, Van Wart, Wang, Liu, Kim, & McCarthy, 2018). In addition, research has pointed to the need to better understand the nature and design of digital services at the process level (Mergel, Edelmann, & Haug, 2019).

In this paper, we take up this controversial debate and address this void. We argue that collaboration can be an effective strategy to make a significant contribution to digital transformation, assuming that the appropriate formal and interpersonal public management interventions are taken.

To demonstrate this, we draw on the OAA as an in-depth single case study with analysis based on extensive desk research and six semi-structured expert interviews.

Our analysis particularly takes into consideration the collaborative arrangement driving the OAA's programme implementation, which is primarily led by the Ministry of Interior, Building and Community (BMI) and the Federal IT Cooperation (FITKO), a joint federal and state government IT agency, and the operative arm of the IT Planning Council (IT-PC). The IT-PC is based on a state treaty on IT and, since its establishment in 2010, has acted as the central body responsible for national IT collaboration. The members of the IT-PC consist of the federal government Chief Information Officer (CIO) and one politically appointed representative from each state. Most states have appointed the state secretary[1] responsible for IT as their IT-PC representative. The chair annually rotates between federal and state governments, with the states being represented in alphabetical order. In addition, the Federal Commissioner for Data Protection and Freedom of Information and three representatives of local government sent by the local authorities' national associations may attend the council meetings in an advisory capacity.

Our findings shed light on certain challenges that have arisen throughout the process, and on if and how institutional design and leadership, two impactful components of what Jacob Torfing (2019) calls the 'public management toolbox', have exerted a positive influence on the event of implementation.

We, therefore, make three overarching contributions to the literature. First, our work provides key insights on the complex governance mechanisms of a highly relevant, yet largely unexplored case, which, although situated in the German context, can be considered pertinent to all EU member states. Second, it explores the interlinkages of a major digital reform and the concept of collaboration. Finally, it puts into perspective the debate about how to shape institutional arenas and how the relevant stakeholders can be motivated to actively engage, share knowledge, and provide procedures for which decision-makers can be held accountable (Ansell & Gash, 2007; Torfing, 2019).

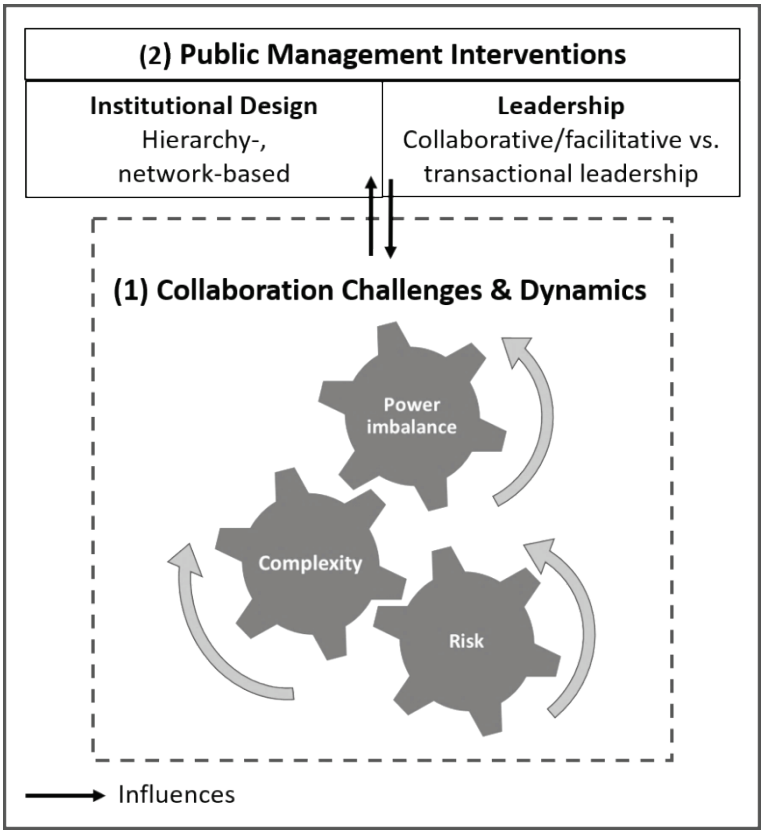
The remainder of the paper is structured as follows: We first introduce our conceptual framework and then outline our approach to data collection and analysis. After presenting our empirical results, we conclude with a discussion and recommendations for future research avenues in this field.

## 2 Theoretical framework

Several scholars cite factors considered relevant for digital project implementation that directly mirror collaborative governance frameworks (Chen & Lee, 2018; Elnaghi, Alshawi, Kamal, & Weerakkody, 2019). Against this backdrop, we derive our conceptual framework and expectations from models of collaborative governance (Ansell & Gash, 2007; Emerson, Nabatchi & Balogh, 2011; Torfing, 2019) and embed it in the particular case of the OAA. Within this scope, this paper studies complexity, risk, and power imbalance as three core challenges of collaborative governance (Ansell & Gash, 2007; Crosby & Bryson, 2010; Klijn & Koppenjan, 2014; Osborne & Brown, 2011), and argues that successful implementation of cross-cutting efforts depends on whether and how the three challenges are addressed through institutional design and leadership (Luna-Reyes & Gil-Garcia, 2011; Torfing, 2019). Since we are also interested in the 'interplay' between different public actors, we complement these approaches by focusing on an intragovernmental perspective (*Figure 1*, see also Breaugh, Hammerschmid,

Rackwitz, & Palaric, 2020; Rackwitz, Hammerschmid, Breaugh, & Palaric, 2020). The following section introduces each variable of interest.

*Figure 1*: Conceptual framework to understand intergovernmental collaboration




*Source*: own elaboration based on Ansell & Gash, 2007; Emerson, Nabatchi, & Balogh, 2011; Torfing, 2019.

## Collaborative challenges and dynamics

Collaboration in our framework is understood as an iterative process in which (1) collaboration challenges and dynamics and (2) public management interventions have a reciprocal effect. Complexity, risk, and power imbalance are intertwined dynamics present in every collaboration effort.

Complexity reflects the dynamics of the system's components and their relationships (Klijn & Koppenjan, 2014). It ultimately does not rise with the amount, but rather with the diversity of actors involved in a project, as this is a factor closely related to a higher level of uncertainty associated with the network (Gil-Garcia, Guler, Pardo, & Burke, 2019). The more heterogeneous the collaboration, the larger the amount of negotiation, and the more difficult it is to anticipate participant behaviour and outcomes (Chen & Lee, 2018). The reasons why complexity increases in collaborative arrange-

ments are various but can often be traced to competing or misaligned frames of references (Greenwood, Raynard, Kodeih, Micelotta, & Lounsbury, 2011; Klijn & Koppenjan, 2014). Complexity within the context of digital projects includes unique problems and repercussions for specific agencies and ministries which may have their own legal frameworks which are at odds with top-down, government-wide ICT initiatives, as well as the complexity of the technology itself (Luna-Reyes, Gil-Garcia, & Cruz, 2007) and its capacity to be adopted (Liu & Zheng, 2018; Mergel, Gong, & Bertot, 2018).

The second dynamic in the model is risk. Engaging in collaborative networks poses substantial risks for public actors who, faced with limited control over the outcomes of collaborative arrangements, may seek to "protect the turf" of their organisation (Hinterleitner, Tomenendal, & Bressem, 2015; Hood, 2002). These risks are multi-faceted and may hinder the process of collaboration, since they lead to a higher degree of uncertainty, and thus may result in even greater risk-aversion especially in public organisations with little risk tolerance. For example, involving different people not only means raising complexity but enhancing the risk that more actors can exploit the innovative process to their advantage (Hartley, Sørensen, & Torfing 2013), often favouring those with greater power per se. The potential for risk dispersion among a group of actors, on the other hand, may spur the collaboration's initiation and prospect (Emerson, Nabatchi, & Balogh, 2011). While this appears to be characteristic of collaborative settings in general, some have noted that the stakes could be even higher within the context of ICT development because of the mix of high initial financial investments, bureaucratic and legal rules of accountability, and high rates of failure (Mergel, 2016; Neumann, Matt, Hitz-Gamper, Schmidthuber, & Stürmer, 2019).

The last dynamic refers to the concept of power imbalances. Power is always a critical factor in complex, cross-sectional efforts, since moving to 'joined-up', integrated solutions ultimately requires the affected agencies/departments to give up certain established power relationships (Elnaghi, Alshawi, Kamal, & Weerakkody, 2019). Power imbalances can result from unequally distributed capacity, infrastructure, (IT) knowledge, skills, and expertise, and fluctuate with the actors' goals, resources, positions, and opportunities (Ansell & Gash, 2007; Choi & Robertson, 2013). This aspect is closely interrelated with risk perception because the weaker might expect a power gain throughout the process of joining forces, while the stronger fears a power loss due to distribution. Power imbalances, however, may not be an issue when working with partners that complement the organisations' own skills and knowledge, especially in the early stages of an ICT-related collaboration project (Picazo-Vela, Gutiérrez-Martínez, Duhamel, Luna, & Luna-Reyes, 2018).

Despite the consensus that complexity, risk, and power imbalances play a pivotal role in collaboration dynamics, the right types of institutional design, coupled with adequate leadership skills have been shown to reduce their detrimental impact. This will be examined in the following section.

## Institutional design

Institutional design reflects established sets of formal and informal rules that structure interactions and seek to align them to the project's purpose (Klijn & Koppenjan, 2014), a role which is critical for establishing project legitimacy (Ansell & Gash, 2007). Hav-

ing ground rules and process legitimacy may help to relieve scepticism and thus risk perception related to equity or power imbalances especially for collaborative projects associated with high degrees of uncertainties (Chen & Lee, 2018; Gil-Garcia, Guler, Pardo, & Burke, 2019). With regards to institutional design, we make the distinction between two 'archetypes', those being either hierarchical (e.g. bureaucracy, rules, and regulations) or network-based (fora for consultation, joint bodies, and transparency) approaches (Ansell & Gash, 2007; Torfing, 2019). In implementation practice, however, we expect to observe a hybridisation, especially concerning different project stages, project sizes, and subsequent structures. For instance, top-down, rules-based approaches can be useful to establish trust early on, but once this trust is established, hierarchical structure can transition to more bottom-up approaches (Eriksson, Andersson, Hellström, Gadolin, & Lifvergren, 2020). Closely related, centralised distributed models involving a 'core agency' may induce power inequalities, but often have been found to be the best way to tackle large scale collaborative efforts that span many realms of responsibilities, as they may reduce costs and complexity due to better direction and goal alignment. By contrast, more equally distributed modes introduce cost-sharing benefits and encourage the pooling of ideas (Kwon, Pardo, & Burke, 2006). These considerations provide the basis for our first expectation.

> Expectation 1: Institutional designs that blend both hierarchy and network structures are best suited to handle the complexity, risk, and power dynamics of digital projects. Moreover, structures that specifically utilise a lead organisation, yet remain participatory, tend to be able to manage these dynamics more effectively.

## Leadership

Scholars have noted that the complexity of collaborative approaches, especially in digital environments may be more suitable to holistic rather than traditional leadership approaches (Mergel, Edelmann, & Haug, 2019; Roman, Van Wart, Wang, Liu, Kim, & McCarthy, 2018). Collaborative leadership emphasises the importance of promoting and enticing active participation and group dynamics (Lasker & Weiss, 2003) by focusing on empowering, building trust, and encouraging 'out-of-the-box thinking' (Ansell & Gash, 2007; Hartley, Sørensen, & Torfing, 2013).

However, despite the rather open and fluid structures available for potential collaborations, public organisations still operate in largely hierarchical structures and accountability remains an important aspect of their work. These environments require leadership skills that are attuned to these conditions, bringing more traditional, so-called transactional forms of leadership into play. Transactional leaders are modelled as 'negotiating agents', enticing followers to comply with rules and regulations to achieve their expected results (Ruggieri & Abbate, 2013). They are usually characterised as goal-setters, who monitor behaviours and resort to reward and sanctions where necessary (Ricard, Klijn, Lewis & Ysa, 2018). When processes are strongly distributed horizontally and vertically within and outside the organisation, the complexity of performing tasks increases, which is further triggered by a lack of clear hierarchical control forms (Klijn & Koppenjan, 2014). This indicates that it is not simply a question of either/or with regards to empirical explorations of leadership but collaborative and transactional are alternative means of problem-solving. We thus do not expect to find a

dichotomy of one leadership type or the other. Rather, we believe leaders to be 'multi-faceted' (Van Wart, 2003) and to employ a 'contingency approach' (Ansell & Gash, 2007), as they adapt their tactics to reflect volatile environments (Fountain, 2001). This, we argue, has made hierarchical intervention complementary rather than obsolete, which leads to our second expectation.

> Expectation 2: Collaborative and transactional leadership skills are complementary approaches which are necessary to address the digital collaboration challenges related to complexity, risk, and power struggles. A key feature of this relationship is the leaders' ability to adapt their tactics to the circumstances, especially given the multi-staged nature of digital collaborative projects.

## 3 Method and data

A single case study design has been selected in order to allow for an intensive study of specific perceptions and behaviours (Yin, 2014) which can be extrapolated to understand similar instances (Gerring, 2007). The rationale for the case selection was to see whether theoretical claims of collaborative governance frameworks can be applied to an extreme case which potentially deviates from usual occurrences (Yin, 2014). The underlying assumption is that "atypical or extreme cases often reveal more information because they activate more actors and more basic mechanisms in the situation studied" (Flyvbjerg, 2006, p. 229). By selecting the specific case of the OAA, we also sought to pinpoint potential peculiarities that arise in the context of innovative collaborative endeavours that pursue the specific aim of accelerating digital government transformation. The OAA is extreme in the sense that it requires an unprecedented cross-cutting approach of intergovernmental collaboration within a highly institutionalised yet fragmented setting. Additionally, the OAA is a case which involves the federal government intervening to an unusually large extent, given the significant degree of autonomy of its member states (see German *Vollzugsföderalismus*).

In conducting this single case study, we have chosen extensive document analysis and expert interviews as methods of inquiry. Desk research enabled us to begin collecting information on the context of the case and the key categories of the theoretical framework. Documents that were assessed included government policy documents, websites, as well as a thorough review of the academic literature.

To complement the document analysis, six semi-structured interviews were conducted. Those interviewed were representatives from the two leading OAA authorities (BMI and IT-PC), government representatives from state and local government levels, and a consultant strongly involved in the implementation of the OAA.

The interviews took place from February to April 2020 and were conducted in German, mostly at the workplace of the interviewees, and lasting on average one hour. All interviews were recorded verbatim and are stored on a secure server of the authors' university. In order to ensure that all relevant variables were covered at least once during the interviews, a structured interview guideline comprised of eleven questions was used. Due to the complexity of the case, the interview guide was based on open-ended questions and refrained from providing narrow definitions and operationalisation. This was essential to obtain objectivity, reduce potential cognitive biases, and avoid an overload of questions. Questions were clustered into the following three parts: introductory (e.g. what do you perceive as the most relevant drivers leading to the estab-

lishment of this collaborative arrangement?), core (e.g. how far did power imbalances between the actors constitute a challenge for the collaboration success?), and 'wrap-up' (e.g. what would you do differently if you could start the collaboration again?). All interview data were analysed and evaluated in a cross-check by two researchers who applied an overarching, uniform framework derived from the literature. This framework included the following categories: contextual information, the primary challenges that evolved during the collaboration process, and the kind of public management interventions enacted to cope with these challenges. These categories were not only used to organise the information according to the theoretical expectations but also to allow for newly emerging themes.

# 4 Results

## 4.1 Challenges

Although the choice of "just do it" as the motto for the OAA was "very untypical for Germany", it was an effective approach to mobilise both stakeholders and government action, according to one interviewee. At the same time, the BMI as the main driver of the OAA was aware of the necessity for collaboration. According to the project coordinator, there was a clear need "to approach this enormous task together based on a division of labour at all government levels. We need[ed] a comprehensive structure focused on collaboration" (Klein, 2018). The federal government CIO also pointed to strong collaboration between all government levels as vital to a successful implementation of the OAA (Vitt, 2019). One of the interviewees described how in his "experience of 20 years as a federal junkie" he has seen that force does not work. He referred to the importance of establishing a consensual approach by "understanding that collaboration will achieve more than using a sledgehammer", which involves an enduring effort "to build up the trust" among the various actors and especially among the states.

### Complexity

Complexity was stated as the crucial challenge to the implementation of the OAA. The scope of the OAA is vast, covering the federal government, 16 states, about 11,000 local governments, and 575 services, and presents a highly demanding task for the generally rather fragmented and decentralised system of German public administration. Interviewees described the OAA as a "mammoth task" and a "marathon" that would not only encompass the entirety of German public administration but also all policy areas and the establishment of new digital infrastructure and architecture. One report by the National Regulatory Control Council (*Normenkontrollrat*, NKR) argued that the 460 state and local government services addressed by the OAA would necessitate approximately 180,000 implementation projects (NKR, 2019a, S. 57). Given the remaining period of less than three years, this amounts to approximately 60,000 implementations per year.

The fragmented German landscape was also reflected in the many different state IT providers (albeit not all were involved in the OAA architecture) and numerous state

agencies (FITKO, ITZ Bund, and a newly established e-government agency) which led to inadequate implementation capacities (NKR, 2018). The implementation also suffered from insufficient staffing. Attempts to tackle this deficit were again hampered by complexity due to the rather lengthy and ineffective recruitment and personnel procedures, which in turn had a negative effect on attracting the involvement of IT experts necessary for the project's success (NKR, 2018). In this regard, a joint capacity development program would have been beneficial for reducing complexity, as one interviewee noted.

While the complexity owed itself to the large number of heterogenous actors and services at different government levels, the interviewees also noticed a very high level of complexity with regards to the technical infrastructure. Due to the diversity of the already existing functions, this was viewed less as technical complexity and more as "political complexity" closely related to imbalanced power positions. Argumentation was often dominated by state-specific perspectives, making it "difficult to reach a joint commitment." This was the case regarding the development of the joint portal, which some interviewees described as the "biggest conflict field" of the OAA's implementation. Whereas the federal government favoured a unified portal, the states pushed for a more decentralised solution which allowed them to keep their existing portals.

In addition, the OAA called for a radical departure from a fairly well-established system of negative coordination. The difficulty of achieving horizontal coordination within the federal government was visible in the IT-PC (*IT Planungsrat*), which, together with the BMI, is formally responsible for coordinating public administration reform and digitalisation at the federal government level. According to our interviews, the self-interest of individual states and the federal government often dominated, and it was still difficult to consider the OAA as a collaborative effort. The principle of consensus practiced in the IT-PC led to "rotten compromises" since certain topics such as shared portal or service accounts tended to be "discussed endlessly and mutually blocked" in favour of individual states' self-interests. The NKR also criticised that "traditional reflexes and defensive attitudes can be observed frequently" and were considerably "time-consuming and annoying" (NKR, 2019b, S. 10). A lack of clear responsibilities further added to the complexity. One unforeseen issue was that the OAA, unlike other laws, managed responsibility with the principle "everybody supports everybody, and nobody will do it himself." However, this approach had the consequence that, especially in the early phases, nobody felt responsible, and "everybody always pointed to the other." According to one interviewee, it was thus necessary to first increase identification with the project and clarify interdependencies, i. e. "to bring the OAA into their heads. OAA belongs to all of us instead of somebody else." This multilevel complexity, compounded with a deeply legalistic tradition and the lack of an existing general collaboration culture resulted in the project becoming slow and cumbersome, compared to the early projections for the project.

## Risks

According to the interviewees, the several existing risks were less prevalent than the challenges related to complexity and power. With regard to their digitalisation efforts, the interviewees referred in particular to "commitment risks". The rather hesitant

commitment of states to collaborate stemmed from the "risk of sunken investments and the fear of having to discontinue already developed solutions or pet projects."

There was a high risk of uncertainty associated with the project, primarily in dealing with the issue of "reuse", or in other words how to ensure that solutions developed by one actor could be taken up by other states and local governments. This has had significant financial implications and has been further fuelled by the lack of adequate federal e-government architecture to support the reusability and combinability of solutions (NKR, 2019a, p. 57). The initial implementation phase was also characterised by a rather high scepticism among the states because the OAA had been pushed by the federal government and its accelerated legislation had not allowed the states much involvement and preparation. This lack of initial information and transparency increased uncertainty among the states and with it the perceived risk of losing control over processes and outcomes. The prevalent tendency towards risk aversion, however, was understood as an inherent characteristic of German public administration, which was described by one interviewee as written in the "DNA of public administration." Without fundamentally changing risk perception, demands for a new "error culture" were therefore seen as theoretical rather than practical.

## Power imbalances

Power imbalance was a key obstacle throughout the OAA's development, for which the interviewees indicated three different, fluctuating causes. The first related to the fairly strong position of the BMI as opposed to others in the collaboration, which was a result of its leadership role at the federal level, a substantial budget, and broad support from consultants. According to the interviewees, this had a significant impact on the implementation dynamics and often led to a certain degree of mobilisation towards ideas specifically supported by the BMI. However, this rather negative perception changed over time, and the BMI was increasingly found to be supportive in times of rising pressure.

A second aspect was the high degree of heterogeneity between the states with regard to size, budgetary strength, digitalisation progress, and operational capacity in the form of their existing IT providers. The three largest and most powerful federal states of Baden-Württemberg, North Rhine-Westphalia, and Bavaria were particularly less inclined to collaborate in the earlier implementation phase (NKR, 2018). Other states with less power and resources, which were thus more aware of their dependencies, tended to collaborate more. The general dynamic benefited greatly as all the states became more willing to work together and to take the lead in thematic areas.

Finally, there was a distinct power imbalance at the municipal level regarding representation and resources. The OAA only addresses federal and state governments, which has sparked considerable debate whether local governments are legally bound to implement the OAA. The significantly weaker position of local government is also reflected in the structure of the IT-PC, in which they only have an advisory role. This has been a distinct obstacle to successful implementation, as the majority of German public service provision takes place at the local level. One interviewee argued that, while states often have a sense of self-awareness that enables them to act independently, local governments tend to appreciate central coordination and support, an approach more in

line with the federal rather than state perspective. In addition, unequal resource distributions at the local level meant that large cities had significantly higher personnel and financial capacities to steer the OAA's implementation.

## 4.2 Public management interventions: Institutional design and leadership, and their effectiveness

The implementation of the OAA required a critical mixture of formal coordination, and pragmatic decision-making (NKR, 2018). However, the interviewees indicated that success was dependent on committed individuals practicing appropriate leadership styles, while significant efforts aimed at creating the necessary structures for overcoming the challenges during the collaboration.

> "You first always try to find organisational answers, but they do not exist… In my experience, the more you work with structures, the more you realise that it does not work. But of course, you must have them."

To address the complexity, the OAA's diverse tasks were organised and split into 14 thematic fields to enable manageable packages and an effective division of labour. The responsibility for each thematic field was jointly taken up by one federal ministry and at least one federal state on a voluntary basis. With the help and integration of other states and local governments, they worked to digitalise all public services within the designated field and provided the results to all other governments. For the development of digital services, the BMI organised a series of "digital labs" (*Digitalisierungslabore*). These digital labs followed the principles of user orientation and interdisciplinarity and brought together administration experts, designers, and users to develop ideas, prototypes, and implementation concepts. Although these laboratories have created a forum in which different federal levels may converse, the most critical areas are not yet being adequately considered and addressed, according to one interviewee. For example, one of the most relevant issues that needs to be further discussed in an open collaborative format is the necessary legal implementation frameworks. Current legislation has to be partially adapted, otherwise, the existing legal situation may restrict or even halt the collaboration and implementation of individual projects, and the innovative ideas originating from the digital laboratories will be ultimately undermined.

Regarding modifications and operations, there was a fairly strong consensus among interviewees that it required determined action utilising a combination of central control and decentralised implementation. In particular, the logic of the thematic fields was aimed at "distributing manageable packages on many shoulders", while establishing structures that could simultaneously bring all parties together and create steering and monitoring mechanisms to ensure oversight and avoid duplication. Some of these thematic fields were, however, distributed in such a way that no intensive horizontal cooperation was required. Breaking down longer-term goals into actionable measures and determining small wins also helped to alleviate some of the ambiguity and complexity by showing incremental progress. Another mechanism employed to deal with the complexity and related conflicts was to postpone certain projects, such as the joint portal and some less relevant public services.

A clear example of risk related to loss of power and, particularly, the threat of forced transfer of power from one ministry to another in the modernisation process. In

this regard, a "kind of shuttle diplomacy" was crucial to recognise and bring together the – often hidden – concerns of relevant actors, sometimes with the help of others such as the Federal Chancellery. Understanding these constellations of interests first proved time-consuming but was ultimately necessary to develop sustainable solutions. According to one interviewee, communication and transparency were essential in order to engage those involved with the risk of failure and "enliven the principle of the division of labour and rely on others".

The risk of failure was further inherent in the open implementation structure of the OAA. Instead of being discouraged by this highly uncertain endeavour, the NKR advocated for instilling an explorative and less risk-averse mindset. They encouraged all actors to avoid both duplication of work and stagnation due to waiting for a perfect plan, and instead organise and support collaboration and synergies aiming at high implementation speed and quality (NKR, 2018).

The implementation via thematic fields and digital laboratories was documented in a continually updated "digitalisation guide" intended to standardise the procedure and provide a frame of reference for all participating parties. Further measures included providing working materials to all staff involved and learning through cross-project exchanges, an approach which assisted in reducing complexity and risk perception by enabling joint sense-making, trust-building, and clearer interdependencies. In addition, as recognised by one interviewee, "digitalisation only with IT and without topical field experts does not work", and project leaders have worked to invite external expertise to the laboratories to enhance cognitive variety and avoid inertia.

The IT-PC, together with its operational arm, FITKO, and the BMI, aimed to structure the overall project, ensure its progress, and establish a monitoring and reporting system. However, its function as a central and "extremely formal" decision-making body also acted as a counterpart to the "new spirit of collaboration" found in the rather informal work of the digital laboratories and thematic fields. While the IT-PC was originally planned as a rather open and agile entity leaving leeway for those invited to join, it eventually developed into an extremely dense administrative system over time. This deviation may reflect the rigidity and prevalence of the established institutional structures, wherefore the NKR described it as a necessary task of political leadership to shape a "positive joint narrative (…) which shows the opportunities coming with increased collaboration" (NKR, 2019b, S. 10). However, the fact that initial implementation experience evoked these particular formal structures may also show their relevance for the maintenance of the OAA's dynamic system.

Interestingly enough, power was vertically distributed within the IT-PC, as it was less the political and heterogenous official IT-PC than the subordinated Secretary-General meeting with its highly committed and strong personalities that proved essential for driving implementation. In this subordinated body, due to the comparatively high level of personal continuity and consensual approach, trust could be built, which reduced the perceived risk of unexpected strategic turns by the partners to their advantage.

In addition, transparency was deemed important for internal as well as external communication, both of which proved relevant for reducing the risk of the project's legitimacy declining within and outside the organisation. Monitoring the implementation process, for instance, was based on the principle of including a broad group of multiple actors, and interim results were not only documented but also made available online to

the general public, a relatively unusual approach for the German public administration. Presenting the project's process in a uniform and transparent manner also helped to counteract contested information and reduce complexity.

Effectiveness was highly dependent on interpersonal tactics. The interviewees widely agreed that formal structures were necessary to "make new ideas mainstream". However, given the strong procedural logic, high formalisation, and regulatory density of the German public administration, particular leadership skills associated with "visionaries" or "offenders by conviction" were described as pivotal to its success for such a risky, innovative endeavour with high uncertainties. Leaders were described as having to fulfil both enabler and trust-building roles in tandem with setting milestones and goals to provide direction. According to the interviewees, particularly in cases of tension and conflict, these competencies must be applied in informal communication networks rather than in formal committee structures (*Gremienstrukturen*).

> "Care about others, provide a feeling of being taken seriously, safeguard interests, and bring advantage (…). You have to prove this, and then the process speeds up and they come out of their shells. With force and political attention, this is also possible but much less sustainable."

Although force was regarded as detrimental to the process of trust-building and of mitigating risk perception, decisive action by single leaders was seen as crucial, in particular, regarding the inclusiveness of the collaborative arrangement. To avoid stagnation, powerful leadership was responsible for careful personnel changes, which involved removing individuals blocking major developments, and attracting individuals less entrenched in the administrative system.

## 5 Discussion and conclusion

Sparked by high dissatisfaction with the progress of digitalisation and public service innovation, and the deteriorating position of Germany in international rankings, the OAA triggered an implementation dynamic very different from those observed over the last decade. The requirement to digitalise all public services and systematically build the necessary digital infrastructure at all government levels within five years represents a unique approach not yet attempted by any other European country. Despite their legal mandate, the two key coordinating bodies IT-PC and BMI faced substantial challenges regarding complexity due to heterogeneity, "commitment risks", and power imbalances. Inequalities further resulted from the higher power of those mandated to monitor the implementation as well as disparate capacities. It inevitably became clear how collaboration challenges in large-scale projects are interrelated, underscoring the importance of cost-benefit considerations when facing barriers to implementation. Trying to address one challenge through targeted measures may exacerbate another, and the management difficulty ultimately lies in striking a balance. It can be the case, for instance, that risks and power inequalities are reduced by distributing tasks "over several [different] shoulders", which, at the same time adds to institutional complexity and vice versa.

This paper has shed light on how the project has dealt with these issues through the use of careful institutional design and leadership. In fact, it revealed parallels between digital governance and collaborative public management literature, especially in signal-

ling the relevance of interpersonal skills over structure in handling ICT implementation. Yet, our analysis still leaves the question to consider whether these targeted and evidently impactful measures have relied on facilitative tactics with a tendency towards network-based approaches or on transactional means and/or traditional patterns of control?

Providing strong support for expectation 1, our analysis revealed that establishing a central coordinating partner while maintaining participatory practices at the working level, was an important way of balancing both the need for clear accountability measures while also supporting the flexibility of more collaborative forms of project management.

The examined case utilised both horizontal and vertical collaborative management approaches, and thus there was no overarching shift towards more lateral types of leading and organising digital service transformation. Rather, the actors involved in the OAA's implementation appeared to be inclined to use more vertical measures for the overall strategy/coordination and horizontal types for operations/implementation, whereas horizontal exchange was practiced rather on the working level within or across government departments.

Leadership played an important role in shaping developments. Individuals were described as pivotal for collaboration. A slight shift has already been observed towards a more collaborative leadership style, while it is still more an exception than the rule, which emphasises the importance of communication and the 'collaborative advantage' vis-á-vis sceptical partners, trust, and enabling rather than directing. However, transactional elements of leadership continue to occur. This can be largely attributed to existing bureaucratic structures, although transactional leadership measures were also recognised by interviewees as complementary means to problem-solving when approaches of consensus had yielded less optimal outcomes in the short run – an observation which constitutes solid evidence for expectation 2. In balancing both collaborative and transactional leadership styles, leaders needed to effectively mimic the hybridity of collaborative structures within government.

Despite showing clear similarities with expectations found in the collaborative governance literature, the case evolved in its unique way. This indicates that the stakes in a joint digitalisation project could be even higher than in other collaborative management settings, due to the comparatively unknown scope and impact, its pressing nature, and the fact that digitalisation affects all areas of government. Moreover, it reiterates the importance of system context as an additional, crucial factor with respect to digitalisation projects. Coming from a rather legalistic state, the OAA revealed some delegation of authority with a strong and intervening central decision-making body, a structure that did not lend itself well to more balanced, distributed modes of collaboration. While this may have helped to cope with the hurdles associated with large-scale, complex projects, it also calls into question the actual extent of intergovernmental network-based collaboration in the sense of established collaborative governance frameworks. However, as the analysis suggests, there can be different rationalities of action depending on the project's phase and maturity, which also links to the iterative nature of the collaborative dynamics and to previous literature (e. g. Ansell & Gash, 2007; Eriksson, Andersson, Hellström, Gadolin, & Lifvergren, 2020). Accordingly, challenges to collaboration may occur periodically, each requiring certain public management interventions at a time. Future studies could pursue this sequential approach to analys-

ing joint digitalisation efforts more closely and place findings in a comparative context to detect potential cross-case patterns, for instance in relation to past government projects or to a country with a unitary state structure. This would allow for an increased generalisability of our findings but goes beyond the intent of this paper.

Bearing in mind that the OAA is still in early stages of implementation, our analysis has made clear that a central, legitimate coordinator is essential to deal with the complexity of multi-level, top-down initiated digital endeavours. In keeping the existing organisational structure, the coordinator resorted to vertical measures in this case, although alternative motives initially existed, such as the proposed open and agile format of the IT-PC. This does not necessarily signal a step backwards but underscores that synergies between steering approaches can be expected, making hierarchy complementary rather than obsolete. The smaller, less formal arenas are suited to test lateral approaches (in this particular case the thematic areas, digital labs, and the Secretary-General meetings). In these contexts, the relevance of trust to achieve the necessary 'cultural shift' towards collaborative and digital approaches was repeatedly emphasised by interviewees. Building trust and a cycle of trial and error require both time and adequate personnel and financial continuity. While this may also be true for less extreme settings, an analysis of the OAA reveals a particular case which exposes the German government's limits, but also its capability to change. Given the additional resources from a new stimulus package, rising demand for online services due to Covid-19, and the joint commitment to carefully governed collaboration, the potential for digitalisation and its impact on systematic transformation within the German context are far from being exhausted.

## Note

1 A civil service function second only to the minister of a state or federal ministry.

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