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Competences for the application of work practices and methods of the OZG digital laboratories

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Competences for the application of work practices and methods of the OZG digital laboratories

Brief summary

As accompanying research for the “eGovernment Campus” project, funded by the German IT Planning Council, we analyzed which methods and work practices are used in digital laboratories and derived which competences are necessary for the digital transformation of the public sector.

We conducted interviews with 24 experts based on their involvement in the digital laboratories between November 2020 and February 2021. Then, we analyzed the available interview data based on a theoretical start list derived, among others, from findings of the "Qualifica Digitalis" project which was also funded by the IT Planning Council. Using the empirical evidence from the OZG digital laboratories, we show which new work practices and methods are adopted and relate these to the necessary competences public administrators need to perform these from a research perspective.

First, we describe the theoretical and practical context of our study. Then, we describe our results. Particularly, we derived two types of competences from the expert interviews: 1) technology-related competences and 2) overarching competences not directly linked to technology. Our results show that the competences needed for the digital transformation of the public sector go beyond technical competences: in particular, cross-cutting competences are of high importance for the transformation process.

Context

The digitization of administrative processes and public services in Germany is embedded in a comprehensive reform process (Mergel, 2021). Prescribed in the Online Access Act (OZG), the German administration has committed to digitizing a total of 575 analog processes and services by the end of 2022. Due to their thematic range, the services are divided into 14 thematic areas covering life phases of citizens such as health and education, each of which is managed by a tandem consisting of ministries at the federal level together with ministries at the state level (Bundesländer). Particularly important services are then developed in 50 “digital laboratories” (Fleischer & Carstens, 2021). The labs are characterized by an agile approach – here, multidisciplinary teams develop digital solutions iteratively. In addition, the involvement of users ensures that their needs are at the center of the developed services (BMI, 2019).

Governments around the world are setting up laboratories of this kind with different motives. One of the common reasons relates to the development of digital services for citizens. In general, labs are located outside the formal institutional boundaries, yet financed by the government (Timeus & Gascó, 2018). They serve as experimental spaces in which new work practices and methods are tested with the aim of later incorporating them into the routines of public administrations (Tönurist et al., 2017). Against this background, certain principles of public administrations, such as hierarchy and fixed responsibilities, are at odds with lab environments, for example, when agile work practices that center teamwork instead of formal hierarchy are adopted.

In the literature, there exist several categorizations and classifications of competences for public servants in the digital age. Research differs between digital adaptivity, digital fluency and digital competences. Whereas digital adaptivity and digital fluency are closely related to the use of technology (Briggs & MaKiCe, 2012), digital competences include cross-cutting competences such as attitudes and entrepreneurial skills (Distel et al., 2019).

The digital transformation of the public sector in Germany is progressing with the implementation of the Online Access Act (OZG). In this context, publicly funded projects aim to define and strengthen the digital competences of public staff (Schmeling & Bruns, 2020) (for example, eGov-Campus, KommunalCampus based at the Rhine-Neckar metropolitan region, digital academies of the German federal and state governments).

In the digital laboratories, 575 citizen services are transformed from their analog versions into digital processes. To do so, they apply new work practices and methods that have not been part of the standard toolbox of public administration before. The question therefore arises as to which competences are required for the application of the new work practices and methods and more precisely, for the digital transformation of the public sector.

Methodology

To answer this question, we have chosen a qualitative research approach. We conducted interviews with 24 experts (22 government officials, 2 consultants) based on their involvement in the laboratories, covering 13 (out of 14) life phases of citizens. The interviewees represented a wide range of professional backgrounds within government as well as perspectives related to the digital laboratories. The interviews were transcribed and then analyzed using a two-stage coding process (Saldaña, 2016). We first considered the list of competences developed by Qualifica Digitalis and the German Qualifications Framework (DQR) as part of the theoretical coding list and then inductively identified further competences from our interview data.

Results

Work practices and methods

The 50 digital laboratories are designed to work agilely and iteratively. Hence, the teams should be as interdisciplinary as possible (BMI, 2019). The workshops conducted in the context of the labs, e.g., design thinking workshops, were structured and moderated by external service providers and consultancies such as]init[Aktiengesellschaft für digitale Kommunikation or McKinsey & Company. In addition to the service providers and digitization consultants, technical experts from public agencies were invited to the workshops.

First, interviews are conducted with service users, such as potential applicants (citizens) and companies. The user feedback throughout the workshop process is well accepted by the interviewees, as they report to have the opportunity to reflect on the services they work on from the users' perspective. After some initial insecurities, users actively participated in the workshops. In the next step, the user interviews lead to user journeys where the process is mapped along contact points with a product or service. Here, so-called "pain points" are identified that should be avoided in a digital process in the future. The goal is to design a user-friendly process that can then be transferred into a prototype. The results show that the derived

target processes for digital services are not always compliant with existing legal regulations. Where this is the case, it is necessary to adapt laws and guidelines for successful implementation.

The final product of the workshops is a Minimum Viable Product (MVP), i.e., a minimal solution that is then tested with users. For many of the interviewees, the digital laboratories were the first time they came in touch with new types of work practices and methods, such as agile and design thinking. Public servants reported that some groups cut themselves off when the experimental working environment did not correspond to what they expected based on their professional experiences in government. Creative and experimental formats such as design thinking workshops thrive on free, divergent and convergent explorations in short cycles. This practice meets routines in public administration that are often characterized by rigid hierarchies and silo thinking. The interviewees described that some employees initially found it very difficult to deviate from their desire to apply practiced behavior, such as keeping records. However, it was also perceived as an opportunity for changing the public workplace culture.

Some interviewees also criticized the lack of exchange and joint reflection between the digital laboratories. Reasons are that there is no official protocol for an exchange between the laboratories and the service providers as well as the consultancies (as well as their approaches) differ between the laboratories. The results show it is then beneficial if the employees know peers who have already participated in a lab with the same service provider. In summary it remains unclear to the interviewees how the new work practices and methods can be sustained in the long term, i.e., outside the lab environment.

The work practices and methods are displayed in Figure 1.

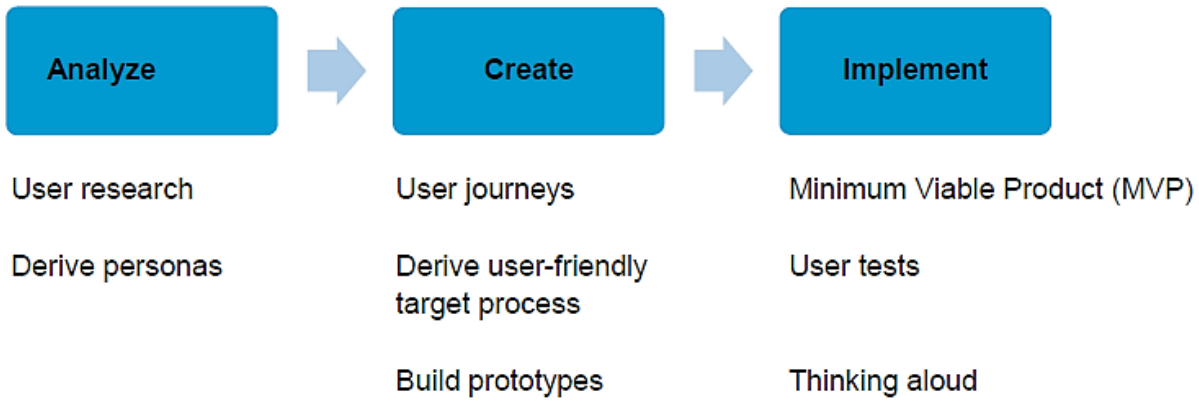

Figure 1: Digital laboratory methods (Source: Authors' own compilation based on BMI (2019)).

Competences

The results of our study show that the competences needed for the digital transformation of the public sector do not only refer to technological competences. Instead, we identified two groups of competences: 1) technology-related competences and 2) overarching competences not directly linked to technology.

a) Technology-related competences

On the personal competence level, the results show that a digital mindset is important in many cases. This describes a basic attitude and openness towards digitalization with the understanding that in the digital era, all public administration services must be offered digitally. Managers in particular take on the role of exemplifying the digital mindset in their teams and creating the needed space for this to be supported by the employees.

In addition, from the point of view of public servants, language competence and a way of expressing themselves concerning the digitalization of public administration are necessary. In multidisciplinary teams, as is often the case in the context of digital transformation efforts, it is important to consider the different perspectives in communication and to have linguistic empathy with regard to simple language. This becomes particularly apparent when technical language and consultant language differ, or technical terms are used that are not part of the language repertoire on the other side.

On an organizational level, project managers within public administration need to mediate between the specialist department and the IT department/technical service provider. On the one hand, it is important to speak both languages in order to be able to communicate at eye level. On the other hand, this contributes to the fact that potentials and challenges can be considered at an early stage.

On the professional competence level, all public servants have a special responsibility to protect the personal data of citizens as well as of their own working environment. Hence, they need knowledge and competence on how to assess IT security and risk in digital environments. In addition, at the professional level, it is also important to be able to use particular digital skills such as standard software and video conference tools for collaboration and apply these accordingly. Collectively, the interviewees show that this is relevant at all levels of government as a way to collaborate and interact in multidisciplinary teams in a goal-oriented manner.

All identified technology-related competences are summarized in Table 1.

Personal competences		**Professional comptences**	
Autonomy	**Social competences**	**Knowledge**	**Skills**
Digital mindset	Language competence and expression Mediation between expert department and IT-department	Protect and act safely in a digitised environment • Personal data • Privacy Enterprise architectures and standards	Sociotechnical competences • Digital adaptivity • Use tools accordingly • Identify own deficits and look for solutions • Usability, UX/UI Design Data literacy

Table 1: Technology-related competences (Source: Authors' own compilation)

b) Overarching competences not directly linked to technology

Our results show that the interviewees mention overarching competences not directly related to technology more frequently than technology-related competences.

On the personal competence dimension, innovation competence is a frequently mentioned competence; it describes a willingness to create innovative solutions. In addition, the digital transformation of the public sector requires an interdisciplinary understanding of procedures and processes, which is based on the increasing interactions of actors from different sectors and contexts. Closely related to this is the ability to take on the perspective of users. Particularly, this is not about programming skills, which are part of the technology-related competences, but about empathy and the ability to include user needs in the design of processes and services.

On the professional competence dimension, it is important for the interviewees to know the legal framework and the political-administrative context in relation to the respective work environment (for example, whether a public servant works at a foreigner's office or health department). In order to be able to actively shape the digital transformation of the public sector, public servants must understand change processes and be able to transfer these to their own context (transformational competence). This becomes particularly pertinent when public servants return to their own departments after they participated in laboratories.

Table 2 summarizes the overarching competences not directly linked to technology for the digital transformation of the public sector:

Personal competences		**Professional comptences**	
Autonomy	**Social competences**	**Knowledge**	**Skills**
Self-management Innovation competence	Leadership Interdisciplinary thinking User perspective, accessibility	Political-administrative knowledge Compliance with legal requirements Business process management Entrepreneurial thinking	Transformational comptence Problem solving Management techniques Organisational design

Table 2: Overarching competences (Source: Authors' own compilation)

In summary, we have identified the work practices and methods of the OZG digital laboratories that are applied for the participants to digitize administrative processes and services of public administration. In order to enable productive participation of the partners, the interviewees had

to acquire new competences in the form of knowledge and skills. It remains unclear at this stage how these competences for the digital transformation can also be transferred to the work environment of service outside the OZG digital laboratories.

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