Chapter 15
The Challenges of Digitalization for the (German) State

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Introduction

A public discussion of the opportunities and risks of digitalization is mostly concerned with technical, economic or social aspects. The area of "governance" (i.e., political control) is largely ignored by the public. But the political control of digital transformation is a central issue, not only for politics and administration, but also for society. It is highly relevant how the transformation process of digitalization is accompanied and controlled by the state. It is becoming increasingly clear that the digital space must not develop into a "legal vacuum" and that states must adapt to the "way of thinking" of digitalization within the framework of their legislation. Looking at the political decision-making process, however, we get the impression that the state and public administration can no longer fully implement their own requirements for shaping and controlling policy in the course of increasing digitalization (Schallbruch 2018).

The complex network of responsibilities on the political levels (federal, state and local authorities) within Germany is developing into the driving force behind a growing inability to act politically. In addition to vertical and horizontal responsibilities, the lack of technical and process knowledge with regard to digitalization deprives the state of its "strength to act" and presents new challenges for legislation and creative powers (Schallbruch 2018).

In this article, examples of the fundamental challenges of the transformation process are presented, and selected practical approaches are outlined.

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The Challenges of a Complex Distribution of Responsibilities

German industry, as the "workbench of the world" (Martini et al. 2016), is already in a good position for the digital transformation process thanks to excellently trained experts and the cooperation with universities, technical colleges and research institutes that is taking place on various levels (ibid.). Citizens are also taking advantage of the opportunities offered by digitalization. More and more areas of daily life—such as shopping, the use of financial services or travel planning (hotel and flight bookings, arrival and departure)—are being optimized using software and apps. However, current insights regarding public administration paint a different picture: The conversion of internal administrative processes and work structures, as well as outward-directed citizen services, have fallen short of our own expectations. Taking the European Commission's Digital Index as a benchmark, Germany ranked 14th out of 28 last year, but only 21st for government services (European Commission 2018).

One obstacle seems to be the structure of German bureaucracy. In Germany, the tasks involved in digitalization are not coordinated by a central authority; rather, several state institutions are working on leading the country into the digital age. At the federal level alone, several ministries are working on designing a concept for digitalization. Digitalization is conceived and carried out in the respective area of responsibility of a department. The same is happening at the state level. There is a department dealing with digitalization in the Ministry of Transport in Baden-Württemberg, and also in the state's Ministry of Economics and the Ministry of the Interior.

In addition, there is a State Minister for Digitalization in the Chancellor's Office, as well as various federal authorities, such as the Federal Office for Information Security. At the state level, there are 16 state governments, each pursuing their own strategies. This shows that German federalism also diversifies responsibilities in the area of digitalization. At first glance, this seems to be a sensible division, since digitalization affects all areas of life and, thus, in keeping with federalism, regional interests are given weight. A closer look, however, reveals a patchwork approach that reduces efficiency.

For example, the responsibility of the Integrated Traffic Control Centre (IVLZ)—a joint control center of the city of Stuttgart, the Stuttgarter Straßenbahn AG (SSB), the fire department and the police—ends at the city limits. Measuring facilities in the superordinate non-municipal road network are maintained by the Road Traffic Control Center (SVZ) of Baden-Württemberg. The automatic exchange of measurement data is not always possible, even though a lot has happened in the recent past. If there is a larger volume of traffic in the surrounding area, which is moving toward the city of Stuttgart, the intervention in road traffic can usually only take place when the traffic is already jammed on inner-city roads (expert discussion with IVLZ in 2018).

The different responsibilities and the lack of coordination mean that the tools provided by digitalization are not used consistently. A comprehensive exchange of

information does not take place in many areas—essentially, many political institutions only act within their respective field of work. For this reason, so-called pilot and model projects are being funded at various points, without the findings of these projects having been consolidated nationwide. Instead, it may happen that different actors promote and implement similar projects.

As a result, it becomes clear that the existing structures fall short of the opportunities of networked and, thus, efficient working. But this is precisely what is needed to understand and positively exploit the changes associated with digitalization.

Challenges for Legislation and the Creative Power of the State

At this time, digitalization is clearly a challenge for the state. Some authors, such as Schallbruch (2018), even go so far as to speak of excessive demands. Digitalization and the associated transformation of society and the economy are questioning the way in which society as a whole and all actors involved (civil society, economy and science) are controlled and organized.

Up to now, state action has followed a recurring pattern. In short, there is a social problem at the beginning of every state action. Particular interests and state interests are being balanced, and then a bill is proposed. This proposed bill is then questioned, revised and ratified. If the challenges continue after the law has been passed, or new problems arise, the process starts again. The opinion-forming and weighing process that takes place takes time. It can take years from legislative initiative to adoption.

The rapid emergence of new innovations and technical possibilities in the context of digitalization poses a major challenge to the political decision-making process to date. Solutions to a social problem must be found much faster, and political decision-makers must respond more flexibly to technical innovations. Digital structures are subject to permanent change and often no longer correspond to the original object of regulation until a new law or regulation is implemented. In Germany, the process is currently often slowed down by a culture of risk minimization that prevails within the administration. Avoiding risks is in itself nothing that the actors can be criticized for. In the context of the fast pace of economic and technical development, however, it becomes apparent that the administration loses important flexibility.

An example from the field of platform economy reveals how important it is that the state understands the social relevance of emerging digital applications and responds appropriately to them. The original idea of Airbnb was to provide temporarily unused private rooms to people who wanted to spend their holidays in direct contact with locals. However, an alternative business model developed relatively quickly. Increasingly, entire apartments are being rented out permanently to holiday guests and withdrawn from the regular housing market. Especially in popular tourist destinations, this leads to further pressure on the housing market. The local authorities have been powerless for a long time and have only recently begun to look for solutions to make

the "holiday homes" accessible to the housing market again. This example clearly shows that state actors have not recognized—or at least underestimated—the social relevance of "rental platforms" for a long time. As a result, they responded rather late to the housing market situation in many places.

The fact that the state has not yet completely lost its ability to act with regard to digital platforms is exemplified by the travel service provider Uber. The driving service (UberPop) offered by the American company Uber has managed to change the taxi business in many countries within a short time. In Germany, this service was available in Berlin, Hamburg, Munich and Frankfurt am Main, among others. Unlike conventional taxi companies, which are subject to many government requirements, Uber waived these requirements. Uber requires a driver's license and information about the score at the Federal Motor Transport Authority (KBA) as proof of suitability. Calibrated odometers (taximeters) do not exist, and the medical health of the drivers (e.g., eyesight test) is not checked either. Because of these irregularities and the protests of licensed taxi operators, the government felt it had a responsibility to act as quickly as possible. Uber's offer was declared unlawful and was then prohibited (Linke 2015). From a state perspective, the protection of service providers and passengers had to be maintained. In addition, examples such as Airbnb and Uber show, however, that many innovations are created in the context of digitalization, and demands from citizens (e.g., for cheap holiday apartments, cheap taxi rides) can be met. The extent to which the state should make more active use of such innovations for itself is only raised here as a further-reaching question.

State regulations are generally based on sanctions for non-compliance (Stemmer 2016). In the real (analogue) world, the state can enforce compliance with standards and laws through its administrative authorities on the federal, state and local level and the subordinate enforcement bodies (e.g., public prosecutor's office, police or revenue office). It becomes apparent that the political decision-making process and democratic institutions in the digital space are increasingly reaching their limits in this area. In the virtual (digital) world, laws are more difficult to enforce and abuse and violations more difficult to sanction (Schallbruch 2018). For example, the identification of individual persons is difficult (keyword: Real name regulation).

State control also fails because services are globally oriented and are often hosted on non-European servers and databases. This is particularly obvious in the de facto monopoly position of individual—mainly U.S.—economic players (Google, Facebook, Amazon, Apple and Microsoft). The digital platforms and their services are located on U.S.-American servers and are, therefore, initially subject to U.S.-American law and are thus protected from interference by the German state.

The German state is increasingly realizing that different actors in the digital space are evading its control and sanction capacity more and more. For this reason, it has passed the Network Enforcement Act (NetzDG). In this context, however, we have to ask: to what extent can the state reaffirm its power through the new law?

Basically, the aim of the NetzDG is that no agitation or unconstitutional statements may be spread on social networks. The NetzDG is intended to help enforce a kind of jurisdiction on digital platforms, such as Facebook or Twitter. In fact, however, the state does not "enforce its own democratically legitimized right on the platforms,

rather it accepts the normative power of these platforms" (Schallbruch 2018). The state is thus relinquishing power and responsibility to companies and disempowering itself. Schallbruch (2018) calls this phenomenon "digital enforcement deficit". The state no longer plays the role of an acting protagonist; rather, it relies on companies to enforce existing laws.

A further example of a decline in the creative power of the state can be seen in traffic control and traffic diversion in the event of a breakdown. Before the advent of digital navigation systems, government agencies—such as the Road Traffic Control Center Baden-Württemberg (SVZ-BW) or the Integrated Traffic Control Center (IVLZ) of the city of Stuttgart—were solely responsible for controlling traffic. If a malfunction occurs, the responsible authorities weigh the individual interests of residents against state control interests and then set up a diversion. Restricted areas or residential areas are excluded in most cases. So-called "back ways" are thus only used by locals.

Digital traffic platforms, on the other hand, focus on a route optimized for each individual case. If the road traffic regulations permit using a certain road, the navigation system will recommend using this route, disregarding the interests of local residents. While state actors, for example, take into consideration the impact of a traffic backlog on the higher-level road network (federal and state roads) and leave out the catchment areas of kindergartens, private providers such as Google (Google Maps) or Apple (Apple Maps) do not take such social concerns into account. In this context, the question arises as to whether the state is already losing its regulatory power, and whether private-sector companies are abolishing previously applicable "standards".

This is confirmed in a study by the Institute for Transportation Studies (ITS) at UC Berkeley. It turned out that private navigation services behave "selfishly". They always suggest the fastest route for each individual user. If only 20% of motorists follow a route proposed by private navigation service providers, this leads to congestion problems on the downstream road network, as a model calculation on American roads has shown (Madrigal 2018). In Germany, too, people are increasingly following the on-board units or smartphone recommendations, thus causing congestion in the downstream road network (expert discussion with IVLZ Stuttgart in 2018).

It is evident that digitalization poses far-reaching challenges, especially for legislation and the creative power of the state. Political actors must become aware of these challenges to make sure their actions will be part of the current change.

Selected Approaches

As already outlined above, due to the large number of political actors involved in the field of digitalization, an overall cross-departmental strategy is not yet discernible in many places. Instead, individual projects and model projects determine day-to-day business. A unique project-based approach will rarely exploit the potential of digital transformation (Wegener et al. 2016).

This must be overcome. Stemmer (2016) points out, for example, that the first important step is to establish a comprehensive, systematic and strategic IT control within the public administration. State digitalization strategies, IT summits and the digital agendas of the federal government point in the right direction; however, "in their current form they are not yet sufficient to really do justice to the importance of digitalization" (Stemmer 2016).

Initial examples in the administration show that networked and comprehensive action is gaining in importance. For example, the green-black state government of Baden-Württemberg has adopted a comprehensive digitalization strategy (digital@bw) and anchored it in the coalition agreement. An interministerial working group—led by the Ministries of the Interior, Digitalization and Migration—has been set up to ensure that the transformation of society as a whole is a success. Regular meetings and data exchange strengthen cooperation between the individual ministries.

Literature also suggests that politicians and administrators should reconsider the promotion of individual pilot and model projects, many of which are technology-based. This does not mean abandoning pilot or so-called lighthouse projects altogether. New technologies must be tested in a lab-like environment, as this is the only way to identify possible risks at an early stage. However, it is no longer appropriate to initiate one pilot project after the other without rolling out the results nationwide or state-wide. Moreover, it is important to think in a networked way.

Focusing on model projects carries the risk of losing oneself in the small scale. According to Wegener et al. (2016), the goal is for the state to focus on developing overall societal frameworks and norms within which economic innovation and social development are possible. Political goals and agile iterative procedures in administration replace static and linear planning (Wegener et al. 2016).

This cultural shift to evidence-based and impact-oriented management requires more digitalization professionals who not only can implement IT processes, but also understand how digital business models work. It is not enough for individual units or official units to control digitalization. Since the transformation is comprehensive, all units must also understand how decisions affect society and administration internally (Schallbruch 2018; Stemmer 2016; Wegener et al. 2016).

In addition, it is proposed that a certain willingness to take risks and to tolerate errors be developed within the administration and the policy in order to promote speed and efficiency. Up to now, the administration has acted in such a way that errors are systematically excluded. However, the proposal does not aim to ignore all risks and make ill-considered decisions. Schallbruch (2018) instead means that risks should be weighed appropriately, but not every contingency should be excluded.

It is becoming increasingly clear that digital processes are characterized by a high degree of complexity and require sound technical and process knowledge. It's precisely these requirements that the political system must adapt to. Within individual digital structures, there are significant interactions and dependencies, which must also be taken into account in legislation.

In contrast to the hierarchically structured control of a state, with its top-down decision-making structures and "departmental thinking", so-called "digital governance" must make use of soft systems methodology and network-like processes. Possible forms of action include bottom-up decision-making structures, open government and public private partnerships. New ways of describing rules and standards must also be found, particularly in the digitalization debate and the associated "finding of roles" for the state. With regard to politics and administration, this means, according to Stemmer (2016), a digital transformation of the system in which the state must maximize the "value contribution" of digital technologies, structures and processes throughout society while, at the same time, keeping the associated risks at bay.

Summary and Outlook

We have tried to show that digital transformation poses great challenges for politics and administration, because established structures repeatedly reach their limits. These challenges include the complex distribution of responsibilities between the political actors. For the legislation and the creative power of the state, in particular, it becomes more and more relevant to understand the changes that are triggered by digitalization and to use them for themselves.

The "digital world" is characterized by rapid change and networked structures. For the state to make future decisions in line with technological developments, rather than being overtaken by them, politicians and administrators need to understand how digital network societies work. The resulting logic of action must then be transferred to the public sector and its working methods. It is important that political actors also comprehend and understand digitalization, so that an effective state can set the guidelines within which social change takes place. In this context, it is essential that comprehensive governance of digitalization is established.

If such a reorientation in the field of digitalization is consistently pursued, the further question can even be posed as to whether a German solution is still the right regulatory framework at all. Digitalization is not a phenomenon that occurs within national borders and can be regulated by national governments. Rather, it is a global development that also requires global or, in the first step, at least European solutions. At the present time, however, it seems more appropriate to initially implement a governance of digitalization on a national level, so that supranational networking can then be pursued.

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