

Bachelor Thesis

Deadlock or Catalyst? How COVID-19 Management has Influenced Digital Transformation in Borken District's Citizen Centers

Faculty of Behavioral, Management and Social Sciences
Department of Public Administration
Public Governance across Borders
Bachelor Circle: State Capacity in the time of digital transformation
Ethical Approval Reference No. 220475

29.06.2022
Word Count: 10,399

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Abstract

The research of the bachelor thesis aims to add valuable insight from the field of citizen service offices in the rural district of Borken. Thereby, this embedded case study observed the impacts of the COVID-19 pandemic on the digital transformation of citizen centers. The research is based on the Institutional Change Theory by Paul Bush (1987), and it uses the Technology Enactment Framework (Fountain, 2001) as a conceptual model for analyzing institutional changes. Through interviews with several managers of the correspondent citizen centers, the results show that in the district of Borken, only a few changes have occurred. While measures to adapt to the changed conditions were mainly analog, it should nevertheless be emphasized that the perceived urgency to digitalize has increased significantly. In summary, the impact of the pandemic caused both managers and employees to recognize vulnerabilities that, although they were not insurmountable, could have been more easily addressed through digital approaches.

Abbreviations

CC(s)	Citizen Center(s)
MWIDE	Ministry for Economic Affairs, Innovation, Digitalization and Energy of the state of North Rhine-Westphalia
OZG	Online Access Act (Onlinezugangsgesetz)

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1. Introduction

The arrival of the SARS-CoV-2 virus in Europe came along with a multitude of uncertainties. Without founded knowledge of the virus, nor with effective treatment or vaccines, the pandemic has posed challenges to the entire world. Anxiety arose throughout the continents, politicians made allegations about who was responsible, and ad-hoc policies came into force as the actual scale was not foreseeable then. The entire world went into lockdowns which caused financial problems for millions of people as the habitual day-to-day business came to a sudden crash. As a result, there were temporary economic recessions almost everywhere in the world. Like on the economy, the pandemic left its mark on the public administration. Initial overburdening and uncertainties on the development of the situation led to a temporary closedown of many public service organizations. Like in Berlin, Essen, Frankfurt (Berliner Senatsverwaltung für Inneres, Digitalisierung und Sport, 2020; Radio Essen, 2020; F.A.Z., 2020), or some of the herein researched municipalities, concepts had to be developed first before being able to re-open government agencies for the public. In Germany, these initial legal regulations did primarily concern personal limitations and social distancing measures, mandatory remote working if possible, and the wearing of face masks (Han, 2019).

The already criticized backlog in the digitalization of the German public sector (Schwab et al., 2019) suddenly gained relevance in the public discourse. As the chairman of the National Regulatory Control Council, Dr Johannes Ludewig, emphasizes: "Ein weiter so kann es nicht mehr geben, will Deutschland in den kommenden Jahren nicht mehr zu den Nachzüglern sondern zu den E-Government-Vorreitern in Europa gehören." (Fromm et al., 2015, p. 3). In an article that was published by the OECD at the very beginning of the pandemic, three crucial things were pointed out. The first one is that flexibility will be a critical factor in being able to respond to the pandemic without the respective work processes coming to a standstill. Secondly that the "post-crisis period will be a unique opportunity to capitalise on changes whose implementation was expected to occur only gradually in the future" (OECD, 2020, p. 7). And the third point mentioned in that paper is that it is hence an opportunity to increase the attractiveness of the public sector as a choice of employment. While the reputation of civil servants generally leaves nothing to be desired in Germany, it is an excellent opportunity to convince the next generation of skilled and motivated workers of the public sector (OECD, 2020). Having said that, the pandemic can be seen not only as an economic damper but also as an opportunity to learn something new, to gain experience, and to try new approaches on how to confront challenges.

And indeed, since before the pandemic, ambitions were high to improve the digital functioning of public administration in Germany. One measure that addresses this backlog is the Online Access Act (OZG). Entered into force in August 2017, it aims to create uniform nationwide access to administrative services that can be reached digitally by citizens (BMI, 2022a). By the end of 2022, the law obliges the federal and state governments to offer online portals that provide user-oriented access to administrative services. To be exact, it involves 575 services for individuals and businesses, divided into 14 thematic

blocks that are being developed by the individual states in solidarity for everyone. To give an example, the state of North Rhine-Westphalia is the only one involved in two of these projects, namely 'Work and Retirement' and 'Business Management and Development' (MWIDE NRW, n.d.). After the finalization of the development, how these processes will be accessed via a shared online portal, this process will be available for all citizens in Germany using the exact mechanism.

However, the National Regulatory Control Council has grave doubts as to whether the given deadline can be met (National Regulatory Control Council, 2021a). One problem implementing this set of goals which is repeatedly mentioned, is a capacity overload of the employees. In fact, the proportion of people working in the public sector is relatively small in Germany compared to other OECD members. While the northern European countries Norway, Sweden, and Denmark led the way in 2017 with around 30% of the total employment working in general government¹, the number in Germany is just below 11% - the average for the OECD countries is 17.7% (OECD, 2019). But the National Regulatory Control Council also finds fault with the information jumble claiming that “[a]nhand der auf den unterschiedlichen Informationsplattformen dokumentierten Informationen lässt sich der OZG/SDG-Umsetzungsstand nach wie vor nicht belastbar ermitteln (National Regulatory Control Council, 2021b, p. 14).

Based on this given situation and the circumstances of the COVID-19 pandemic, this bachelor's thesis will conduct a case study in the district of Borken to investigate local changes in citizen centers (CCs) in terms of digitalization and digital transformation between the outbreak of the pandemic beginning of 2020 and today, two years later. The question to be answered is thus:

To what extent has the COVID-19 pandemic influenced the use of digital technologies in citizen centers in the rural district (Landkreis) of Borken?

In order to find an answer to this question, I will first focus on the different types of services that are provided by the correspondent CCs. What changes have occurred? Were agencies able to adopt non-analog solutions to provide services? Which adapted processes facilitated digitalization, and which were only makeshifts during the pandemic? Therefore, two sub-questions that are to be researched are:

Sub-question 1: How many and what kind of services of the Borken District Citizen Centers were fully or partially accessible via digital channels in spring 2020?

Sub-question 2: How many and what kind of services of the Borken District Citizen Centers were fully or partially accessible via digital channels in spring 2022?

¹ “General government employment covers employment in all levels of government (central, state, local and social security funds) and includes core ministries, agencies, departments and non-profit institutions that are controlled by public authorities” (OECD, n.d.).

Secondly, I will move on from these rather quantitative questions and take a look at the operational level by putting emphasis on the employees and internal changes. Due to a shift in processes, it could be expected that the requirements for civil servants have changed insofar as digital competencies gained a higher significance and that former employees received additional in-service training (Mergel et al., 2019). Hence, used programs and other software-related settings could have changed, which in turn led to a change in the working processes. The assumption that leads to this presumption is later outlined in the operationalization of the Institutional Change Theory. The corresponding sub-question is therefore:

Sub-question 3: What changes have occurred during the pandemic that have impacted employees' digital competencies?

Particularly due to Germany's federal system, considerable differences can easily arise between the individual federal states (Fromm et al., 2015). But also internationally, there still is a lack of case knowledge of the digitalization process in public organizations (Amankwah-Amoah, 2001; Plesner et al., 2018). Additionally, the pandemic is a very recent phenomenon, and knowledge of how measures by political entities have impacted institutional development is very much unexplored. This research targets to bridge this lack of knowledge to add value to the overall question of what insights can be drawn from the pandemic on the local level of public administration.

2. Theory and Framework

The theoretical section of this thesis will be divided into two parts. First, I will go into the theory of institutional change as the basis for this research. This will give an understanding of how change can occur in given settings, and hence, the component of the term digital technology and digitalization is discussed as it is the critical element investigated in this paper. After that follows the conception of the Technology Enactment Framework by Jane Fountain. Fountain has been active in the research of digitalization with a focus on the digitalization of organizations. As her framework integrates information technologies into institutional theory, it contributes a conceptual lens helping to understand 'microstructural details' in bureaucratic politics (Fountain, 2001). Having said that, it will also facilitate this bachelor thesis to investigate the institutional changes that may have occurred in Borken's CCs during the pandemic.

2.1. Institutional Change

To an unknown extent, COVID-19 has certainly changed the view on digitalization and the understanding of digital transformation in public administration. However, scholars are agreeing that the use of digital technology and the digital transformation of public sector organizations are not to be mistaken as synonyms (Gabryelczyk, 2020; Amankwah-Amoah, 2021). Therefore, this section will take

a look at what digitalization and digital transformation are and what can be extracted from the current state of science on e-government developments.

Before that, however, the focus will remain on how digital transformation is achieved in the first place. One explanation to understand such structural changes is provided in the theory of institutional change. Having said that, the proper definition of the term institution needs to be discussed. As Paul Bush (1987, p. 1076) puts it: "an 'institution' may be defined as a set of socially prescribed patterns of correlated behavior." In other words, Bush describes institutions as some sort of socially set rules or logic of behavior which in turn explain the progress of developments. In this sense, the institutionalist believes that behavior is something traditional that is learned and rather habitual than objective. Societies and humans as individuals have certain correlated patterns of behavior that are internalized and dominant compared to objective and rational acting. Transferred to the management of organizations, we may all agree that the current performance is strongly related to previous performance. One reason is that the mode of operation is usually not something that changes overnight, nor is it always conscious (Bush, 1987). Bush further categorizes these two drives for behavior into two types of values: ceremonial values, which are based on traditions and habitual ways of acting, and instrumental values that, in contrast, are "employed in the application of evidentially warranted knowledge to the problem-solving processes of [a] community" (Bush, 1987, p. 1080). Naturally, ceremonial values are seen as dominant because they infer from internalized behavioral patterns. In modern societies, this ceremonial dominance is often accompanied and conditioned by ideology (Bush, 1987). Accordingly, while a shift of values towards the instrumental warranted values likely leads to institutional change, purely ideological values may lead to an encapsulation of ceremonial warranted patterns that could result in the Lysenko effect (Bush, 1987). In contrast to this, public organizations are constantly urged to invest in digitalization projects, however, the needed perspective and knowledge of managers seem to be frequently missing, and reforms are not imposing enough pressure to pull appropriate measures for effective transformation (Plesner et al., 2018).

Applying this on an organizational setting, two outcomes are likely to derive from the management during the pandemic. The worst case would be the so-called Lysenko effect, which is named after a Soviet genetic scientist whose results were not founded on science but rather in line with Soviet ideologies (Borinskaya et al., 2019). Instead of an open approach towards solution finding and development, one could have held on to a previously followed path, which was taken through irrational, closed-minded thinking, or even the rejection of any kind of digitization due to personal assumptions or preferences. This refers to the encapsulation of ceremonial values, and indeed, shows the poorest scenario for digital development in the researched public administrations. Meanwhile, the second possibility would be that existing ideas and values have been questioned in order to prepare against turbulences, but also for a positive development in the long term. In this context, Bush (1987) speaks of instrumental values or instrumentally warranted patterns of behavior. In this scenario, a new pattern of

behavior is required to "accommodate the absorption and diffusion of new technologies" (Bush, 1987, p. 1080), which corrects the previous values.

But of course, these two options display rather extreme outcomes. It could just as well be that the reality is somewhere in between. Measures were taken and gradually reverted to the usual working pattern after a turbulence has settled. This would also suggest the necessary flexibility and resilience against such incisive external events, but it would not necessarily indicate a significant impetus for digital transformation. Concluding from this, the aim of this study is to find out whether we can see any changes in behavior and the overcoming of old (ceremonial) values, or if managers of CCs returned to the familiar work patterns after the relaxation of COVID measures. Or instead, if ceremonial values predominated any developments. As it has been said before, the focus will be on digitalization.

But what does digital transformation include, and what is the difference between digital transformation and digitalization? A quite short definition that already grants a rough overview is given by Renata Gabryelczyk. While digitalization refers to the change from analog to digital forms of work, Gabryelczyk (2020) emphasizes that digital transformation is a much more comprehensive concept, including a holistic perspective on organizations' capabilities. Digital transformation depends on a strategy with boundaryless impacts on all kinds of processes in an organization. The implementation of single measures would therefore not count as a transformation, much less as institutional change. Here, the link between Paul Bush can be seen again, illustrating that it is instead the mindset that changes organizations instead of technological innovations that are being adopted. And change is not always coming from within one organization but often from society. As Mergel et al. (2019) have found out, demands for digital transformation in the public sector are fairly driven by external factors such as citizens, businesses, or politicians. As they experience a change in technology, expectations towards public sector organizations accordingly align with the residual environment. In their article on the definition of digital transformation from a 'real-life' perspective, Mergel et al. (2019) raised five propositions that are premises to understand the concept: first, digital transformation focuses just as well on citizen-oriented products and processes as on bureaucratic processes and the organizational culture itself; secondly, in order to archive change, internal changes in the bureaucratic culture are required, as conservative tendencies remain even though stakeholders' demands are recognized; thirdly, a change in the bureaucratic culture positively influences the recognition of stakeholders' demands, which in parallel requires a changed mindset of public servants and their competences; fourthly, a short-term increase in output does not automatically result in long-term changes; and fifthly, digital transformation is not a process which is eventually completed, but it requires continuous revisions and refinements.

2.2. The Technology Enactment Framework

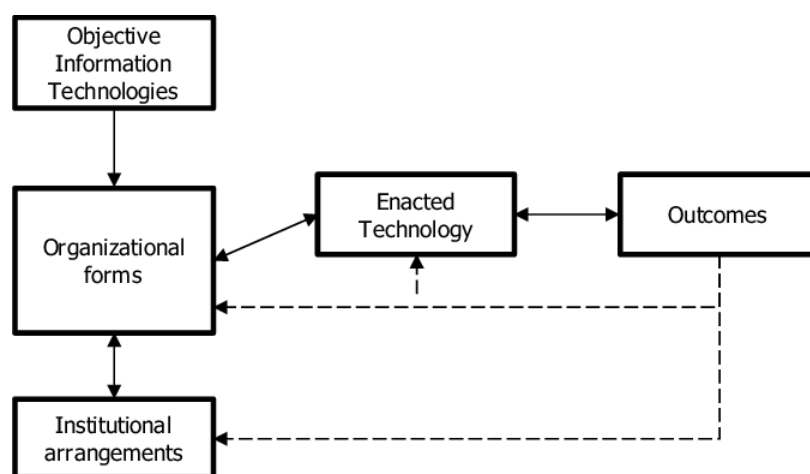
In addition to that, we can take a look at the theoretical framework by Fountain on the use of technologies in institutional settings, namely the Technology Enactment Framework. Fountain (2001) argues that there is a difference between objective and enacted technologies. While objective technologies refer

solely to the existence of certain technologies themselves (Internet, telecommunication systems, soft- and hardware, etc.), "[e]nacted technology is the perception, understanding, design, implementation, and use of objective technologies" (Fountain, 2001, p. 25). As a consequence, the capabilities and the resulting possibilities of information systems are conditioned by the respective users. In this sense, Fountain's framework integrates information technologies into institutional theory.

With respect to the case, it is necessary to understand the different factors that influence the technology enactment. As the CCs are on the lowest administrative level, there are various superordinate levels influencing the element of 'institutional arrangements.' These are the municipal level, usually in the form of the mayor, the district administration seated in Borken, as well as the state and federal level entities. Fountain (2001) summarizes the relationship between the respective organization and the institutional arrangement as being conditioned by cognitive, cultural, socio-structural, as well as legal and formal influences. On the other hand, we have 'objective information technologies'. This refers to hardware and software, means of communication, and access to the Internet. Both sides affect the bureaucratic level of CCs (hierarchy, jurisdiction, standardization, rules, stability) and their interconnection with the administrative network. A simplified representation can be found in [Figure 1](#) below. A more detailed graphic can be found in the [annex](#).

Figure 1.

Fountain's Technology Enactment Framework



Note. Adapted from *2014 47th Hawaii International Conference on System Sciences*, by Gil-Garcia, J. R., Renteria, C., & Luna-Reyes, L. F., 2014, p. 2255.

The then added analytical aspect of enacted technology sets the point of view on the systematic influences and position of the organization, in order to pursue its interests. Without 'knowledgeable agents' giving meaning to the use of technologies, the potential capabilities are "of little practical value" (Fountain, 2001, p. 9). While technology enactment is often used by managers to maintain existing network connections and to maintain current performance, fewer keep up the struggle to pursue visionary goals to strengthen and increase the organization's capacity. In truth, the intrinsic, as well as

extrinsic motives of managers in this case study are not known at this point. However, managers tend to use technology rather to sustain, obtain rewards, and avoid sanctions. Ultimately, this behavior is even more strengthening the structural norms and values in the particular domain (Fountain, 2001), which in turn means, that ceremonial values are strengthened as well. To this end, it must also be acknowledged that such behavior is possibly considered unproblematic in times of relatively stable environments. However, if the environment gets more turbulent and it is exposed to severe changes, such as a global pandemic may cause, vulnerabilities can be revealed that demonstrate a lack of stabilizing force within the institution (Fountain, 2001).

The gap that is worth knowing in this case study is consequently to unhide how successful managers of CCs were to push for development in their organizations by adopting instrumental values, leading to a changed responsiveness to the institutional setting.

3. Methodology

In the following section, I will introduce the applied methods coming into use for answering the research question that was established at the beginning of this thesis. In order to do that, the methodology section is separated into three different parts. I will first discuss the design of the study, followed by the method of data collection and thereafter, the method of analysis. Before that, however, a short explanation of the term 'citizen centers' is given, describing their evolutionary history and field of tasks. In line with the subsidiary principle (Taylor, 2006), governmental tasks are usually performed at the lowest possible level. In this manner, CCs are operating at the closest level to citizens. Their purpose is to act as a service provider to all citizens who require common and ordinary governmental services. After the first office of this kind opened in Unna in 1984 (Kißler & Bogumil, 1995), only a few other cities were copying this concept. The comprehensive introduction of such centers did not take place until the 1990s, most of which were built on the model of the 'Bürgerladen Hagen' (Kißler & Bogumil, 1995). Typical services include registrations and changes of address, applications for passports, authentications of documents, dog licenses, police clearance certificates, and many further services (Schwab et al., 2019). Thus, CCs are often the first place to go when governmental services are required. In fact, due to the federal system in Germany, between 75 to 90 percent of federal laws are implemented at the local government level (Schwab et al., 2019).

3.1. Research Design and Case Selection

The aim of this thesis is to identify institutional changes that took place in CCs in the district of Borken between the implementation of the COVID-measures in March 2020 and the removal of most restrictions in Germany in May 2022 (Han et al., 2020). The research will therefore be designed as an descriptive embedded single-case study (Yin, 2018). While the case will be the district of Borken, the subunits are the CCs of each municipality that are part of the administrative district government. The

district consists of 17 municipalities, including the city of Borken, and is located northwest of Germany, bordering the Netherlands. With a total of 371,898 people living in that district, it is significantly larger than the mean of all 294 German districts (Landkreise) and 107 independent municipalities (kreisfreie Städte) (Statistisches Bundesamt, 2022). The sizes of the municipalities are ranging from 6,759 people living in Schöppingen to 71,061 people living in Bocholt (Kreis Borken, 2021). A table of all municipalities and their sizes can be found in the [annex](#). The total land area amounts to 1,421 km² (Kreis Borken, 2021). Therewith, a significant number of CCs can be observed with likewise significance in the German context.

The case study ought to provide in-depth information testing the application of institutional change theory with the help of the Technology Enactment Framework by Fountain by illustrating the predominant dynamics in the Borken district CCs (Birch, 2012). During the analysis, the focus will be increasingly on the individual subunits. Only after a detailed examination of all studied municipalities it is intended to present an overall picture, which can then be used as a comparison to other districts, for example in a study with a multiple-case design (Yin, 2018). As George and Bennet (2005) emphasize, case studies are able to deliver a high conceptual validity, are favorably in the heuristic identification of new variables and hypotheses, and reveal casual mechanisms of individual cases and their complexity. However, for the deduction of the intended knowledge, methodologically set paths need to be followed which, moreover, have to be in line with the field of studies. Having said that, the research will be based the concept outlined in this section. In the second phase, the empirical data will be collected that is necessary to analyze the case of the district of Borken, followed by the analysis and drawing of a conclusion in phase three (George and Bennet, 2005).

3.2. Data Collection

Continuing with the method of data collection, the district of Borken consists of 17 municipalities. Each of these provides its citizens with one office for the relevant services except for three municipalities with two CCs (Borken, Gronau, and Velen). In the district of Borken, it frequently appears that citizen services are part of a larger unit that handles the municipalities' security and order issues. In order to gain knowledge of the subunits, each citizen center's manager or the respective municipalities functional manager has been contacted with the inquiry to conduct an interview. Seven municipalities did not respond to the request sent by e-mail, three managers had to decline due to different reasons, and seven managers agreed to an interview. However, some offices are relatively small due to the number of residents. Therefore, the interviewees have not only been with office managers but were partly done with, or accompanied by, regular employees of the CCs and municipalities' digitalization officers. These interviewees were conducted within a time span of three weeks between the end of May and the beginning of June 2022. Each interview lasted between 20 and 30 minutes. The questions were prepared and sent to the interviewees upfront and remained the same for each interviewee. Only the first interview deviates slightly from the others since minor adjustments were made after evaluating the feasibility and

purpose of the questionnaire. Nevertheless, all questions were open-ended which leaves enough space to address organizational differences as well as the opportunity to make requests if anything remains unclear (Jupp, 2006). After all questions of the questionnaire were asked, each interviewee had the possibility to make comments regarding any issues that remained unsaid. Hence, this semi-structured method can be considered as qualitative research, even though some standardizations need to be taken into account for a limitation of time and effort (Given, 2008). In agreement with the interviewees, all interviews were recorded, transcribed, and later anonymized ([see appendix](#)). The recordings are handled confidentially and with the utmost care until they will ultimately be destroyed with the submission of this thesis. In addition to that, public documents, press releases, and laws on local public management were viewed, which support the knowledge base of this thesis. For the most part, these materials refer to the contents of the municipalities' websites, as well as documents of the state and federal governments.

3.3. Approach for Analyzing Data

As already mentioned, before conducting the interviews, a literature review on institutional change, different digitalization theories, and current developments in the sphere of public administration has taken place. Of particular importance has also been the above-introduced OZG being one of the largest modernization projects in the public administration in the country's history (BMI, 2022b). In this context, numerous press releases were also reviewed during the whole writing process, as well as the e-government law of the state of North Rhine-Westphalia. Through this, the general concept and construct of the thesis was established, also providing the reader with the necessary background for this empirical case study. Nevertheless, this is not an examination of the legal basis or procedures, which is why the review of the legal basis is limited to what is necessary. Likewise, the interview questionnaire has been established along the findings of the literature review. As this review forms the fundament for the subsequent inductive collection of data, relevant texts need to be examined carefully, hidden aspects have to be unmasked, implications have to be revealed and most important issues are to be highlighted (Given, 2008). In addition to that, it is crucial that contradictory positions and messages are evaluated and interpreted (Julien, 2008).

Having said that, the interviews were conducted during the indicated period, which then was followed by the coding in Atlas.ti. The underlying approach for the coding process was the grounded theory approach (Given, 2008). Thereby, the technique of initial coding was used meaning, that the codes that are to be found in [Table 1](#) were composed before the actual process of analyzing the interview transcripts (Given, 2008). The codes are closely related to the questions asked in the interviews including the sequence of the questions. However, when coding interviews with open-ended questions it must certainly be a dynamic process. As a result, there is no code included aiming at the fourth question (Q4) of the questionnaires due to its relevance, and in multiple cases, the codes have been reformulated afterward.

Table 1.*Atlas.ti codes used for the analysis*

No.	Code
1.	Non-analog services before the start of the pandemic
2.	Changes in the offering of digital services
3.	Restrictions on access for citizens
4.	Limitations in the range of available services
5.	Particularly challenging tasks and solution finding
6.	Management of resources for task accomplishment
7.	New technical components
8.	New digital skills
9.	Adaptation of employees to pandemic circumstances
10.	Changes in employees' personal attitudes toward digitization
11.	Interviewees' evaluation of employees' digital literacy

As the interviews are all aligned in the same pattern, it was then possible to compare each CC which ultimately delivers an overall picture describing the district of Borken. The analysis took place from a perspective of Bush's institutional change theory (1987) using the conceptual framework by Jane Fountain (2001) as described in section [2.2](#). The findings from the interviews are then discussed in the conclusions of the sub-questions also taking the literature on digitalization into account. The two versions of the interview questionnaires can be found in the [annex](#).

4. Analysis

This chapter will outline the findings of the conducted interviews in order to answer the question '*to what extent has the COVID-19 pandemic influenced the use of digital technologies in CCs in the rural district (Landkreis) of Borken?*' To hence provide some background information from the research of the strategy papers, it is worth to mention, that in December 2018, the state government of North Rhine-Westphalia adopted its e-government strategy with a series of measures that are supposed to make the public administration more digital and efficient in the future (MWIDE NRW, 2022). A detailed list of actions and objectives that are to be transferred to NRW's entire public administration can be found in the final report of the digitalization process of the Ministry for Economic Affairs, Innovation, Digitalization and Energy of the state of North Rhine-Westphalia (MWIDE)². As the state government itself states on its website, at least some of the key objectives listed in the document have already been achieved. One goal worth mentioning here is the shortening of the digitization and optimization process

²https://www.wirtschaft.nrw/sites/default/files/documents/abschlussbericht_programm_mwide_digital_2022.pdf

of internal workflows from 2031 to 2025 (MWIDE NRW, 2022). A question that arises from these statements is to what extent the objectives of the strategy paper could already be implemented in the examined authorities and, even more importantly, as well as the question of this thesis, what impact did the pandemic have on the current developments. For the answering of this question, three sub-questions were presented in the introduction. While the first two questions focus on the technical responses of COVID-19 by comparing the status quo of the pre-pandemic situation with the current situation in May 2022, the third question considers organizational and cognitive changes during that period. To ensure a clearer readability, the following analysis of sub-questions 1 and 2 is separated from the 3rd sub-question.

4.1. Sub-Question 1 and 2: What developments can be seen in the introduction of non-analog services?

To begin with the question of *'how many and what kind of services of the Borken District Citizen Centers were fully or partially accessible via digital channels in spring 2020?' and 'in spring 2022?'* it is worth mentioning that the individual CCs are all situated in different baseline settings. As article 78 (1) of the North Rhine-Westphalia state constitution stipulates that municipal administration shall in principle be self-governing. Requirements of the Ministry of the Interior are only imposed if there are good reasons for doing so or if the fulfillment of a task cannot be solved efficiently at the municipal level (cf. Taylor, 2006). In other words, this means that the individual CCs do not necessarily have a common history of progression as they are relatively firmly detached from the interior ministry in the way they operate. Thus, the traditional values may differ substantially.

As announced in the methodology section, the interviews with representatives of the CCs were coded with Atlas.ti upon completion. As codes 1.-6. refer to the answering of these two sub-questions, I will structure the findings of the analysis in a way that the situation of 2020 is discussed first for the subitem 5.1.1, followed by the state of affairs in 2022. All other subitems do not consider a time component and, apart from 5.1.2, comprise only one code. In general, the sub-questions 1 and 2 are focusing more on Fountain's (2001) dimension of 'objective information technologies' than on the 'institutional arrangements'.

4.1.1. Developments in the Offering of Services

In line with the structure of the questionnaire used, I will start by presenting the interviewees' answers to what services were offered to citizens online before the pandemic, with a comparison of what the state of services is today. The following questions will then go into more detail, exploring why some things may have changed or not and what changes have taken place.

The very first question with the code *'non-analog services before the start of the pandemic'* provides a quite unanimous picture. Except for one interviewee, all respondents denied that there were

any services that were available through other forms than the traditional way to appearing at the office in person. However, some of the interviewed managers have emphasized that there is a section on the municipalities' website with a variety of forms that can be printed and filled in at home before coming into the agency. Only in one interview, the interviewee did refer to an existing business service portal where, for example, businesses can be registered online. In addition, it reportedly was possible to fill in forms at home and send them by e-mail to the citizen center as a PDF file (Audio transcript 7, personal communication, 00:01:39). For which services the submission of forms by e-mail was possible and for which it was not, no information was provided. Since there were various laws that are in conflict with many services, for example fingerprints are usually required for some services such as applying for an ID card or passport (BMI, 2019), it can almost be guaranteed that only a few services were accessible this way.

Moving on to the second question with the code *'changes in the offering of digital services'* one thing in particular stood out in the analysis: the scheduling of appointments. Each CC that has been researched has introduced a system for the allocation of appointments for citizens during the past two years. However, two of the studied cities pointed out that the introduction of an appointment system was not due to the pandemic, but it has already been planned for a longer period (Audio transcript 3, personal communication, 00:10:53; Audio transcript 6, personal communication, 00:01:00). In one of these two cases, the appointment system was introduced on an accelerated basis (Audio transcript 6, personal communication, 00:01:00). Nevertheless, it is noticeable that all offices have switched from a 'first come, first serve'-system to appointments. The two offices transliterated in the interview transcripts 2 (personal communication, 00:00:59) and 7 (personal communication, 00:07:35) currently do not offer this function on their homepage. Still, both did mention that in the future, an online application will be added to relieve the employees who currently plan appointments in Word and Excel tables.

Looking at the actual range of services, however, it reveals that not very much has changed since 2020. In Interview 1 (personal communication, 00:01:15), it is stated that now criminal records and notifications of address changes and registration forms can be processed by regular mail. In Interview 5 (personal communication, 00:02:44), it is mentioned that only garden water meter readings can be announced online. Interview 6 (personal communication, 00:01:46) revealed that criminal records and registration forms can be requested from home. And in interview 7 (personal communication, 00:02:43), it becomes apparent that services that were previously requestable via e-mail are currently being upgraded to online forms that can be filled in online (this relates to the areas of dog tax, waste disposal, and the registry office). Hence, two payment methods were added to simplify online payments, namely paying with a credit card and PayPal (Audio transcript 7, personal communication, 00:02:43)

4.1.2. Availability and Access to Services

This next subitem combines two different codes, namely the '*restrictions on access for citizens*' and '*limitations in the range of available services*'. These findings shall help to understand how the developments described in 5.1.1. occurred, to moreover understand the organizational settings and how it has been influenced by 'institutional arrangements', such as legal conditions (Fountain, 2001). Having said that, two striking responses will be explicated before looking at the single CCs in detail. First, only three of the investigated CCs had to close their doors completely as an immediate response to the pandemic in March 2020. While the Interviewees in the audio transcripts 2 (personal communication, 00:02:04) and 6 (personal communication, 00:03:01) stated that their office was only closed for a very short term, interviewee number 1 (personal communication, 00:05:58) explained that their CC was closed approximately until July – except for emergencies. Secondly, the idea of a submission and collection system appeared to be a welcomed analog solution to keep functioning. While interviewee 2 (personal communication, 00:02:04) reported the installation of a hatch for the interchange with citizens, interviewee 4 (personal communication, 00:01:50) stated that many issues were solved at the door to avoid citizens entering the building, and interviewee 7 stated that a window was diverted to a counter operating likewise as a "Kioskbetrieb" (Audio transcript 7, personal communication, 00:04:35).

Other than that, the functioning and access seemed to be relatively unproblematic. Solely one municipality seemed to be less flexible to the circumstances, however, the interviewee of this organization explicitly referred to the legal difficulties (Audio transcript 1, personal communication, 00:05:58 & 00:07:42). An analysis of the legal conditions and their compliance with the individual community centers would be very interesting at this point – especially between smaller municipalities with less qualified personnel and larger municipalities – but it would go beyond the scope of this thesis. Furthermore, interviewee 2 (personal communication, 00:02:04) claimed that the issuance of identity cards and passports was not possible for a certain period in 2020, interviewee 3 (personal communication, 00:03:14) mentioned that opening hours have been shortened to keep up with the workload, interviewees 4 (personal communication, 00:01:50) and 6 (personal communication, 00:03:01) mentioned that affairs were sorted according to their respective relevance, but there were no constraints in the range of services, interviewee 5 (personal communication, 00:04:51) responded that through the limitation of clients the work routine continued relatively normal, and in the authority of interviewee number 7 (personal communication, 00:03:07) the analog contact with the citizen has shifted relatively strongly towards communication via e-mail.

4.1.3. Particularly Challenging Tasks and Solution Finding

Followed was the above-discussed question by a summarizing assessment, on which processes were the most difficult to deal with and how these problems were solved. The corresponding code for this analysis is named '*particularly challenging tasks and solution finding*'.

Again, the start will make one issue that has been mentioned notably frequent, which is that in comparison to other public authorities, the CC is based on public traffic. Specifically, it is mentioned in the audio transcripts 1 (personal communication, 00:07:42), 3 (personal communication, 00:04:59), 4 (personal communication, 00:05:29), 6 (personal communication, 00:04:41), and 7 (personal communication, 00:05:39). Problems in this context were that prescribed protective measures such as minimum distances that had to be observed or that certain forms had to be signed in person. In addition, coordination became more difficult, which also led to the hiring of (additional) security personnel at two offices (audio transcript 1, personal communication, 00:09:14; audio transcript 4, personal communication, 00:07:22), who checked citizens' COVID-tests, vaccination certificates, and appointment confirmations before entry, and ensured compliance with the obligation to wear face masks.

A slightly different perspective emerged from interview 2. In this interview, the challenge was rather described by the fact that much of what already has been digital had to be switched back to a paper-based mode of working (audio transcript 2, personal communication, 00:03:26). Forms were printed, signed by the visitor, scanned again, and filed in the so-called digital 'E-Akte'. One consequence of this was that more staff were needed to cope with the workload, which however was not employed (audio transcript 2, personal communication, 00:13:53). Only interviewee 5 claimed that there were no noteworthy constraints in the flow of work due to the pandemic: “es gab keine besonderen Dienstleistungen [...], die jetzt dadurch schwieriger geworden sind.” (Audio transcript 5, personal communication, 00:04:51).

Explicit solutions were less commonly mentioned in the interviews. Overall, the problem was solved in such a way that only the regulations of the Infection Protection Act were implemented without questioning the work processes themselves. Just one interviewee mentioned that the number of appointments was reduced by 50% (Audio transcript 1, personal communication, 00:09:14), and another noted that the division of labor has been stricter in that sense, that one employee took care of the assistance of clients in the office while the other only answered phone calls and e-mails (Audio transcript 4, personal communication, 00:12:45).

4.1.4. Management of Resources

The last code that aims to support a better understanding of the existing 'objective information technologies' (Fountain, 2001) is the one that focuses on the '*management of resources for task accomplishment*'. While in the other subitems, answers were often pointing in a generally similar direction, here, the responses diverged considerably.

For example, while two managers criticized the technical equipment, pointing out that even suppliers were challenging to reach (Audio transcript 1, personal communication, 00:16:32), or it was not possible to provide a working telephone for employees who work from home (Audio transcript 4, personal communication, 00:11:35), another answered that their office was very well equipped, and there was nothing to complain about speaking of technical components (Audio transcript 3, personal

communication, 00:08:47). At the same time, not one interviewee stated that a lack of funding had a limiting effect on the procurement of new technical solutions. In two cases, it was even clearly expressed that the lack of funds was not a concern (Audio transcript 1, personal communication, 00:13:41; Audio transcript 3, personal communication, 00:10:14). However, as citizen centers are very intensive in public traffic, decisions to introduce home office were not as easily done as in other authorities – especially considering the sizes of the municipalities. While larger cities might develop digital structures more easily, two authorities pointed out that with the size of their municipality there is no staff capacity to carry out large digitalization projects (Audio transcript 4, personal communication, 00:20:13; Audio transcript 7, personal communication, 00:11:32). In a few cases, however, employees were able to work from home using a laptop that was provided by the municipality (Audio transcript 1, personal communication, 00:13:41; Audio transcript 2, personal communication, 00:05:46; Audio transcript 4, personal communication, 00:10:20). On the other hand, all interviewees expressed that they would appreciate an increased use of the theoretically available systems like the possibility to offer more services via their website (Audio transcript 2, personal communication, 00:06:23) or the existing 'Online-Ausweis'-application (Audio transcript 6, personal communication, 00:07:54).

Hence, the previously mentioned 'E-Akte' is currently introduced into the single administrations. Since 01.01.2022, the e-government law of North Rhine-Westphalia (EGovG NRW §9 (3)) obliges authorities of the state to keep their files electronically.

4.1.5. First Interim Conclusion

Before moving on to the third sub-question, the information gathered will be evaluated, and the question of what the state of services was in spring 2020 in comparison with today will be answered. Having said that, an interim conclusion for sub-question 1 will be given first, followed by a conclusion for the second sub-question, and finally, a discussion on the basis of 5.1.2-5.1.4 that contemplates a better understanding of the development.

As described in the first part of 5.1.1, before the pandemic has started there were no services available through digital channels. At that time, the e-government strategy that was adopted in December 2018 was still relatively young in 2020, and many laws that would have allowed digital services to run flawlessly did not yet exist. However, several CCs offered forms on their website that citizens could download and complete at home. The answer to the question of *how many and what kind of services of the Borken District Citizen Centers were fully or partially accessible via digital channels in spring 2020* is, thus, a concise one.

Continuing with the current state of online services, the answer for the second sub-question won't be that much longer. What has changed in the district of Borken is that many CCs have introduced the possibility or obligation to book an appointment upfront visiting the office. The better part has embedded this function on the municipality's website. Those which currently do not have this ability planned to make up for this function in the near future (Audio transcript 2, personal communication,

00:00:59; Audio transcript 7, personal communication 00:07:35). Apart from that, it is not visible that there is a trend in implementing services in a digital way. Rather sporadic than systematically, some of the CCs accept forms via e-mail which are of a simpler character, meaning address changes within the municipality or the application for criminal records that are then issued by the Federal Office of Justice in Bonn. Only one municipality contrasts this general appearance by providing its citizens with several online services on its website, including state and federal government services, as well as three categories of municipal services. Overall, the question of *how many and what kind of services of the Borken District Citizen Centers were fully or partially accessible via digital channels in spring 2022* could be answered as only a few intermittent services can be done without visiting the CC. However, there is no evidence that a changeover has already been made in the district of Borken in order to be able to offer specific services online.

Why this is the case and what circumstances have hindered more development will be discussed, taking the codes 3 to 6 into account. One reason why we cannot observe more changes, especially in view of the introduction of the OZG at the end of this year, is probably the reserved guidance by the ministry of the interior, as it was communicated by one employee that was being interviewed (Audio transcript 5, personal communication, 00:00:45). As the communication between the federal government and single municipalities on the status of the OZG seemed to be exiguous, it could explain why managers of CCs remain observant and do not push for pioneering developments in the digital sphere. There is no clear information about what is to change and in what way. Except for the one CC mentioned above the tendency of the remaining six can rather be summarized in form of a quote given by one interviewee saying "im Grunde [ist] alles so wie vorher erstmal." (Audio transcript 2, personal communication, 00:00:59). This would be exemplary to refer back to the wording of Paul Bush (1987) as a behavior that is 'ceremonially warranted', even if there were some turbulence in the environment in between. Although, there were several concerns that the legal framework would not even allow for most kinds of online services as for example signatures would not be actionable (Audio transcript 1, personal communication, 00:07:42 & 00:25:32), this doubt proves to be incorrect. Since 19th of February 2022, the EGovG NRW stipulates that the signature field is omitted for forms intended for electronic transmission to an authority. In this case, paragraph 3 of section 5 EGovG NRW regulates that a user can save an administrative act with the help of an online mailbox (Postfach), which is also provided by the state of North Rhine-Westphalia. Hence, the federal-state government is also providing an online service portal (<https://meineverwaltung.nrw/>) which is not actively used by any of the municipalities in the district of Borken. At least the use of the portal was not mentioned in any interview, and also a random check with different services in the different municipalities remained without result. In a recently published press release, the state government was pleased to announce that 400 digital services of the state and local government are already integrated into this portal (Landesregierung Nordrhein-Westfalen, 2022).

In any case, it can be concluded that not much has changed, or rather the pandemic did not remarkably change the course of developments. In her introduction to the Technology Enactment Framework, Fountain writes that "[d]uring periods of stability, institutions are taken for granted and accepted as the 'way things are,' but their taken for grantedness can change quickly when environments are turbulent implying a lack of depth in the anchoring of some institutions." (Fountain, 2001, p. 17). Even though the pandemic has caused quite a bit of turbulence, on the technical level, little has changed. Of course, the general focus on digitization has grown significantly in recent years, including the introduction of the above-mentioned 'E-Akte', but it does not seem that the Digital Administration NRW program (DVN) or intrinsic motivations of the CCs' managers have had any impact yet on the provision of online services in the district of Borken.

4.2. Sub-Question 3: What impact did the pandemic have on operations and the human component?

This next section pays attention to the third sub-question on '*what changes have occurred during the pandemic that have impacted employees' digital competencies*'? Therefore, this question will not focus on the technical side but on cognitive, cultural, and socio-structural changes that are part of the dimension of 'institutional arrangements' (Fountain, 2001). The aim is to find out whether employees had to adapt to changes that have occurred relatively spontaneously when the pandemic has started or if the required skills were already existent. Hence the angle of view is extended through the subitems 5.2.2 and 5.2.3, investigating the personal dimension and employees' attitudes toward digitalization.

However, as Fischer et al. (2022) have already discovered, the resilience of German public sector organizations has been stronger than expected. Noting that "leadership actually matters, particularly under critical conditions" (Fischer et al., 2022, p.21), they conclude that the transition to working situations that have changed, especially mentioning teleworking, caused little disruptions overall. Again, the first two subitems will combine two codes followed by the last code, which serves to illustrate the managers' assessment on movements in the significance of digitalization and digital skill sets.

4.2.1. New Technical Components and Skill Acquisition

Beginning with the unveiling of the findings on how the employees' skill set has shifted and due to what technical changes, this subitem uses the codes '*new technical components*' and '*new digital skills*'. To anticipate one point that stood out clearly in the analysis of the interview transcripts, every interviewee responded that the skills did not really change over the past two years (Audio transcript 1, personal communication, 00:20:01; Audio transcript 2, personal communication, 00:08:47; Audio transcript 3, personal communication, 00:12:47; Audio transcript 4, personal communication, 00:14:07; Audio transcript 5, personal communication, 00:10:10; Audio transcript 6, personal communication, 00:11:07;

Audio transcript 7, personal communication, 00:13:12). This also includes that no particular trainings took place during the pandemic that refer to the handling of new programs or anything alike. Neither was there any reference to trainings for the use of the digital filing system called 'E-Akte', any newly introduced appointment scheduling software, or the relatively common program VOIS, which is relatively new in at least one municipality (Audio transcript 5, personal communication, 00:09:20) and which is specially developed for data processing in public administrations. From the technical perspective, on the other hand, there were no severe changes that would require such trainings. Accordingly, the relatively high resilience already noted by Fischer et al. (2022) can be detected here as well. As already mentioned in the previous part, the technical equipment of the authorities can also be considered as good, at least in view of the current working procedures. How this may change, however, after the OZG will come into force in the next year is currently not foreseeable.

Another aspect that is certainly worth mentioning is the general focus on digitalization. While digitalization officers are usually working cross-departmental, it has shown that their role has suddenly become more and more important. Repeatedly it was mentioned that such a position for a delegate engaging in the municipalities' transformation was established during the pandemic (Audio transcript 2, personal communication, 00:05:02; Audio transcript 3, personal communication, 00:06:40; Audio transcript 4, personal communication, 00:00:38). Hence, in one of the larger municipalities that have been researched, it was commented that the single position of a digitalization officer formed into a department, which gained two additional employees in 2021 (Audio transcript 6, personal communication, 00:05:20). Likewise, the subjective feeling of a changed perspective on digital processes has altered. However, this will not be discussed in detail until the upcoming paragraphs. Apart from that, no significant problems have arisen in the offices, including the few of which have been able to relocate some work into employees' home office.

4.2.2. Employees' Adaptability and Shifting Attitudes

Continuing with the question of what personal impacts we can observe, this subitem combines the codes' adaptation of employees to pandemic circumstances' and 'changes in employees' personal attitudes toward digitization'. Again, the answers diverge quite a bit here as well. What is relatively distinct is that the openness to digitalization has changed. Every interviewee mentioned minor difficulties and things that have slightly altered at some point, even though the working processes stayed roughly the same. As this goes for everyone, the employees of CCs also had their concerns and fears, especially at the beginning of the pandemic. As learned from the first interview, these were by all means valid. A recent outbreak had significant effects on the authority's functioning (Audio transcript 1, personal communication, 00:22:51). In the same way, the volume of work has increased or has been pooled differently so that employees occasionally had a very high workload (Audio transcript 1, personal communication, 00:23:51; Audio transcript 4, personal communication, 00:17:38; Audio transcript 6, personal communication, 00:14:12). Accordingly, this in turn affected the general mood at work: „Und

das ist natürlich dann die Schwierigkeit, die dann das Team nochmal zusätzlich belastet, weil sie jeden Morgen wissen, wir haben jetzt heute 8 Stunden, aber es ist Arbeit für 16 Stunden da.“ (Audio transcript 1, personal communication, 00:23:51). But other influences that had an impact on the motivation of employees did exist as well. Such an example is the increasing impatience and incomprehension of citizens during periods of more stringent COVID restrictions (Audio transcript 2, personal communication, 00:11:41).

A positive observation, in contrast to that, is that the managers reported a generally good adaptability of their employees in this exceptional situation (Audio transcript 2, personal communication, 00:09:34; Audio transcript 4, personal communication, 00:16:09; Audio transcript 7, personal communication, 00:14:49). Hence, as addressed at the beginning, the awareness and appreciation of the digital transformation process became different. While younger employees see it as a matter of course, older employees tend to be reluctant and skeptical (Audio transcript 3, personal communication, 00:20:16; Audio transcript 5, personal communication, 00:10:44; Audio transcript 6, personal communication, 00:12:14; Audio transcript 7, personal communication, 00:15:52). However, a quote that sums up the alternation quite well is given by one interviewee saying: “[...] ich glaube, dass die Mitarbeiterinnen und Mitarbeiter erkennen, dass Digitalisierung doch unabdingbar ist“ (Audio transcript 3, personal communication, 00:20:16).

4.2.3. Insights on Changing Digital Demands on Employees

At last, the code '*interviewees' evaluation of employees' digital literacy*' will be discussed. As the actual development of skills has been asserted in the previous sections, the task here was to analyze how managers evaluate the greater picture of digital literacy, including future developments. The answers for the assessment of this code are almost exclusively taken from question eight of the interview questionnaire, and they provide a quite clear tendency. While solely in the second interviewee stated that the focus on digital skills has not shifted during the period of the pandemic and that the interviewee does not see any noteworthy changes in the future (Audio transcript 2, personal communication, 00:13:18), all other respondents dissent from this ascertainment. However, the complete answer of Interviewee 2 included the explanation that the use of digital resources had been very high even before the pandemic (Audio transcript 2, personal communication, 00:13:18). Nevertheless, the trend of growing importance of digitalization and the correspondent set of skills was repeatedly confirmed (Audio transcript 3, personal communication, 00:16:53; Audio transcript 4, personal communication, 00:18:24; Audio transcript 5, personal communication, 00:13:46; Audio transcript 6, personal communication, 00:15:12; Audio transcript 7, personal communication, 00:17:27). Also frequently mentioned was that the consciousness of employees and themselves as the head of the CCs have developed in the manner of thinking of digitalization differently and involving it more in the process of finding solutions (Audio transcript 6, personal communication, 00:16:38; Audio transcript 7, personal communication, 00:17:40).

4.2.4. Second Interim Conclusion

As mentioned at the very beginning of this thesis, the COVID-pandemic can be viewed from at least two perspectives. Of course, it is a disaster, it had tragic effects on our lives, and it demonstrated how flat-footed we were in some areas of our accustomed daily environment. But at the same time, it is an opportunity to learn (OECD, 2020). Derived from this, the purpose of this interim conclusion is to answer the question '*what changes have occurred during the pandemic that have impacted employees' digital competencies*'. It has shown that the best way to cope with such circumstances is to act proactively instead of reacting to whatever happens (Gabryelczyk, 2020). From the analysis of the interviews, we have learned that this has not been the case in the district of Borken. Although the performance of the CCs has not collapsed and most of the closures were only short-term until a solution was found, there is also no indication that significant changes have taken place. Amankwah-Amoah et al. (2021) described the pandemic as a catalysator for the advancement and adoption of new technologies, which was as well was frequently confirmed by the interviewees, however, the researched organizations have not shown this much flexibility that a convenient system was introduced to handle the situation. As a result of the relatively unchanged working environment, no acquisition of new skills was needed. Admittedly, the general feeling of the importance and logic of an increased use of new technologies has changed, but it could also not be motivated for specific reasons (cf. Audio transcript 6, personal communication, 00:15:12; Audio transcript 7, personal communication, 00:17:40). What did change is the consciousness of employees and managers now consistently accepting and supporting digitalization projects as pandemic-related restraints became more conspicuous. A positive development in this context is the enhanced recognition of the need for digitalization officers. In the near future, they will play a major role not only in driving digitization forward in general but also in raising awareness among employees and providing them with the necessary support (Gabryelczyk, 2020).

Additionally, to return to Jane Fountain's model (2001) and the Institutional Change Theory (Bush, 1987), both the legal sphere is being increasingly adapted to the feasibility of e-government projects, as well as the socio-structural and cultural levels are undergoing massive change. The time to implement major reforms like the OZG and have such broad support seems unprecedented. Thus, from the perspective of institutional arrangements, the skills or demands have not changed that much yet, but the cultural and legal dimensions did. But whenever instrumental values assume the leadership, it can be expected that the cognitive dimension also quickly follows suit.

5. Conclusion and Results

To proceed with the final conclusion of this bachelor thesis, the findings of the investigated sub-questions will now be discussed together to answer the central question: *To what extent has the COVID-19 pandemic influenced the use of digital technologies in citizen centers in the rural district (Landkreis)*

of Borcken? Beginning with the view on objective information technologies, we can conclude from section 4.1.5 that the pandemic has not required or caused adaptations of the used technologies. Despite the newly embedded software for the scheduling of appointments, no considerable implementations took place during that period. All means of communication that are currently in use have been existent in the CCs before COVID regulations came into force. Likewise, this refers to hardware developments.

The other influencing factor is the institutional arrangement. As discussed before, the Online Access Act is coming into force by the end of this year. As this major development is expected to have significant effects on a range of public authorities, citizen centers will undoubtedly be significantly affected. On the one hand, it is surprising that only six months in advance, there is little evidence of preparations for it, but on the other hand, the National Regulatory Control Council has already indicated that delays are likely to occur (National Regulatory Control Council, 2021a). Nevertheless, the main argument here is that the legal circumstances are currently revised extensively due to the OZG. This includes the already mentioned e-government act of North Rhine-Westphalia (EGovG NRW), the online access act itself, or the register modernization act (RegMoG). All of these changes are currently transforming the institutional arrangements in a way that could make digital working and online services the norm. In addition, it should also be noted what has happened on the cultural and cognitive sides. While there were likewise few developments that took place during the past two years, the consciousness of the urge for digital transformation has shifted considerably. While Gabryelczyk (2020) found that COVID-19 has already accelerated digitalization is not distinctly visible in the CCs in the district of Borcken, her conclusion that the pandemic contributed to the future path of digitalization appears to be valid. As mentioned in section 4.2.3, almost all interviewees highlighted that the pandemic had influenced the mindset, assessing the digital transformation as more important than before (Audio transcript 3, personal communication, 00:16:53; Audio transcript 4, personal communication, 00:18:24; Audio transcript 5, personal communication, 00:13:46; Audio transcript 6, personal communication, 00:15:12; Audio transcript 7, personal communication, 00:17:27).

However, it has to be highlighted once again that the interim solutions for difficulties that arose through COVID regulations were, to a large extent, analog. Correspondence in the form of e-mails had risen strongly, but solutions such as operation through a window, door, or hatch were repeatedly mentioned. Likewise, the need to switch things that were previously digital back to printed copies. This speaks for a certain resilience of the citizen centers on the circumstances of the pandemic, but it does not indicate digitalization or progress in the digital transformation. Another aspect that concludes is that, in addition to internal consistency, no noticeable added value for the respective citizens is likely to be created (Trischler & Westman Trischler, 2021). Thus, in the district of Borcken, it was found that no fundamental tangible changes in the use of digital technologies can be observed. Resulting from that, nor has the enacted technology changed in its perception, design, implementation, or its use (Fountain, 2001). As can be seen mainly from the first two sub-questions, the performance has temporarily undergone a negative change, but it is nearly back to the pre-pandemic level. From the perspective of

the Technology Enactment Framework, performance can be identified as the term outcome. Apart from the new digitalization officers, who will presumably lead to changes in the future, and the introduction of appointment systems, the pandemic has left only a minor impact on the CCs.

However, this thesis also has its limitations, namely the validity due to the relatively small number of observed municipalities in the district of Borken. Despite generally consistent findings, only seven of the 17 municipalities were taken into account. To be able to draw conclusions on the development of digitization beyond the district of Borken, comparable studies would have to be undertaken in other districts. In addition to that, further research might be advisable after the OZG comes into force. This would expand the findings of this research by adding knowledge on the adaptability to the legal obligation to offer digital services and, at the same time, grant insights into the future state of development of public authorities.

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7. Annex

Page	Content	Note
31	Kreis Borken	overview of Borken's municipalities and sizes of the
32	Interview questionnaire 1	used for Interview 1
33	Interview questionnaire 2	the amended questionnaire used for interviews 2-7
34	Coding scheme	
35	Figure of Fountain's Technology Enactment Framework	

8. Data Appendix

Content	Note
Audio transcript 1	(also referred to as interviewee 1)
Audio transcript 2	(also referred to as interviewee 2)
Audio transcript 3	(also referred to as interviewee 3)
Audio transcript 4	(also referred to as interviewee 4)
Audio transcript 5	(also referred to as interviewee 5)
Audio transcript 6	(also referred to as interviewee 6)
Audio transcript 7	(also referred to as interviewee 7)
Atlas.ti Project Bundle	.atproj22 file containing the coding of interviews 1-7, the interview transcripts, and the two questionnaires

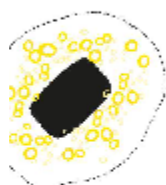
Kreis Borken

Distribution of the population of the district of Borken among the individual municipalities

Municipality	Citizens
Ahaus	39,404
Bocholt	71,061
Borken	42,650
Gescher	17,246
Gronau	48,576
Heek	8,651
Heiden	8,204
Isselburg	10,758
Legden	7,342
Raesfeld	11,515
Reken	14,965
Rhede	19,319
Schöppingen	6,759
Stadtlohn	20,290
Südlohn	9,370
Velen	13,112
Verden	22,676
total	371,898

Note. Data retrieved from Kreis Borken. (2020). Kreis Borken. Retrieved June 27, 2022, from https://kreis-borken.de/fileadmin/kbor/FB_15/Statistik/Statistikatlas/atlas.html.

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Fragebogen:
Einflüsse der Covid-Pandemie auf die Bürgerämter des Kreis Borken

23.05.2022

Q1.1:

Gab es bereits vor 2020 Dienstleistungen, die (teilweise oder vollständig) über digitale Wege von Bürgern und Bürgerinnen in Anspruch genommen werden konnten?

Q1.2:

Wie hat sich dies seit Beginn der Pandemie verändert?

Q2:

Wie bewerten Sie die Einschränkungen während der Pandemie in Hinblick auf die Erreichbarkeit der Dienste für Bürger und Bürgerinnen?

Q3.1:

Gab es Aufgaben oder Dienstleistungen, deren Erfüllung durch die Pandemie besonders herausfordernd war?

Q3.2:

Falls ja, wie haben Sie dieses Problem/diese Probleme gelöst?

Q4:

Falls vorhanden, welche Richtlinien/Standards/Anforderungen wurden von der Kreisverwaltung erhoben, insbesondere in Bezug auf den Zugang für Bürger und Bürgerinnen, und das digitale Auftreten Ihrer Behörde?

Q5.1:

Welche Ressourcen wurden Ihnen bereitgestellt, um Ihre Arbeit digitaler gestalten zu können?

Q5.2:

Sofern nicht in Q5.1 beantwortet, welche Ressourcen hätten Sie sich gewünscht und wie haben Sie vorhandene Mittel zu diesem Zweck eingesetzt?

Q6.1:

Wie würden Sie sagen, hat sich die Leistungsfähigkeit des Bürgeramtes verändert durch die Beschaffung neuer technischer Komponenten (Scanner, Telefone, Drucker, Server, etc.)?

Q6.2:

Wie würden Sie sagen, hat sich die Leistungsfähigkeit des Bürgeramtes verändert in Hinblick auf Veränderungen der genutzten Software?

Q6.3:

Wie würden Sie sagen, hat sich die Leistungsfähigkeit des Bürgeramtes verändert durch neu gewonnene Fertigkeiten der Angestellten (durch Workshops, Schulungen, geändertes Anforderungsprofil neuer Mitarbeiter, etc.)?

Q7.1:

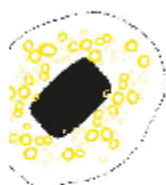
Wie bewerten Sie die Anpassungsfähigkeit Ihrer Mitarbeiter und Mitarbeiterinnen mit der Situation der Covid-Pandemie und damit verbundene Veränderungen in den Arbeitsabläufen?

Q7.2:

Wie würden Sie sagen, hat sich die Grundstimmung seitens der Mitarbeiter und Mitarbeiterinnen im Verlauf der Pandemie verändert, besonders in Hinblick auf die Arbeitsprozesse?



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Fragebogen:
Einflüsse der Covid-Pandemie auf die Bürgerämter des Kreis Borken

29.05.2022

Q1.1:
Gab es bereits vor 2020 Dienstleistungen, die (teilweise oder vollständig) über digitale Wege von Bürgern und Bürgerinnen in Anspruch genommen werden konnten?

Q1.2:
Wie hat sich dies seit Beginn der Pandemie verändert?

Q2:
Wie bewerten Sie die Einschränkungen während der Pandemie in Hinblick auf die Erreichbarkeit der Dienste für Bürger und Bürgerinnen?

Q3.1:
Gab es Aufgaben oder Dienstleistungen, deren Erfüllung durch die Pandemie besonders herausfordernd war?

Q3.2:
Falls ja, wie haben Sie dieses Problem/diese Probleme gelöst?

Q4:
Falls vorhanden, welche Richtlinien/Standards/Anforderungen wurden von der Kommune oder Kreisverwaltung erhoben, insbesondere in Bezug auf den Zugang für Bürger und Bürgerinnen, und das digitale Auftreten Ihrer Behörde?

Q5.1:
Welche Ressourcen wurden Ihnen bereitgestellt, um Ihre Arbeit digitaler gestalten zu können?

Q5.2:
Sofern nicht in Q5.1 beantwortet, welche Ressourcen hätten Sie sich gewünscht und wie haben Sie vorhandene Mittel zu diesem Zweck eingesetzt?

Q6.1:
Wie würden Sie sagen, hat sich die Leistungsfähigkeit des Bürgeramtes verändert durch die Beschaffung neuer technischer Komponenten, einschließlich Software (Scanner, Telefone, Drucker, Server, etc.)?

Q6.2:
Wie würden Sie sagen, hat sich die Leistungsfähigkeit des Bürgeramtes verändert, durch neu gewonnene Fertigkeiten der Angestellten (durch Workshops, Schulungen, geändertes Anforderungsprofil neuer Mitarbeiter, etc.)?

Q7.1:
Wie bewerten Sie die Anpassungsfähigkeit Ihrer Mitarbeiter und Mitarbeiterinnen mit der Situation der Covid-Pandemie und damit verbundene Veränderungen in den Arbeitsabläufen?

Q7.2:
Wie würden Sie sagen, hat sich die Grundstimmung seitens der Mitarbeiter und Mitarbeiterinnen im Verlauf der Pandemie verändert, besonders in Hinblick auf Arbeitsprozesse die digitaler gestaltet wurden, oder digitaler gestaltet hätten werden können?

Q8:
Würden Sie sagen, dass sich die Anforderungen an Mitarbeiter und Mitarbeiterinnen durch die Pandemie tendenziell verschoben hat, hin zu einem verstärkten Fokus auf Digitale Fähigkeiten?



Atlas.ti Coding Scheme – quantitative overview

Group: Sub-question 1 and 2

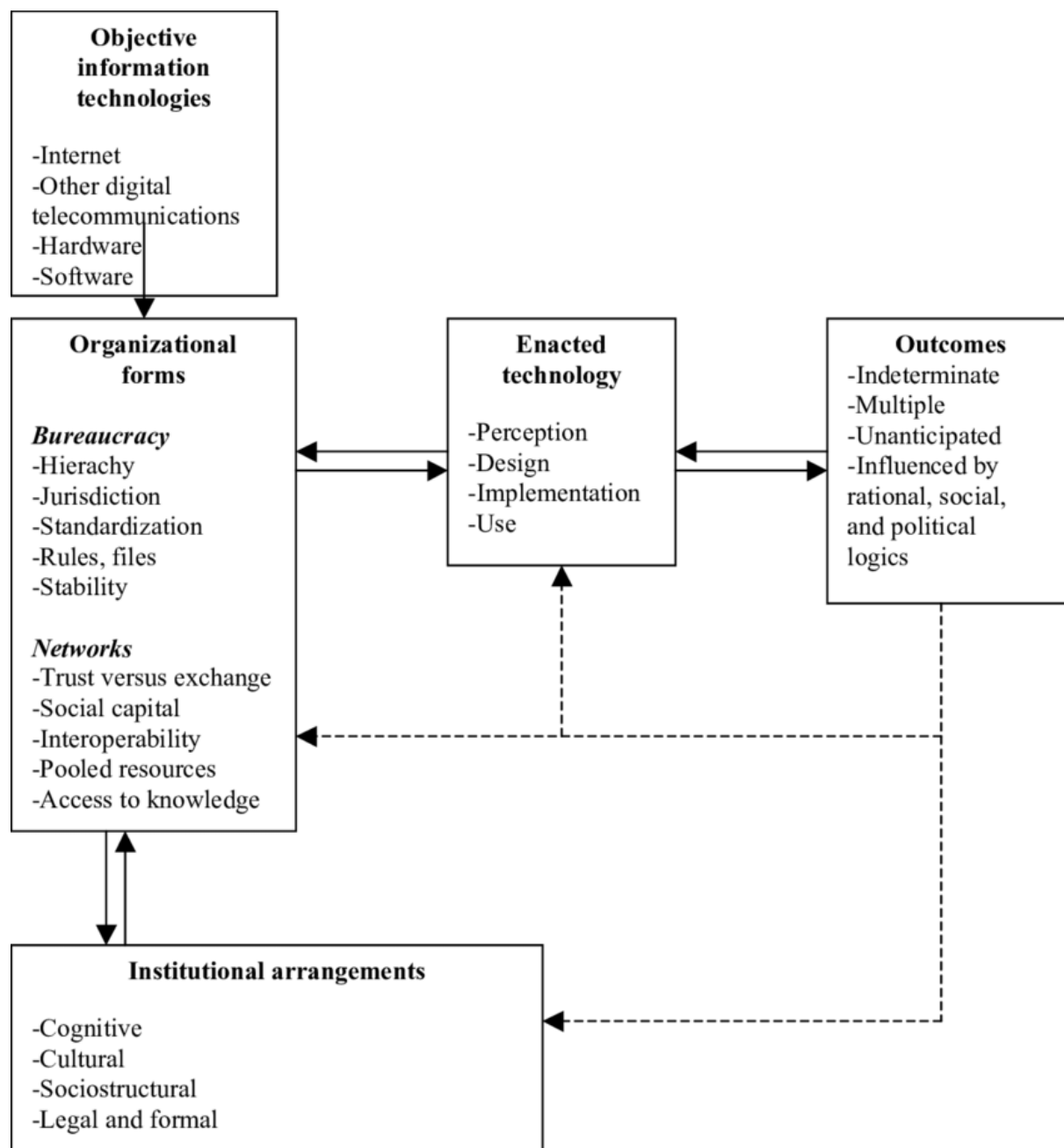
Code	Audio transcript							Total
	1	2	3	4	5	6	7	
1. Non-analog services before the start of the pandemic	2	1	2	1	1	1	2	10
2. Changes in the offering of digital services	7	3	3	4	6	6	6	35
3. Restrictions on access for citizens	2	1	4	2	2	2	1	14
4. Limitations in the range of available services	2	3	1	2	2	2	2	14
5. Particularly challenging tasks and solution finding	6	3	1	3	1	2	4	20
6. Managing of resources for task accomplishment	7	4	3	3	3	2	6	28
	26	21	15	15	15	14	15	121

Group: Sub-question 3

Code	Audio transcript							Total
	1	2	3	4	5	6	7	
7. New technical components	2	3	6	1	1	6	2	21
8. New digital skills	2	2	1	1	2	2	1	11
9. Adaptation of employees to pandemic circumstances	4	4	2	3	2	3	5	23
10. Changes in employees' personal attitudes toward digitization	2	3	6	1	5	5	3	25
11. Interviewees' evaluation of employees' digital literacy	-	1	2	2	2	4	3	14
	10	13	17	8	12	20	14	94

Technology Enactment Framework

Technology Enactment Framework



Note. Adapted from *Building the Virtual State: Information Technology and Institutional Change*, by, J. E. Fountain, 2001, p. 91. Brookings Institution Press.