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**Enabling Remote Work in Municipal Offices -  
Insights for Workforce Transition**

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## **Abstract**

The global shift toward remote work has become a pivotal component of workforce strategies, particularly accentuated post-pandemic. This thesis investigates the adoption and implications of remote work within municipal administrations in Germany through a mixed-methodology approach. By combining qualitative interviews and a survey with municipal administrators in Calw, Baden-Württemberg, and a quantitative survey of mid-sized municipalities nationwide, the research addresses the current extent, challenges and benefits of predominantly remote work positions in municipal administration. Findings indicate a significant increase in remote work adoption since 2019, with formal agreements typically limiting remote work to 50%, and municipalities allowing more than 60% being rare. The study reveals a greater openness towards remote roles in non-leadership positions within core administration. Benefits cited include enhanced attraction and retention of skilled labor due to increased flexibility. Conversely, challenges such as collaboration difficulties, hybrid team management, and technological provision persist, with maintaining high levels of employee engagement and minimizing isolation being universal concerns. This thesis contributes to academic discourse by providing a detailed analysis of remote work's current state and future potential in German municipal administrations. It offers strategic insights for policymakers and administrative leaders on integrating remote work sustainably in the public sector, identifying key areas for future research.

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## **Abbreviations**

COVID-19	Coronavirus disease 2019
FWC	Flexible Work Centres
FWA	Flexible work arrangement
HR	Human Resources
ICT	Information and communications technology
IQR	Interquartile range
IT	Information technology
RTO	Return-to-Office
USA	United States of America
WFH	Work from Home

## 1. Introduction

In the wake of the global pandemic, remote work has shifted from a peripheral option to a central component of the modern workforce. This transformation has not only captured significant attention across various media platforms, including major news outlets (e.g. Boberg, 2024; Goldberg, 2023; Voss, 2024) and industry publications (e.g. Mayne, 2024; Moss, 2024; Quinio & Walker, 2024), but it has also become a focal point in scholarly research (e.g. Antunes et al., 2023; Kraus et al., 2023; Palumbo et al., 2022; Z. Yang & Huang, 2023). Remote work has changed many industries, yet its penetration into municipal administration presents a unique set of challenges and opportunities. Since cities around the globe adapt to new ways of working, the shift towards remote operations in public sector administration is not just a temporary adjustment but potentially a permanent transformation. As this trend unfolds, Germany's municipal offices provide a compelling case study, reflecting a broader shift towards flexibility and digital collaboration in government operations. This thesis investigates the intricacies of predominantly remote positions within these offices, aiming to dissect the layers of administrative, cultural, and technological challenges and benefits that accompany this transition. Through this lens, the research seeks to capture a comprehensive picture of the current state and future potential of remote work in the public sector, providing insights that could shape policy and redefine public service in a post-pandemic world.

Municipal administrations play a crucial role as direct, local government entities that are closely connected to citizens. The complexity of their operation is magnified by several intersecting factors, such as the increased demand for services despite shrinking financial resources, as underlined by Cepiku et al. (2016). Additionally, the dynamic interplay between evolving citizen and client needs (Benington & Moore, 2011) and changing workforce expectations (Wadsworth et al., 2010; Wadsworth & Facer, 2016) introduces further complexity to the challenges public organizations face. The German public service sector not only confronts these challenges but also deals with significant issues related to staffing shortages (Detemple et al., 2018; Schophaus, 2022). In recent years, the attractiveness of the German public sector as an employer has declined, facing difficulties in filling vacancies and a lack of qualified personnel, especially in specialized fields. These staffing shortages, driven by demographic shifts and a wave of impending retirements, are expected to continue (see Halsbenning et al., 2021, pp. 427–428).

Traditionally, municipal administration has operated within a framework that emphasizes in-person engagement, with systems and procedures heavily reliant on face-to-face interactions and physical documentation. However, the COVID-19 pandemic forced a rapid shift to remote work, accelerating a trend that was already underway due to

technological advancements, this sudden shift to remote work has garnered considerable attention from researchers. Chan et al. (2023) emphasize the importance of conducting long-term evaluations and addressing adverse effects based on their analysis of academic literature. Roy (2022) underlines the necessity of comprehending and managing the integration of hybrid work environments in the public sector. The timing of this thesis is opportune, benefiting from the post-COVID pandemic landscape that has catalyzed a notable upswing in recent research on remote work.

Despite the growing body of literature on remote work (e.g. Akhavan et al., 2023; Dhanesh & Picherit-Duthler, 2021; Donati et al., 2021; Piirsalu-Kivihall et al., 2023; Tran et al., 2022), there is a notable lack of focused studies on its implementation within the public sector, particularly in municipal administration (exceptions include Giacomini & Palumbo, 2023; Toleikienė et al., 2020). Most existing research predominantly covers remote work in private sector contexts, with less attention given to the unique constraints and requirements of public administration.

There is a critical need for research that addresses the operational, cultural, and technological challenges municipal bodies face in implementing remote work. Additionally, there is little literature that synthesizes practitioners' perspectives on the sustainability and expansion of these work models. This paper explores remote work in the context of administrative operations of medium-sized municipalities in Germany. Governed by municipal parliaments and administrations, these entities have a close relationship with citizens and directly provide public services. Given their proximity to citizens and the direct nature of their public services, municipalities present a particularly relevant setting for studying the nuances of digital transformation in public administration. This focus is especially pertinent given that approximately a third of all public sector workers in Germany are employed at the municipal level (Wollmann, 2012, p. 425) emphasizing the significance of these entities in the broader context of the country's federal system. Although many tasks are predefined by higher government levels, municipalities have considerable freedom in executing these tasks, including the adoption of remote and hybrid work arrangements (Bogumil, 2018, p. 768; Internetredaktion LpB BW, 2023). This organizational sovereignty makes German municipalities ideal settings to explore the adoption and implications of remote work.

This thesis explores the intricacies of predominantly remote positions within municipal offices, focusing on Germany. It seeks to answer the central research question: "What are the challenges and benefits of predominantly remote work positions in municipal administration?". To provide a comprehensive analysis, the research addresses two pivotal sub-questions: "How are remote roles currently implemented in municipal offices

across Germany?" and "What possibilities exist for future growth of remote roles, and what are practitioners' perspectives on expanding these arrangements?" This research aims to provide a comprehensive understanding of the current and potential future implementation of remote work in the public sector and offer insights that could guide policy and operational adjustments.

The study employs a mixed-methodology framework, beginning with qualitative insights through in-depth, semi-structured interviews with administrators from the city of Calw in the German state of Baden-Württemberg. As a mid-size municipality with approximately 25,000 inhabitants, Calw serves as an ideal case study. The quantitative component of this research includes a comprehensive survey conducted with all employees of Calw, alongside a national survey of municipal employees across Germany. This dual approach, focusing on the implementation of predominantly remote positions, allows for a robust analysis of both empirical data and experiential narratives. The extensive access granted to the author by the Calw municipality enhances the depth and relevance of the findings, offering a detailed understanding of the evolving landscape of remote work within municipal governments.

This thesis proceeds as follows: The following Literature Review explores two critical themes: municipal administration in Germany and remote work in public administration. These areas provide the theoretical underpinnings for the research. The subsequent section, Research Methodology and Design, outlines a detailed approach to data collection, which encompasses expert interviews in Calw. This includes the formulation of interview guidelines, selection of experts, execution of the interviews, transcription, and qualitative content analysis according to thematic analysis methodology. Additionally, this section describes the surveys conducted among German municipalities and Calw employees, further broadening the empirical base of the research. The Results section presents findings from the interviews, the municipal survey, and the employee survey, providing a rich dataset for analysis. Following this, the Discussion section critically examines the study findings within the context of the current scientific debate on implementing remote work arrangements in municipal administration. The thesis concludes with a chapter that synthesizes the research implications and highlights potential avenues for further research.

## 2. Literature Review

The literature review examines research on integrating remote work in German municipal administration. It includes two main subsections: "Municipal Administration in Germany" and "Remote Work." The first section offers an overview of organizational structures, frameworks, and regulatory environments of German municipal bodies. This foundation aids in understanding the specific administrative context. The second section explores the evolving dynamics of remote work. It covers theoretical and empirical studies that discuss its implementation, challenges, and benefits. These sections contextualize the research question of the thesis: "What are the challenges and benefits of predominantly remote work positions in municipal administration?" The review aims to connect general remote work research with the specific context of mid-sized German cities.

### 2.1 Municipal Administration in Germany

Germany serves as a prime example of a federal system. The states (Länder) hold a strong position. They are equipped with specific legislative and administrative powers, as defined in the German Constitution (Grundgesetz). Through the Bundesrat, which is controlled by the state governments, they exercise direct influence on federal legislation and policy (Wollmann, 2012, p. 421). This federal structure extends to the lowest administrative level, the municipalities (Kommunen). Despite their presence in all states, they vary in size and function, because it is the individual states that oversee the management and oversight of municipalities.

Germany has a diverse range of approximately 11,000 municipalities and these range from major cities like Munich or Cologne, to the smallest villages (Bogumil & Holtkamp, 2021, p. 446; Fazit Communication GmbH & Auswertiges Amt, 2024). About a third of all public sector workers are employed by these cities and communities. Compared to other federal countries like the USA, the federal government in Germany employs a notably small percentage of public sector workers, barely over 10%. The states occupy a strong position in the intergovernmental structure, employing about half of all public sector employees (Wollmann, 2012, p. 425).

The German Constitution sets forth in Article 28 general principles for the governance of municipalities and municipal associations, emphasizing democracy and homogeneity as core values. It mandates that representation at the levels of the Länder, counties, and municipalities must result from general, direct, free, equal, and secret elections.

Furthermore, the Basic Law guarantees the self-administration of municipalities, including their financial autonomy (Wehling, 2019, pp. 7–8). States set the framework conditions for their municipalities. They determine administrative boundaries, size, responsibilities, and their organization. Municipalities may organize within broader territorial units such as administrative communities, districts (Landkreise), or regions (Bezirke). States regulate the internal governance structures of municipalities, known as the "Innere Gemeindeordnung." They also supervise municipal operations. Moreover, states can delegate certain tasks to municipalities (Wehling, 2019, p. 7).

Municipalities in Germany primarily handle tasks related to internal administration and general state functions, social services, healthcare, economic development, transportation, and public facilities. This means that a significant portion of administrative responsibilities in Germany falls under the jurisdiction of cities and municipalities (Bogumil, 2018, p. 771). They perform tasks assigned by the federal and state governments as the lower administrative authority (mandated tasks), and they also have a range of responsibilities they manage on their own (self-governance tasks). Mandated tasks include areas such as registration laws, building supervision, foreigner affairs, civil protection, and public order. In this realm, municipalities have little to no discretion in setting objectives, as they must follow directives from higher authorities. Oversight agencies hold not only legal but also specialized supervisory powers over these tasks (Bogumil, 2018, p. 771). On the other hand, self-governance tasks allow municipalities more freedom and include both voluntary activities (such as the creation and maintenance of parks, museums, swimming pools, theaters, sports facilities, youth centers, libraries, senior citizen centers, community centers; support for clubs; economic promotion; and partnerships with other cities) and mandatory duties (like municipal roads, urban planning, kindergartens, youth welfare, social assistance, housing benefits, school administration, adult education centers, housing construction promotion, waste removal, and sewage disposal) (Bogumil, 2018, pp. 771–772). Mandatory tasks are often outlined by federal or state laws with specific guidelines for their execution, varying in discretion for their implementation (Internetredaktion LpB BW, 2023).

Germany's financial system mostly pools all tax revenues, distributing them across government levels according to a legally defined formula. Federal laws mandate states to fund specific municipal tasks, like road construction, and balance financial disparities among municipalities (Wehling, 2019, p. 8). Besides, municipalities in Germany can collect taxes to finance their activities. Currently, the main types of taxes they collect are property and business taxes, as well as smaller excise and consumption taxes, such as the dog tax. However, 22% of the revenue from the business tax is redistributed to the federal

and state governments through a business tax apportionment system. The local council has the authority to decide on the tax rates (Bogumil, 2018, p. 772).

Under state law, districts and municipalities have organizational sovereignty over their area. This means they have the right to independently design their internal organization. This includes selecting the governing bodies, organizing the municipal administration, and regulating the "internal constitution" of the municipality. They do this by enacting the main statutes and the rules of procedure. The power to organize the municipal administration applies to both self-governance tasks and mandated tasks (Bogumil, 2018, p. 768). This framework of organizational sovereignty plays a vital role in discussions on remote work within municipal administrative settings. Many tasks may be largely predefined by higher levels of government, yet municipalities have considerable flexibility in determining procedural approaches and organizing their administrative functions. This flexibility includes the capacity to adopt remote and hybrid work arrangements. Municipalities can tailor their administrative operations to modern work practices by integrating remote work, thus their organizational sovereignty is a crucial consideration for exploring remote work's adoption and implications in municipal administration.

### *Mittelstädte*

The size of municipalities varies significantly across the German states. The distribution of the around 11.000 municipalities is uneven. Consequently, the term municipalities in Germany encompasses a wide range of sizes, from major cities with millions of inhabitants, to over 4,000 communities with fewer than 500 residents each (Bogumil & Holtkamp, 2021, p. 446). This research, however, concentrates on medium-sized cities, intentionally excluding both the larger cities and the myriad of smaller towns and communities scattered throughout Germany. Medium-sized cities are a significant research topic because of their crucial social, political, and economic roles. They serve as central hubs for smaller rural communities, particularly in rural areas and they cities face broad challenges, such as mobility issues, demographic shifts, economic development, and the provision of extensive educational services. Additionally, they usually have fewer resources for digital solutions compared to larger cities (Becker et al., 2021). Their mid-size provides a manageable overview of the entire city administration. Yet, they engage in many tasks and face challenges like larger cities. This balance positions them uniquely for in-depth studies.

The most common starting point for defining medium-sized cities (Mittelstädte) in Germany is based on the numerical definitions from the German Imperial Statistics of 1871, which were established by the statisticians' conference in 1887 and continue to

serve as a basis in German administration to this day (Schmidt-Lauber et al., 2024). According to this definition, cities with a population between 20,000 and 100,000 are classified as medium-sized cities (Kunzmann, 2004; Schmidt-Lauber et al., 2024). This is also the definition adopted in this thesis and a classification also adopted by Becker et al. (2023) in their approach.

However, it's important to acknowledge that this method is not without criticism. Due to the general urbanization of rural areas, these historical population numbers are considered low (see Flacke, 2004, p. 27). From a modern perspective, the size criteria might need to be expanded, suggesting that a medium-sized city in Europe could be defined as one with up to 250,000 residents. This perspective shifts dramatically when considering China in the 21st century, where such a city might only be classified as a small town. This underscores the idea that definitions of city sizes are deeply regional (Kunzmann, 2004, p. 19). Moreover, using only population figures to define a city can be insufficient for understanding its unique qualities, making it an inadequate tool for certain research inquiries. Comparisons between cities need to consider a variety of factors, such as whether a city is a rejuvenated suburb, centered around specific industries, a major transport hub, or a growing community near commuter rail services. Cities may also act as vital points in rural areas, have historical importance, or their character could be shaped by their location near borders and other cities (Kunzmann, 2004, p. 24).

Still, given this thesis's focus on the implementation of remote work within city administrations in Germany and the specific interest in medium-sized cities, this straightforward differentiation based on inhabitant numbers is deemed sufficient. This decision allows for a focused examination of remote work practices within a well-defined and relevant subset of German cities, sidestepping the complexities of broader, more variable definitions of city size.

## 2.2 Remote Work

The concept of remote work has been gaining attention since the 1970s. Jack Nilles (1975) introduced the broader term “telework”, which encompasses various work-related activities outside the employer's premises, facilitated by information and communication technologies usage of telecommunications in the information industry. Over time, advancements such as teleconferences and the rapid expansion of the Internet have transformed work practices and offered new possibilities for cost reduction in organizations. Although early scholarly interest in the implications of information and communications technology (ICT) on work organization is undoubtedly relevant, it is

crucial to recognize that the literature on new ICTs and telework navigates a rapidly evolving technological landscape. The effects discussed in one publication may become outdated and not applicable in another (Messenger & Gschwind, 2016, pp. 200–202).

The academic interest in remote work has significantly increased during and after the pandemic, yet the findings often echo earlier research. For instance, Pearce (Pearce, 2009, p. 25) outlined several organizational benefits of telecommuting, including increased productivity, enhanced ability to attract and retain top talent, reduced operating costs, continuity of operations during emergencies, and environmental advantages. We see these benefits again in more recent publications (Bae & Kim, 2016; Giacomini & Palumbo, 2023; Palumbo et al., 2022; Todisco et al., 2023). Thus, the timing of this thesis is opportune, benefiting from the post-pandemic landscape that has catalyzed a notable upswing in recent research on remote work an event that has sparked intense debates and fundamentally altered perceptions of workplace flexibility. This surge offers contemporary insights into the dynamic evolution of remote work as well as the relevance of this study. Despite notable contributions like those from Giacomini & Palumbo (2023) and Toleikienė (2020), the research specifically targeting municipalities and municipal administrations remains limited, which clearly emphasizes the immediacy of the topic.

Much of the literature on alternative work arrangements originates from non-public administration fields, particularly organizational and HR studies within the private sector. Nevertheless, public administration research includes a substantial body of work, as evidenced by a literature review conducted by Palumbo et al. (2022). This review analyzed 72 records spanning from 1995 to 2021, underscoring the growing focus on smart working research, with more than one-third of the studies published post-2010, up until 2021. Peer-reviewed articles constitute the majority (89.9%) across 50 journals (Palumbo et al., 2022, p. 7). Empirical research, predominantly quantitative, constitutes nearly 90% of the studies. This emphasizes a data-driven approach to understanding smart working. Geographically, the highest research activity is observed in Europe, followed by Oceania, with fewer contributions from North America and Asia, and minimal representation from Africa (Palumbo et al., 2022, p. 9).

Palumbo's findings regarding geographic activity were also noted during the work on this thesis. Here, the high research output from Oceania was especially prominent and could be partially attributed to specific cultural and organizational factors prevalent in Australia. Notably, the Australian Public Service was an early adopter of home-based work arrangements, as evidenced by the establishment of the 1994 Australian Public Service Interim Home-Based Work Award (Dixon, 2003, p. 6). During the pandemic, over half of the Australian Public Service workforce was working remotely. However, the Australian

Government's messaging was observed to show resistance to remote work (Williamson et al., 2020, pp. 603–604). This combination of early adoption and pandemic-related adjustments in Australia may explain the significant research focus on smart working in the region.

Palumbo et al. (2022) also critically address the vague definitions and inconsistent implementations of smart working. Despite the support of technological advancements and flexible policies, they often fail to genuinely empower employees. While smart working is touted as a means to boost productivity and improve work-life balance, it can also lead to negative impacts. These include increased work-related fatigue, isolation, and diminished organizational commitment (Palumbo et al., 2022, pp. 17–18).

The literature includes various terms and definitions that denote work arrangements distinct from the conventional in-office presence. Examples include Smart Working (Cellini et al., 2021; Giacomini & Palumbo, 2023; Palumbo et al., 2022; Todisco et al., 2023), Remote Work (Akhavan et al., 2023; Donati et al., 2021), Telework (Antunes et al., 2023), Hybrid Work (European Foundation for the Improvement of Living and Working Conditions., 2023; Roy, 2022), Working From Home (Holgersen et al., 2021; Kossen & van der Berg, 2022), and Alternative Work Arrangements (Yildizhan et al., 2023). These concepts are not always clearly distinguishable and unambiguously defined. Caillier (2012), for example, describes teleworking as the opportunity for employees to perform some or all their tasks from home or an alternative location. In contrast, Cellini et al. (2021) define teleworking as employees working entirely from home. In addition, they also coin the term "Covid-work" to highlight the mandatory nature of remote work during the pandemic rather than being truly 'smart' or flexible remote work (Cellini et al., 2021, p. 829).

From a German legal perspective, telework is the only form of work outside of traditional office settings that has a legal definition. According to § 2 Para. 7 of the *Arbeitsstättenverordnung* (Workplace Ordinance), telework is defined as computer workstations in the private areas of employees that are permanently established by the employer. These workstations must have a set weekly working time and duration of setup agreed upon by both employer and employee. A telework station is considered established only when the terms of telework are contractually agreed upon by both parties, and the necessary equipment—such as furniture, work tools, and communication devices—has been provided and installed in the employee's private area by the employer or an authorized representative.

In the context of the Workplace Ordinance, a telework station is a fully equipped office workstation that is primarily distinguished from a workplace at a company's premises by

its integration into the employee's home environment (Augsten, 2022, p. 29). Therefore, strictly speaking, it may not qualify as a telework station if the employee uses their private desk. This is because the workstation is not completely equipped by the employer, a key requirement for defining a space as a telework station under the German law.

In Germany's telework discourse, two main types of telework are recognized. The first, exclusive telework or "Teleheimarbeit," involves the employee working entirely from home. In this arrangement, the employee typically does not have a designated workspace at the employer's office, allowing the company to eliminate the need for a full workstation on its premises. The second type is alternating telework, also known as hybrid work. This model involves the employee dividing their work time between their home office and the company's physical workplace. Work is conducted partially from home, with the specifics, such as a weekly rotation between home and office, usually outlined in a supplementary agreement to the employment contract. Unlike exclusive telework, alternating telework ensures that the employee retains access to a workstation at the employer's premises. In these arrangements employers seem to often adopt a desk-sharing strategy, where multiple employees use flexible workstations interchangeably, because this approach reduces operational costs and enhances workspace utilization.

This thesis examines work performed primarily outside the conventional office environment, encompassing both exclusive telework and hybrid work models, with limited on-premise tasks. Accurately describing these work arrangements in both English and German has been a persistent challenge throughout the thesis. In the German interviews, I used the phrase "Stellen, die vollständig oder hauptsächlich im mobilen Arbeiten ausgeführt werden," which translates to "positions that are carried out entirely or primarily through remote working." This phrasing was chosen to incorporate every aspect and type of telework.

These hybrid work arrangements, such as working remotely for part of the week, have gained significant traction within German municipal administrations. This trend is supported by my survey results (chapter 4.2), which indicate a shift towards more adaptable working conditions in the public sector. Consequently, the emphasis on increased home office use represents a progressive and intriguing aspect of contemporary workplace evolution.

Roy (2022) argues that organizations risk missing the benefits of hybrid work models if they return to traditional office-centric norms driven by presenteeism. He emphasizes the importance of understanding hybrid work acceptance and its practical implementation for both scholars and practitioners shaping the future of public sector governance in a post-pandemic, digitally evolving environment (Roy, 2022, p. 6). Roy also highlights the

widespread uncertainty and anxiety among employees about the long-term commitment of employers to hybrid work arrangements (Roy, 2022, p. 3).

Despite these outlined benefits, concerns remain about potential declines in employee productivity and a weakened sense of camaraderie due to reduced face-to-face interactions with supervisors and colleagues. This is also a recurring theme within the conducted interviews for managing telecommuters may require greater oversight to ensure effective work performance (Lautsch et al., 2009), help employees balance work and home life, maintain fairness in the workplace, and secure remote systems (Pearce, 2009). With that, Lautsch et al. (2009) emphasize the increased responsibilities for managers in creating clear boundaries and ensuring equity and security in a remote working environment.

That aspect becomes prominent within the research of Prodanova and Kocarev (2022) as well as that of Todisco et al. (2023). In their study Prodanova and Kocarev explored how remote work affects employee productivity and satisfaction based on data from 363 employees who transitioned to working from home. It identifies motivating factors, such as the ability to manage work-life balance and minimize commute time, and interfering factors, like ICT anxiety and interruptions at home, that significantly impact employee experiences. Interestingly, while productivity was enhanced, it alone did not predict employees' willingness to continue remote work post-pandemic; instead, job satisfaction was the key determinant.

In contrast, Todisco et al. (2023) used a qualitative approach based on interviews with 27 Italian public employees who had experienced smart working before the pandemic. This study argues that research in this area often narrowly focuses on potential drawbacks, partly due to the unpredictability and relative novelty of smart working adoption. This focus was likely influenced by the fact that, prior to the pandemic, individuals who chose to engage in smart working were already inclined towards and enthusiastic about remote work. These early adopters had a vested interest in demonstrating the feasibility of smart working, leading them to promote it as a solution for various organizational challenges while inadvertently overlooking potential drawbacks. This positive bias may have skewed initial perceptions and studies of smart working, thereby neglecting to address its full range of impacts—both positive and negative (Todisco et al., 2023, p. 96).

As established, Todisco et al. (2023) researched workers with prior remote work experience and their work throughout the pandemic. Conversely, Donati et al. (2021) focused on organizations with employees regardless of their prior remote work experience. The study discovered that those employees from larger companies, who had previous experience with remote working, generally held more positive beliefs and

employed better coping strategies for working from home. This indicates that prior exposure to remote work setups can significantly influence employees' adaptability and attitude toward such arrangements. The researchers identified and categorized employees into five distinct clusters based on their remote work experiences and beliefs. These groups were labeled as in-person workers, lone workers, SMEs' remote workers, big companies' early-stage remote workers, and big companies experienced remote workers (Donati et al., 2021, p. 13). They suggest that Human Resource Management Departments can use the five identified worker profiles to tailor more effective remote work strategies and training. They recommend focusing on areas like collaboration tools and communication etiquette for newer remote workers. Meanwhile, they recommend leveraging the experience of seasoned remote workers to enhance remote work programs and best practices (Donati et al., 2021, p. 15).

The influence of telework was also being examined by Bae and Kim (2016). In their study, they researched the impact of telework on job satisfaction among U.S. federal employees. Using data from the 2013 Federal Employee Viewpoint Survey, their research explored how the official adoption of telework programs and actual employee participation in these programs affect job satisfaction. The results indicated that both organizational adoption of telework and employee participation in telework programs positively correlate with job satisfaction. Interestingly, the study uncovered a significant gender disparity: female employees exhibited lower job satisfaction than their male counterparts when telework policies were adopted but not effectively implemented. This suggests that merely having telework policies in place is insufficient; effective implementation is crucial to realizing the benefits of these programs. Thus, highlighting the importance of ensuring that telework policies are not only adopted but also accessible and effectively implemented. By doing so, organizations can significantly enhance job satisfaction, particularly among female employees who may otherwise experience dissatisfaction when policies are inadequately executed. This study is relevant to the thesis as it emphasizes the need for effective policy implementation to maximize the benefits of remote work.

An often-cited study by Yang et al. (2021) explores the impacts of work-from-home during the pandemic through a natural experiment. Utilizing extensive data involving emails, calendars, instant messages, video/audio calls, and workweek hours of 61,182 U.S. Microsoft employees during the first six months of 2020, the research aims to understand the causal effects of firm-wide remote work on collaboration and communication patterns. The findings reveal significant shifts; notably, that the collaboration network became more siloed, with fewer cross-unit interactions and an increased density within existing silos. These changes potentially hinder knowledge transfer and could degrade the quality of output. The study also found a shift from

synchronous to asynchronous communication, indicating a move towards less immediate and less interactive forms of communication, such as email and instant messaging. The issue of more siloed work during remote work becomes particularly critical in the context of public service, where the need to break down and open up siloed structures has been repeatedly emphasized by both practitioners and academics (Boschken, 2017; Brí & Bannister, 2010; Christensen & Lægreid, 2011, p. 451; OECD Secretariat, 2020, pp. 2–5).

One of the more critical evaluations of this arrangement is by van der Lippe and Lippényi (2020). They reported on co-workers working from home and individual and team performance. Their Research suggests that individual and team performance can be negatively influenced by co-workers working from home. Their research utilizes data from a large-scale survey that encompasses 11,011 employees across 259 establishments and 869 teams in nine European countries to study the impact of working from home on performance. The results indicate that individual employees working from home have lower performance compared to those who do not work from home and the authors find that increased remote work among team members correlates with lower performance evaluations from managers and reduced overall team effectiveness. This research underscores the complexity of remote work environments, where the absence of regular in-person interactions can hinder the exchange of tacit knowledge and weaken team cohesion.

Still, there is some prominent research which contradicts these findings. Varotsis (2022), for example, conducted a survey with 178 employees and executives in Greece during the COVID-19 pandemic. This research found that telework during the COVID-19 pandemic did not significantly impact work performance in Greece's public services. It was shown that flexible work schedules had the possibility to provide some benefits. The overall performance gains, however, were minimal, potentially due to challenges such as work-life balance, personal time management, working hours, and pandemic-related stress.

Flexibility within work schedules such as the trial of co-working spaces for public servants was further examined by Houghton, Foth and Hearn during their 2018 study, published in the *Australian Journal of Public Administration*. This pre-pandemic empirical evaluation is a case study of Queensland. It provides insights into how digital connectivity and a shift toward Flexible Work Centres (FWCs), impact public sector work. Simply put, they followed a pilot in the Administration where employees were able to use workplaces in coworking spaces or FWC in the suburbs instead of commuting daily to the main office in the city center. Since it also focuses on the significance of smart work within the public sector, this study offers a crucial insight for this thesis. Houghton,

Foth and Hearn conducted a study, which involved 47 participants from ten different government departments, and used surveys as well as diaries to assess the effects of FWCs on productivity, staff retention, and work-life balance. The findings suggest that FWCs not only supported public servants in managing their work away from central offices but also enhanced their work-life balance by reducing commute times and providing a professional environment conducive to high productivity away from home-based distractions (Houghton et al., 2018).

A more recent study from 2023 study by Giacomini and Palumbo investigates the adoption of remote work by municipal public servants, focusing on digital readiness, role clarity, and organizational culture (Giacomini & Palumbo, 2023). This is particularly relevant as the study aligns with this thesis focusing municipalities. Analyzing responses from 2,450 employees primarily in medium-sized Italian municipalities, the study finds that digital readiness positively influences the adoption of remote working, while clear role definitions may dampen enthusiasm because remote work introduces potential ambiguities about job responsibilities. Furthermore, an organizational culture that emphasizes transparency enhances acceptance, indicating that clear communication is crucial for successful implementation. These insights highlight the importance of tailoring remote work arrangements to the specific work contexts and objectives of public sector organizations, indicating that effective implementation of remote work necessitates enhancing digital readiness, managing role clarity, and fostering a supportive organizational culture.

Kjersti Danilova and coauthors (2023) delve further in the aforementioned topic of work arrangements. Their study delves into the impact of remote work setups on job performance, examining factors such as the quality of home offices and the effectiveness of communication tools. They seize the circumstances presented by the COVID lockdowns to explore this pertinent issue, shedding light on its significance in today's work landscape. The research involved 1183 administrative staff from public universities in Norway. Through their thorough analysis, they uncover that they can explain 41% of the variations in individual job performance, providing valuable insights into the complexities of remote work dynamics. One reason stated by the study is that a sense of professional isolation negatively influences job performance in remote work settings. Somewhat counterintuitively, the study cites, that younger employees might face greater challenges in adapting to remote work environments compared to their older counterparts (Danilova et al., 2023, p. 1927). While the study provides valuable insights, it acknowledges certain limitations, such as the specific narrow sector of higher academia studied and a gender imbalance among respondents, which may affect the generalizability of the findings. The study highlights several factors that warrant further investigation,

including the impact of professional isolation, long-term performance effects, and the quality of home office setups, which can be impacted by potential family interference as well as other living situations (Danilova et al., 2023, p. 1930). These considerations underline the complexity and relevance of remote work dynamics as well as the need for comprehensive strategies to address these challenges effectively.

In light of these findings, Danilova et al. (2023) advocate for the strategic selection of hardware and software to ensure high performance levels in remote work environments. They recommend that organizations invest in enhancing the home office setups of their employees to provide a more conducive and productive work environment. Moreover, the study emphasizes the key role of leadership. It is argued that proactive communication and efforts to foster a sense of community among remote workers while addressing professional isolation are essential strategies for maintaining an engaged and effective workforce. The researchers stress that leadership should prioritize regular, transparent communication to bridge the gap created by the lack of physical interaction. By doing so, they can help mitigate feelings of isolation and ensure that team cohesion remains strong despite the physical distance. Additionally, fostering a supportive organizational culture that values remote work can significantly contribute to the overall effectiveness and morale of employees working from home (Danilova et al., 2023, pp. 1929–1930).

This aligns with the findings of Cristea and Leonardi (2019). During their research, they found that employees working away from the main office felt pressured to exert extra effort to be recognized as hardworking and competent. This pressure stemmed from challenges in securing face time with key colleagues at headquarters who could provide access to high-quality projects and career progression. Despite the sacrifices made by these employees to signal their commitment, those at headquarters often overlooked their efforts. Similar outcomes can be expected in remote working arrangements.

Similarly to Danilova et al. (2023) research, Cellini et al. (2021) looked also into the significant changes in workforce organizations caused by the COVID-19 pandemic in a higher academia context at two Italian research organizations. The study involved 8,000 employees from the National Research Council and the National Institute of Geophysics and Volcanology, focusing on the main positive and negative aspects of flexible remote work. The evaluation of the flexible remote work experience was predominantly positive, with 72% of National Research Council employees and 79% of National Institute of Geophysics and Volcanology employees viewing it favorably. Interestingly, despite the positive evaluation, only a minority of employees expressed a willingness to continue remote work post-pandemic. The study highlighted several employee suggestions for improving future remote work implementations. These suggestions included better

integration of home and office work, enhanced welfare support, clearly defined working hours, and increased flexibility to balance work and family life. The research emphasized the need for organizational changes to better accommodate remote work, suggesting that the pandemic had significantly influenced employees' perceptions and their potential future acceptance of at least partial remote work arrangements. These findings underline the importance of addressing both the benefits and challenges of remote work to create a more supportive and effective work environment in the future, which is a significant aspect for this thesis as it provides general insights into employee attitudes toward remote work.

This topic was further explored by a team of Finnish researchers (Jämsen et al., 2022). Their study examined the changes in relational communication within public sector organizations due to the sudden shift to remote work during the COVID-19 pandemic. Similarly to the other studies mentioned, Jämsen et al. also discovered that many employees struggled to maintain effective communication while working remotely, which supports earlier research indicating that remote workers often experience professional isolation and a loss of learning opportunities within their organizations (Eom et al., 2016; Golden et al., 2008). Remote workers were found to distance themselves socially from office workers and have difficulty building relationships with colleagues they have not met in person (Collins et al., 2016). However, remote workers often build stronger social support relationships with other remote workers and may distance themselves from negative work relationships. In contrast, office workers place a high value on social support and their relationships with colleagues in the office, leading to a social disconnect between remote and office workers (Collins et al., 2016).

Despite these aspects, some employees reported positive experiences with communication in remote work arrangements. They appreciated the ability to manage their interaction levels, which they found too intense in a conventional office setting before the pandemic (Jämsen et al., 2022). Additionally, no significant differences were observed in individual characteristics, such as age or employment history, among employees with varying experiences of remote work. This implies that personal demographics do not necessarily predict how individuals perceive the challenges of transitioning to remote work. The study underscores the importance of facilitating communication in remote settings as comprehensively as in physical workspaces. Organizations should create opportunities for employees to communicate not only during task-related meetings but also through informal interactions, such as virtual coffee breaks and spontaneous online meet-ups, mirroring the casual encounters that occur in physical office environments (Jämsen et al., 2022, p. 7).

We also see the challenges on effective communication on the municipal level in one of the few studies conducted on this level of government. Toleikienė et al. (2020) addresses the transformation of e-leadership in Lithuanian municipal administrations in response to the COVID-19 pandemic. Despite its limitations, such as a small sample size of only four interviews and publication in a less renowned journal, this research offers valuable insights into municipal public administration under crisis conditions. The paper explores the impact of the pandemic on the shift to remote working and the rapid adoption of e-leadership in municipal administration. The crisis led to quick, innovative decisions that contradicted traditional bureaucratic norms such as strict adherence to rules and standardization, highlighting an increased reliance on digital tools for communication and task management. Previously, e-leadership was initiated sporadically by individual supervisors without full integration into teleworking strategies. The pandemic transformed it into a mandatory practice, placing significant burdens on supervisors to manage their teams entirely online. This change led to challenges like multitasking and the need for constant availability, complicating managerial tasks and potentially harming the well-being and work-life balance of both employees and supervisors. Despite weak empirical data, the study underscores the importance of e-leadership in municipal settings.

In regards to German municipalities Stelter et al. (2022) have closely followed a few selected municipalities through the initial phases of the pandemic and lockdowns. They found that between 2020 and the beginning of 2021, municipal administrations underwent significant transformations to facilitate remote working. Initially, in Phase I (June – July 2020), foundational steps were taken to enable remote work, despite challenges such as limited access to necessary IT equipment like laptops. Phase II (October 2020) saw the introduction of fixed regulations and the overcoming of initial bottlenecks, leading to the replacement of many desktop computers with laptops (Stelter et al., 2022, p. 9). By Phase III (April 2021), remote working had become established, leading many mayors and municipal team leaders to offer more training for employees' digital skills and convert all internal municipal meetings to a digital format. Before Covid, training for digital skills was planned, but the complete transition to digital meetings was not anticipated (Stelter et al., 2022, p. 10).

My thesis primarily explores the concept of remote work in the public service; however, many studies underline the importance of the flexibility of work arrangements (FWA). It is therefore paramount that a study by Ballantine et al. (2022) is being introduced here, even though it concentrates on the timing FWA rather than location. The research involved interviews with 50 senior managers in the Northern Ireland Civil Service. It reveals a significant gap between the policies supporting FWAs and their practical

application, especially at senior levels. This disparity is attributed to a 'flexibility stigma.' Those utilizing flexible schedules are seen as less committed, which adversely affects their evaluations, compensation, and career advancement. The findings from this paper underscore the challenges and perceptions surrounding flexible work, which is a critical component of broader discussions on workplace change in the public sector. The study's focus on timing flexibility enriches our understanding of the complexities and barriers that senior managers face, emphasizing the need for strategic interventions to reconcile policy rhetoric with reality and to address entrenched workplace norms.

This uncertainty regarding remote work and its challenges, such as professional isolation and the flexibility stigma, strengthens the ongoing discussions about Return-to-Office (RTO) policies. These discussions often mandate the retraction of remote work policies post-pandemic, highlighting a critical area for future exploration. Mark Ma and Yuye Ding (2024) delve into this issue in their recent preprint, studying the determinants and consequences of RTO mandates among Standard and Poor's 500 firms using difference-in-differences regression analyses. Their study indicates a significant decrease in employee job satisfaction following the implementation of RTO mandates, with no corresponding improvements in financial performance or firm value. These findings question the efficacy of RTO policies and emphasize the need for more adaptable and empathetic workplace strategies. Although not yet peer-reviewed, the study offers valuable insights by suggesting that firms could benefit from allowing high-performing employees to continue working remotely and implementing regular in-person team-building activities to maintain company culture. Ma and Ding (2024) propose that managers might use RTO mandates to regain control or to shift blame for poor company performance, rather than to enhance firm value. This preprint contributes significantly to the debate over RTO versus working from home, providing actionable recommendations for more effective workplace management. By highlighting the negative impact of rigid RTO policies on job satisfaction and the lack of financial benefits, the study underscores the importance of flexible work arrangements and the need for thoughtful, evidence-based approaches to workplace strategies in the post-pandemic era. It is therefore particularly relevant to the thesis as it addresses the broader implications of remote work policies and their impact on employee satisfaction and organizational performance. It reinforces the importance of effective policy implementation and supports the thesis's focus on remote work in public sector organizations, advocating for strategies that balance remote and in-person work to enhance overall job satisfaction and productivity.

Czopek and Kazusek's (2021) study examined the impact of the COVID-19 pandemic, as well. Their main focus, however, consist of remote recruitment and onboarding processes in public administration in Lower Silesia. The study revealed that traditional face-to-face

interviews remain prevalent despite the availability of e-recruitment tools such as online tests and audiovisual communication platforms. Many respondents showed a preference for in-person onboarding processes, indicating a reluctance to fully embrace digital methods. The researchers identified a critical divide: smaller public administrations were more likely to adopt and comprehensively apply innovative recruitment and onboarding techniques than larger ones. The study suggests that the agility of smaller units might stem from having fewer bureaucratic impediments and a greater openness to technological solutions. Since this thesis also examines the onboarding process such as the challenges and regulations in adoption of digital methods in Germany, this insight aligns with the thesis's focus on remote work and digital readiness in public sector organizations.

The topic of professional isolation and challenges to learning in the organizations during remote work is especially relevant during the onboarding of new employees. Rodeghero et al. (2021) highlighted difficulties of remote onboarding during the pandemic, such as the lack of physical presence, which impedes casual interactions and makes it challenging for new hires to seek help or build team connections. The research emphasized communication and collaboration difficulties, where new hires struggled with isolation and scheduling issues that impeded their integration into the team. The authors argued for a structured remote onboarding process that integrates both technical and social elements early on and they documented

ten recommendations for onboarding remote IT personal (Table 1). The observation aligns with the findings of Whillans et al. (2021) which highlight the significance of relationship-centered interactions in teams' successful adaptation to virtual work environments during the COVID-19 pandemic. This emphasizes the crucial role of maintaining interpersonal connections and communication within remote teams to ensure effective collaboration and

Recommendation for remote onboarding	
1	Promote communication and asking for help
2	Encourage teams to turn cameras on
3	Schedule 1:1 meetings
4	Provide information about the organization
5	Assign an onboarding buddy
6	Assign an onboarding technical mentor
7	Emphasize team building
8	Support multiple onboarding speeds
9	Assign simple first task
10	Provide up-to-date documentation

*Table 1 Recommendations for Remote Onboarding (from Rodeghero et al., 2021)*

adjustment to new working conditions. This research is crucial for the thesis as it also examines the onboarding process, highlighting the differences in the adoption of digital

methods across various sizes of public administrations. This insight aligns with the thesis's focus on remote work and digital readiness in public sector organizations.

Full-time WFH rates were generally low across various countries prior to the pandemic. For instance, in the U.K., the rate was relatively modest at 5.1%, as detailed in a report by Watson (2020). Despite this, around 8.7 million people in the U.K. reported that they had worked from home, which represents 27% of the workforce (Watson, 2020). This statistic indicates that partial remote work was more common, highlighting a pre-pandemic situation where many employees may engage in some level of remote work but do not shift entirely out of the traditional office setting. Similarly, in the U.S., full-time WFH figures hovered around 4% (Mas & Pallais, 2020 Fig. 1 as cited in Alipour et al, 2020). In Germany, the full-time WFH rate was slightly lower at about 3.5% of the workforce, according to calculations by Alipour et al (2020). The pandemic led to a substantial rise in both full-time and part-time remote work. Survey data indicates the number of employees engaged in either form of remote work is as follows: For instance, 50% of U.S. workers were working remotely during April and May 2020, about 60% of employees in Finland and the Netherlands shifted to WFH in response to the pandemic (Brynjolfsson et al., 2020), and roughly 40% did so in Germany (Ahrendt et al., 2020).

The pandemic has shown that almost all knowledge work processes can be virtualized unexpectedly. Zeuge et al. (2023) looked into this crisis-driven digital transformation from perspective on Process Virtualization Theory. They assess how knowledge work processes were fulfilled before and during the pandemic using information technology characteristics. Based on 40 semi-structured interviews they identified additional IT characteristics that positively support knowledge work process fulfillment. The first of two additional IT characteristics was social presence, the feeling of being present in a virtual environment, is crucial for fulfilling relationship requirements in knowledge work processes (Zeuge et al., 2023, p. 102636). The second was situation awareness. They define situation awareness as employees being informed about their colleagues' competencies, knowledge and well-being, which supports efficient collaboration. IT facilitates this awareness by helping employees know and perceive each other's roles and skills (Zeuge et al., 2023, pp. 102636–102637).

The estimation of work-from-home (WFH) feasibility across various occupations has received a considerable amount of attention (Alipour et al., 2020; Brynjolfsson et al., 2020; Dingel & Neiman, 2020; Holgersen et al., 2021). Two articles stand out as particularly in the context of this thesis.

Firstly, Holgersen et al. (2021) estimate the proportion of jobs that can be performed from home by utilizing task descriptions from the International Standard Classification of

Occupations. They engaged respondents on the Amazon Mechanical Turk platform to evaluate the work-from-home feasibility of various occupations, establishing a WFH-friendly measure for each. This method estimates the share of WFH-compatible jobs within an economy. Applying the method to Norway, they found that approximately 38% of jobs are amenable to remote work. The study notes significant disparities in the distribution of WFH-friendly jobs, indicating that such jobs are often less accessible to disadvantaged groups in the labor market, such as young workers, migrants, and those with lower educational levels. The share of jobs that can be performed remotely varies widely, from 2% to 66%. Groups such as "Managers," "Clerical support workers," and "Professionals" have a higher proportion of employees who can work from home. In contrast, only a small fraction of "elementary occupation workers" and "plant and machine operators assemblers" can work from home. The paper also highlights a gender disparity, with female workers more likely to have WFH-friendly jobs. They also show significant geographic variation in the predicted share of jobs that can be worked from home across Europe, with countries like Switzerland, Luxembourg, Norway, and Sweden having the highest share of WFH-friendly jobs. Conversely, countries with the lowest share, such as Turkey and Romania, are mostly less developed countries in southeast Europe. This paper contributes significantly to understanding the potential for remote work across different sectors and underscores the socio-economic implications of remote work policies.

Secondly, the paper by Alipour et al (2020) focuses on estimate the proportion of jobs that can be performed remotely in Germany. They use detailed survey and administrative data to and find that 56% of jobs in Germany are feasible for WFH, particularly those in urban areas and highly digitized industries. Feasibility is largely determined by the cognitive and non-manual nature of tasks and PC usage. Alipour et al. also find WFH capacity varies widely across German industries, ranging from 37% in transportation and agriculture to nearly 90% in highly digitized sectors like ICT and finance. Before the pandemic, actual WFH rates in most sectors were much lower than their capacity (Alipour et al., 2020, p. 11). For the "Public Administration and Defence; Compulsory Social Security" sector they found that 69.26% of jobs could potentially be done from home, yet only about 45% of this potential was utilized pre-pandemic (Alipour et al., 2020, p. 33). Only the education and ICT sectors utilized over half of their WFH potential (Alipour et al., 2020, p. 11). Similar to the previously mentioned study on Norway (Holgersen et al., 2021) Alipour et al. observed that work-from-home possibilities in Germany are concentrated in urban areas. On average, 59% of jobs in West Germany, including Berlin, were deemed WFH feasible, compared to only 50% in East Germany, excluding Berlin. The disparity is more pronounced between urban and rural areas: approximately 65% of

jobs in urban counties with populations of 500,000 or more could be done from home, versus 53% in less populated areas (Alipour et al., 2020, p. 12).

### **3. Research Methodology and Design**

This thesis investigates the dynamics of remote work in municipal administration using three primary data sources. First, it gathers qualitative insights from 13 in-depth interviews with employees of the Calw municipality. These interviews offer rich perspectives on the implementation of remote work and its effects on organizational processes. Second, it collects quantitative data through a survey of all German Mittelstädte, with responses from 200 municipalities. This survey provides insights into the practices of remote work in different administrations. Lastly, it includes a second survey distributed to all municipal employees in Calw. This offers a localized perspective that complements the broader national dataset. Together, these sources provide a detailed analysis of remote work practices, perceptions, and challenges within municipal administration.

This following chapter is structured accordingly. Initially, I discuss the qualitative approach through in-depth interviews conducted in the municipality of Calw. This section covers the creation of the interview guide, the selection process for expert interviews, the actual conduct of the interviews, their transcription, and the subsequent analysis. Following this, I detail the design of the questionnaire and the methodology employed in the national survey. Lastly, the chapter addresses the employee survey conducted within Calw, describing the survey design used to capture the employees' perspectives on mobile working. Each section describes the processes used to ensure the reliability and validity of the data collected, laying the groundwork for the analysis presented in the results section of the thesis.

#### **3.1 Interviews Calw**

##### **3.1.1 Calw**

The city selected for this study is Calw, located in the state of Baden-Württemberg, Germany. Positioned about 30 kilometers west of Stuttgart, Calw has nearly 25,000 residents, making it the largest city and the administrative hub of Calw county. It serves as a vital mid-sized urban center for neighboring communities. The Calw city

administration employs around 630 people, with approximately 150 holding traditional administrative positions (F. Kling, personal communication, September 14, 2023). The IT department has notably expanded from three to eight employees since Florian Kling became mayor, indicating a substantial growth in the city's IT infrastructure and service capabilities (F. Kling, personal communication, September 14, 2023). The municipality falls under the "Süddeutsche Ratsverfassung" (South German Council Constitution) prevalent in Baden-Württemberg according to which municipalities are managed by a directly elected mayor who wields significant power as both the chairman of the council and the chief of administration (Wehling, 2019). In comparison to other municipal governance structure in Germany like the "Magistratsverfassung", where the administration of municipalities is split between a mayor and an Magistrat (Hessisches Ministerium des Innern, für Sicherheit und Heimatschutz, n.d.), this gives the mayor a stronger position.

Over the last four years Calw has seen a swift transformation and digitalization. The city has adopted new technologies and incorporated digital solutions into its municipal services and operations, leading to significant advancements (Frenzel, n.d.; Hambach & Kling, 2023; F. Kling, personal communication, September 14, 2023; Schmitt, 2023). One major implementation is the Cloud-based E-Akte, an electronic file system that has streamlined the transition to electronic record-keeping. This system includes the ongoing substitutional scanning of documents in accordance with TR ResiScan guidelines to ensure legal compliance and information security, effectively replacing physical documents with digital versions (F. Kling, personal communication, September 14, 2023). Starting in October 2023, about 7 million records are set to be digitized (F. Kling, personal communication, September 14, 2023). This phased digitalization approach is designed to be gradual yet rapid, engaging employees and aiming to improve efficiency by 20 to 30 percent through electronic administrative procedures, electronic signatures, and AI-enhanced mail distribution (Schmitt, 2023).

Additionally, changes have been made to the working arrangements in Calw. The mayor and his staff have moved to a "multispace office" model without fixed offices (Schmitt, 2023). Calw's approach to digitalization focuses on internal process changes rather than visible, public-facing initiatives. This strategy aligns closely with my research interest in remote work within administration. Mayor Florian Kling criticizes what he calls "Pseudodigitalization" (Frenzel, n.d., sec. 3; Hambach & Kling, 2023) where investments in flashy but superficial tech projects fail to address the underlying technological obsolescence within administrative operations. Calw's strategy emphasizes improving the backend processes of administration to truly modernize and enhance efficiency.

Generally employees in Calw are allowed to work up to 50% of their time remotely were feasible (Schmitt, 2023). Calw is particularly relevant to my research questions as it plans to offer some positions with the option for significantly higher remote work percentages than 50%, with the aim of attracting talent that might not otherwise consider working in Calw (F. Kling, personal communication, September 14, 2023). Moreover, Calw exemplifies the characteristics of a medium-sized city very well, making it a typical case for study. The choice of Calw for this thesis also stems from initial research that identified the city as a cooperative partner, willing to provide access to decision-makers, employees, and both published and unpublished documents and processes.

### 3.1.2 Expert Interviews

A common form of data collection methods for qualitative data are expert interviews. They constitute a subdivision of qualitative social research (Ahlrichs, 2012, p. 105; Hildebrandt, 2015, p. 241). The questions are predominantly open-ended. The statements of the interviewees are analyzed based on theoretical concepts, thereby generating scientific results (Ahlrichs, 2012, p. 105). Researchers use these interviews to tap into the knowledge of selected individuals (Wagschal, 1998).

Expert interviews fall under the category of guided interviews. They involve a verbal and interactive process between the interviewer and the expert (Wassermann, 2015, p. 54). A guideline supports this type of interview, acting as a structuring and orientation aid. It is not as rigid as a standardized survey. The interviewer can modify the order and wording of questions. They can add or omit questions as needed. Moving questions forward or pushing them back is possible, allowing the interviewer to perform a constant and spontaneous operationalization. Questions that are thematically related should be addressed in a block to avoid unnecessary topic shifts. It is also advisable not to return to the same or similar issue multiple times. (see Gläser & Laudel, 2010, p. 42; Hildebrandt, 2015, p. 251; Misoch, 2019, p. 66). Therefore, a guideline-supported expert interview is classified as a category of qualitative-open survey forms and is a comparatively structured interview method (Loosen, 2016, p. 139), positioning it between completely open, narrative interviews and standardized ones.

The guideline acts as a thread for the collection and fulfills the following functions: thematic framing and focusing, listing of all relevant thematic complexes, comparability of the data, and structuring of the communication (see Misoch, 2019, p. 66). The guideline serves as a reference point for the interviewer and should not be pre-formulated during the interview, thereby motivating the interview partner to engage in a conversation with their own relevance perceptions (Liebold & Trinczek, 2009, p. 38).

The expert interview itself is not defined in terms of content or methodology. The uniqueness of the expert interview relates to the target group that is to be surveyed (Misoch, 2019, p. 119). The focus of the survey is not directly on the person being interviewed, but on the individual as a carrier of knowledge (Gläser & Laudel, 2010, pp. 12–14). Due to this personal questioning, expert interviews are not standardizable and thus not quantitatively evaluable. Within this work experts are seen as individuals who have above-average knowledge in a field and possess information relevant to the research project following Hildebrandt (2015, p. 243). The experts provide information about their individual impressions and insights, thereby aiding in a fundamental understanding of the everyday work life of the surveyed groups.

This special knowledge of the expert can be distinguished into explicit contextual knowledge or implied operational knowledge (Meuser & Nagel, 2009, p. 470). Contextual knowledge consists of objective knowledge bases in the research field (Kaiser, 2014, pp. 49–50). Operational knowledge is characterized by a high degree of exclusivity. The expert was typically directly involved in a process and can provide individual information (Kaiser, 2014, p. 48).

### 3.1.3 Preparation of the Interview Guide

Pickel and Pickel (2009) highlighted the importance of content and language in interview question sequences. They emphasized the need for the flexibility by the interviewer and a targeted approach to uncover key insights. The interview guide acts as a tool for researchers by helping to maintain focus on central areas of inquiry throughout the interview process. This guide includes overarching questions and tailored sub-questions to enhance clarity. In the main section of the interview guide, I used mostly open-ended questions. These allow respondents to offer detailed responses. They also facilitate adaptability in the conversation flow by including follow-up inquiries. While creating the questionnaire, I adhered to the guideline of 8-10 main questions for every hour of the interview, as recommended by Pickel and Pickel (2009, p. 451).

Samuel and Robertson (2021) emphasize five critical elements of data collection to understand the interrelationships between hybrid work environments and inclusion. These elements include: identifying who spends more time in the office versus at home, determining who has the autonomy to decide their office presence, examining how office time influences promotional opportunities, analyzing the application of remote management strategies, and exploring how office attendance affects employee engagement and retention. These five areas informed the development of interview questions and were integral to structuring the interview guidelines used.

### 3.1.4 Selection of the Experts / Sampling Procedure

Interview participants for the study were selected purposively to include individuals with specific expertise and roles critical to driving organizational change in Calw, particularly concerning remote work practices within the municipality. This selection strategy ensured that the insights gathered were both relevant and informed by the firsthand experiences of those directly involved in shaping and implementing these changes. The following individuals were interviewed:

- Two members of the mayor's office staff, selected for their pivotal roles in high-level decision-making and process change.
- All four Fachbereichsleiter (Department Heads), chosen for their significant influence in shaping the implementation of remote work within their departments.
- The Head of the IT department, selected due to the department's cross-sectional involvement in remote work.
- An employee from the mayor's office staff who had previously worked remotely full-time for a limited duration.
- The Head of the HR department of Calw and one additional member of the HR Team, selected for the department's cross-sectional role in remote work and recruitment.
- The Organizational Consultant of the City of Calw, recognized for their role in optimizing and reorganizing administrative processes.
- The Head of the Works Council, chosen for the importance of employee representation during changes in work arrangements and work agreements.

### 3.1.5 Conducting the Interviews

The majority of interviews, totaling nine, were conducted in person between February 7th and February 15th, 2024. This timeframe coincided with my residency at the Calw town hall, extending from February 7th until February 16th. During this period, I had the opportunity of utilizing office space, attending meetings pertaining to digitalization and process management, and gaining valuable insights through observation within the mayor's office. This immersive experience not only facilitated access to key stakeholders and decision-makers but also provided a firsthand understanding of the organizational dynamics and challenges surrounding remote work within the municipal administration context.

All in-person interviews were conducted either in the interviewee's office or in one of the meeting rooms within the city hall premises. During each interview, the doors were consistently closed, ensuring privacy, and only the interviewee and myself were present in the room. In one instance, at the request of the initially contacted interviewee, a second member of the department joined the interview. This setup was maintained to uphold confidentiality and foster a conducive environment for open discussion. At the outset of each interview, all interviewees were provided with an overview of the background and the general objectives of my master thesis. They were then explicitly asked for their consent to being recorded and for the transcripts to be utilized in my thesis. This approach follows literature recommendations, ensuring participants know the data's use, analysis, and access (Wassermann, 2015, p. 55). Following their verbal agreement, the audio recording commenced using two independent recording devices to ensure redundancy.

Between each individual interview, a time window of at least fifteen minutes was scheduled, which was utilized to debrief from the conducted interview and based on the newfound insights, lightly adjust the subsequent interviews. This allowed, for instance, the refinement of questions that had previously caused comprehension issues, ensuring clearer communication with subsequent interviewees.

The remaining four interviews were conducted online via Microsoft Teams. This arrangement was either due to the interview being an early session aimed at gathering insights about Calw and refining the research focus, or because the originally scheduled in-person interview had to be postponed until a later date, after my departure from Calw. In these instances, audio recording was conducted within the Teams platform following the oral consent provided by the interviewees.

The 13 interviews were conducted with 12 members of the city administration. One individual was interviewed twice: initially in November 2023 to acquire general broad insights into the administration of Calw, and subsequently in February 2024, following the same interview guideline as the others, with a specific focus on remote work. The interviews had a median length of 36 minutes, ranging from a minimum duration of 25 minutes to a maximum of 58 minutes. In total, 500 minutes of interviews were conducted, providing a substantial amount of qualitative data to analyze and draw insights from.

### 3.1.6 Transcription

To process the interviews, a transcript had to be created first. There are differing views on whether expert interviews always need to be fully transcribed and which transcription rules should be applied (see Meuser & Nagel, 2009, p. 56, 2009, p. 193). However, the general goal of transcription is to document events recorded via audio or video in such a

way that they can be used for analysis methods as well as made accessible to readers of the scientific evaluation (Dresing & Pehl, 2017, p. 2). Despite efforts for accuracy, transcription always involves some reduction of content. For scientifically transparent procedures, it's crucial to clearly state how the transcript was created, what elements were omitted, and what was included (Dresing & Pehl, 2017, p. 3). Thus, transcription is a significant transformation process of converting an audio or video recording into written form for later analysis. Since a transcription doesn't provide a complete picture of the recorded situation, it's important to consider the level of reduction and determine it appropriately in relation to the research question (Dresing & Pehl, 2017, pp. 2–3). The need for the transcript to be readable and simple is balanced against the need to represent the recorded situation as fully as possible and not overlook potentially important details (Dresing & Pehl, 2017, p. 9).

In the present study, the interviews were almost completely transcribed, apart from small talk, particularly at the beginning and end of the audio recordings. Thus, not only the parts deemed relevant to the research question were transcribed after the first listening. This approach was chosen because segments of the interview (that might be considered off-topic upon first listening) could potentially be deemed relevant upon closer analysis. Transcriptions are not part of this publication but can be requested from the author if needed.

The transcripts created can be described as minimal transcripts. The following transcription rules were applied:

- Generally standard orthography.
- Incomprehensible passages are marked.
- Timestamps are provided at the beginning of each conversation turn.
- Apart from small talk, at the beginning and end of the audio recordings, all parts of the conversation were transcribed.
- Non-verbal and paraverbal expressions are only captured if they change the meaning of a statement.
- Notable features are marked, e.g., (laughs), if they change the meaning of a statement.
- Pauses or interruptions in the conversation are not noted.

The transcription of the audio recordings occurred in two stages. First, I used speech recognition software, which is part of Microsoft Office 365, to create a rough transcription. The original recordings were then fully replayed for a manual check against the initial material. This review process showed that speech recognition software depends on High German and clear pronunciation. It also emphasized the value of direct material

engagement for insights. For recordings with an existing text version from speech recognition software, exported from Microsoft Teams, we used this text version directly, skipping the first step.

### 3.1.7 Coding and Analysis

To ensure transparency and comparability between the interviews, the content analysis was roughly based on Mayring (2019, 2022), with the use of Qcamap.org being particularly helpful as Mayring himself is closely involved in development of the software. A qualitative content analysis according to Mayring comprises a structured and small-step procedure (Mayring, 2019, p. 3) that is applied equally to all data. Individual categories are created according to which the transcripts are to be examined. This leads to selective text work (Mayring, 2019, p. 3). The individual categories are derived regarding the research question and the content analysis can be characterized overall by a clear rule-based approach. The findings of the analysis were also continuously compared with the state of research and the results already collected in accordance with the hermeneutic circle. This is crucial because a certain level of prior understanding helps to achieve a deeper understanding of the text, which in turn leads to a better prior understanding (Kuckartz & Rädiker, 2020, p. 14). Given my research objective to explore the future growth possibilities of remote roles and understand practitioners' perspectives on expanding these arrangements, the method of analyzing data from the expert interviews well-suited<sup>1</sup>. It is allowing me to comprehensively address the nuances and demands of my research question. My approach follows the six steps also presented by Kuckartz and Rädiker (Kuckartz & Rädiker, 2020, p. XXII), as seen in Figure 1. In my case, Step 2: From the guide to the category system was deductive, and Step 4: Developing the category system further and fine coding was then more inductive.

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<sup>1</sup> Building on our IRS group work from Leuven, I initially aimed to use Thematic Analysis to interpret my expert interviews, based on the foundational framework by Braun & Clarke (2006). A key element of Thematic Analysis is identifying themes, which Braun & Clarke describe as 'patterned responses or meanings' (2006, p. 82). However, I soon realized that Thematic Analysis was not suitable for my needs, as our last application had significant flaws. This realization deepened after reading Braun & Clarke's later work, where they criticize the superficial use of their 2006 paper without integrating the detailed updates of their subsequent publications (Braun & Clarke 2013, 2021, 2023). Motivated to avoid these pitfalls, I considered Byrne's (2022) "A worked example of Braun and Clarke's approach to reflexive thematic analysis." However, it became apparent that the Big Q qualitative approach, with its non-positivist framework emphasizing subjectivity and the fluid interpretation of data (Braun & Clarke, 2023), does not match my research objectives.

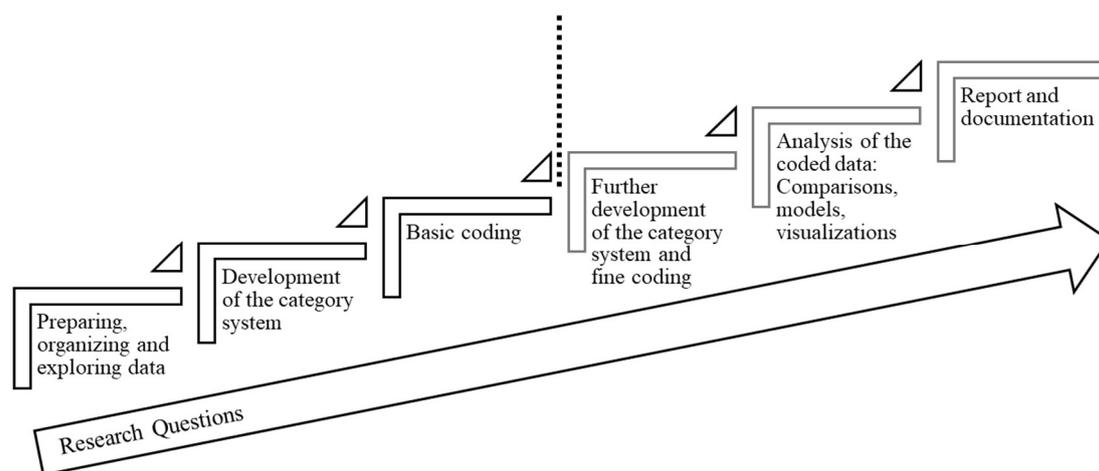


Figure 1 Process of a Focused Interview Analysis in Six Steps Adapted from Kuckartz & Rädiker (2020, p. XXII)

The coding occurred as a process of continuous comparison of theoretical assumptions and categories developed from the textual material (Wassermann, 2015, p. 61). In the specific context of my research question, I constructed a codebook focusing on the benefits drawbacks of remote work at individual and organizational level identified in the literature. These were identified as the themes and the interview data obtained was qualitatively analyzed to identify parts of the data that specifically fit into the themes that I had developed.

I started my process by delineating eight broad areas of interest to guide my analysis, such as "leadership" and "technological tools," as outlined in Table 2. This initial step was crucial as it established the framework for subsequent coding and analysis phases. These areas were identified early on, based a general understanding of the topic aligned with my research interests instead of the content of the interviews, characterizing this as a deductive approach. This strategy allowed me to systematically organize the data according to pertinent themes and concepts, thereby laying a solid foundation for deeper analysis later in my research. Additionally, it helped me become acquainted with the largest set of qualitative data I have personally managed yet.

1	Possible scope of remote work
2	Technological tools
3	Data Security
4	Communication efficiency and collaboration
5	Leadership
6	Employees perspective
7	Training
8	Future perspective

Table 2 Initial Areas of Interest Guiding the Deductive Coding

Following this framework setup, I began the initial coding of the transcribed interviews. I carefully examined the texts, applying pre-defined codes such as "leadership" to relevant segments or coding units. I initially considered using sememes, the smallest units of meaning within words, for coding in my analysis. This method deconstructs words into semantic features shared across different words. However, I found this granularity overly complex and less useful for the broader thematic analysis I was targeting. Consequently, this did not align well with the goals of my work, and I chose to use "Phrase or clause (word sequences)" as my coding units. By focusing on phrases and clauses, I could maintain the integrity of the data's meaning as expressed in natural language, which proved to be more conducive to identifying and analyzing the elements relevant to my research.

After thoroughly reviewing the interviews with a focus on my eight preformulated areas of interest, I dedicated time to carefully examine the statements I had initially highlighted. This analysis allowed me to identify and develop 2-4 sub-themes within each area of interest. By analyzing the coded data, I observed emerging patterns and insights that were not predefined but arose organically from the interviews themselves. This process was inherently inductive, as it involved deriving sub-themes directly from the data, allowing the raw material to guide my understanding and shape the subsequent layers of thematic analysis. I included sub-themes for all these areas of interest. For example, within the "leadership" area, I introduced sub-themes as "Challenges in remote management" and "Adaptation of leadership styles for remote teams". The complete list of sub-themes is provided in the appendix (A6). Following the identification of sub-themes, I conducted a second coding round, this time with a focus on these newly identified sub-themes. Therefore, I transitioned from a deductive approach in the first round, where I applied predefined categories to the data, to an inductive approach in the second round. This shift allowed me to derive themes directly from the data, ensuring that my analysis remained deeply connected to the actual content of the interviews. Thus, my methodological evolution aligns with an abductive research approach, which combines elements of both deductive and inductive reasoning. This abductive method frees coders from strictly adhering to existing theories or frameworks, allowing them to adjust, refine, or discard these as necessary (Kennedy, 2018, pp. 52–53). Coders can thus discern new patterns and forge novel theories and frameworks (see Kennedy, 2018, pp. 53–55). The methodology section is particularly crucial as it clarifies the processes I employed in my research, which enriched my understanding, helping me uncover insights that were not initially apparent.

After coding the interview transcripts, I exported all the codes and organized them by sub-theme. I compiled related quotes and coded data from the interviews into a cohesive

document. This allowed for efficient review and comparison across different topics. I then conducted a quantitative assessment to gauge the frequency and distribution across various areas of interest and sub-topics. I examined the median mentions for each code and the total mentions, identifying the number of interviews where a code was unused. This analysis provided insights into the central tendencies of the codes, highlighted the most frequent themes, and identified areas not consistently addressed across the interviews. It allowed me to discern patterns and inconsistencies, ultimately enriching the depth of my qualitative analysis. The document perspective is important because interviewees often discuss a particular topic multiple times throughout an interview. These segments are usually coded under the same category or subcategory. Choosing 'coded segments' as the unit of analysis might skew the results toward individuals with many segments under a specific category. Therefore, it is generally better to choose 'documents' as the analysis unit. However, in a case-oriented analysis, examining the frequencies of categories within individual cases might be interesting (see Kuckartz & Rädiker, 2020, pp. 83–84).

Following the coding process, the codes were then analyzed thematically. The approach was selected based on the distinction between case-oriented and theme-oriented analyses. The theme-oriented analysis focuses on specific themes and evaluates relevant coded text passages, whereas the case-oriented analysis concentrates on individuals, offering a holistic view that considers the entirety of an interviewee's responses beyond the categorized sections (see Kuckartz & Rädiker, 2020, p. 78). The results of this thematic analysis are presented in the results chapter, after I have given an account of the methodology for the surveys.

In the results chapter, readers will find short excerpts from interviews that were originally conducted in German and have since been translated into English. This translation ensures that both the interviews and the main body of the work are in the same language, facilitating a smoother reading and comprehension experience for an English-speaking audience, while the original German transcripts are preserved in the appendix for reference. It is important to acknowledge the complexities highlighted by Temple (2008), who notes that while the use of direct quotes can enhance the trustworthiness of qualitative research, they also risk misrepresentation. This risk is compounded when translating quotes, as the translation may further detach participants from their original words, potentially altering the meaning conveyed (Temple, 2008, pp. 358–359). Nevertheless, this approach was deemed most appropriate considering the predominance of English in academic discourse and the context of this thesis within an English-speaking academic program. Scholars such as Abfalter et al (2021). and Yunus et al. (2022) stress the importance of transparently documenting the translation process in cross-language

qualitative research. Van Nes et al (2010), who emphasize the significant reciprocal influences between language and thought, advocating for the preservation of the original language for as long as feasible to maintain critical nuances in qualitative analysis (Van Nes et al., 2010, p. 315). Following, I have translated only those interview excerpts included in the thesis' final text, maintaining the original German for transcription, coding, and analysis.

### 3.2 Survey German Municipalities

For the survey of all German mid-size cities, I adopted a strategic approach to collect data relevant to the research question. See Figure 2 for an overview of the whole research process.

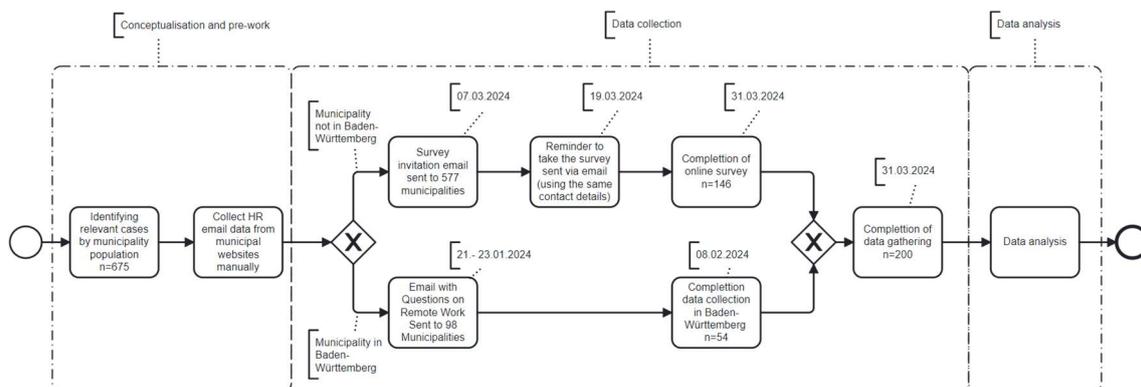


Figure 2 Flowchart of the Research Process

This approach involved engaging directly with the Human Resources departments of selected municipalities. The initial data collection for my thesis focused on municipalities between 20.000 and 100.000 inhabitants in Baden-Württemberg. During this phase, I sent emails from my KU Leuven account, targeting the HR department head directly whenever possible. Alternatively, I address the general HR department or, as a last resort, the general-purpose email address of the municipality.

I chose this strategy for several reasons. First, the subject of remote work closely ties to HR functions, making these departments the most relevant information sources. HR departments serve as cross-sectional entities within municipal administrations. They maintain communication with all departments, positioning them to provide comprehensive insights into remote work policy adoption and management. Moreover, HR departments have detailed knowledge of the rules and regulations governing remote work. This knowledge includes any limitations on remote work hours, which are crucial for this research. Lastly, HR departments are more accessible than many other municipal departments due to their public-facing recruitment role. This accessibility, combined with

their specific focus, greatly facilitated the research process. To ensure broad and representative data collection, I sent the online questionnaire link to the HR departments within the study's scope.

The decision to target medium-sized towns in Baden-Württemberg at the start of data collection matched my case study's focus on the City of Calw. I contacted cities in Baden-Württemberg early, based on the rationale that comparability would be most pronounced with cities situated within the same federal state. This allowed me to provide Calw's stakeholders with preliminary insights, especially during my first in-person visit. Yet, I recognized that surveying all German municipalities would yield deeper insights and greater academic value. Thus, I began the second data collection phase. This broader approach aimed to enrich the focused findings from Baden-Württemberg with a national perspective, broadening the research's scope and impact.

This first outreach differed from later rounds as it did not use an online survey. Instead, it included questions in the email, allowing for replies in free text format. This method enabled immediate and detailed dialogue with respondents. The email's exact wording and questions are in my thesis's appendix (A2). Collecting addresses and customizing each email for a personal touch made the process slow. I sent invitations over three days, from January 21 to 23, 2024, and received the last response on February 8, 2024.

Out of the 98 municipalities fitting the described *Mittelstadt* criteria in Baden-Württemberg, emails were sent to all. From some municipalities, multiple response emails were received, with all provided information included in the analysis. A total of 54 municipalities from Baden-Württemberg responded, resulting in a response rate of 55.1%.

The email sent during the initial Baden-Württemberg data collection phase contained three questions. This number was fewer than those in the subsequent online survey for other German cities. But the free-text nature of the email responses provided rich which results in comparability across the two data sets, despite differences in question numbers and data collection methods.

Here, again, I chose to contact HR departments rather than other departments, the mayor's office, or a general-purpose email address for the same reasons. In instances where direct contact with HR departments was not feasible—owing to the absence of publicly available email addresses, the exclusive acceptance of applications through an online platform, or the unavailability of the municipality's regular website due to a cyberattack affecting an IT provider in North Rhine-Westphalia (see Stöckel, 2023) during the period of contact detail collection—alternative approaches were adopted. Specifically, when HR

departments were inaccessible, I resorted to using the email addresses of the Fachbereich (department) to which HR belongs, or, as a last resort, the general-purpose email address of the municipality.

To enhance my chances of receiving responses, I carefully designed my invitation email. My approach was refined through feedback gathered from a pretest among my fellow pioneer students. I began the email with an automatically personalized address that included the name of the city. I followed this with a concise explanation of my thesis's aim and scope, articulated in four to five sentences to succinctly convey the purpose and significance of my research and the link to my online survey. I sent the email from the official KU Leuven address to leverage the institution's trustworthiness for better engagement and included a bounce-back address. I incorporated an estimated completion time for the survey and adhered to a predictive point system that determines survey length based on the number and types of questions within the questionnaire (Versta Research, Inc., 2024). I strived to keep the estimated completion time below 10 minutes, as shorter surveys have been shown to yield higher response rates (Sammut et al., 2021). Finally, respecting the recipients' preferences and adhering to best practices in digital communication, I included an opt-out link at the end of the email. This allowed recipients to easily unsubscribe from further correspondence if desired.

Leveraging the insights from Lewis and Hees (2017), who pinpointed Tuesday mornings as the optimal time for sending survey invitations and reminders to achieve the highest response rates, reminder emails were specifically timed to follow this guideline for the survey targeting municipalities across all States of Germany excluding Baden-Württemberg. This strategic approach was adopted to enhance participation rates. Reminders were sent to the same contact data as for the first email. However, in the initial round of data collection, which was exclusively focused on municipalities within Baden-Württemberg, no reminder emails were dispatched.

From March 7th to March 31st, the survey was initiated 264 times. In some cases, respondents opened the survey link but did not complete any questions and not every municipality answered all relevant questions. As a result, the number of effective cases for analysis from the online survey and thus from municipalities outside Baden-Württemberg, reduced to 146 Mittelstädte. Out of the 577 municipal administrations contacted from regions beyond Baden-Württemberg, this represents a 25.3% response rate. Across the two phases of data collection, my research targeted all German municipalities with a population range between 20,000 and under 100,000 inhabitants. In total, the study reached out to 675 municipalities, for a breakdown by state see Table 3.

German Area States Excluding the Three City-States	Number of Mid-sized Cities	Percentage of Overall Medium-Sized Cities	All municipalities with city rights) as of 31.12.2022	Proportion of Mid-sized Cities Relative to the State's Total City Count
Baden-Württemberg	98	14,8%	1101	8,9%
Bavaria (Bayern)	67	10,1%	2056	3,3%
Brandenburg	25	3,8%	726	3,4%
Hesse (Hessen)	53	8,0%	422	12,6%
Mecklenburg-Vorpommern	5	0,8%	726	0,7%
Lower Saxony (Niedersachsen)	84	12,7%	941	8,9%
North Rhine-Westphalia (Nordrhein-Westfalen)	178	26,8%	218	81,7%
Rhineland-Palatinate (Rheinland-Pfalz)	63	9,5%	2301	NA*
Saarland	8	1,2%	52	15,4%
Saxony (Sachsen)	21	3,2%	419	5,0%
Saxony-Anhalt (Sachsen-Anhalt)	22	3,3%	218	10,1%
Schleswig-Holstein	20	3,0%	1 106	1,8%
Thuringia (Thüringen)	20	3,0%	631	3,2%
* In Rhineland-Palatinate, association municipalities with 20,000-100,000 inhabitants were considered as mid-sized cities. However, due to the autonomous local municipalities within them, the proportion of mid-sized cities to the total cities is incalculable.				

Table 3 Distribution of Mid-sized Cities in German States and their Proportion relative to the State's Total Number of Cities. Source of Data: Federal Statistical Office; Own Calculations

The compilation of the list of cities was carried out utilizing data from the statistical offices of the German states and an internal dataset from the Institute for Information Systems University of Münster (Institut für Wirtschaftsinformatik Universität Münster, 2024) ensuring a comprehensive and accurate representation of the target demographic. Within this set of municipalities, the Tettngang in Baden-Württemberg, with a population of 20,037, stood as the smallest entity in the sample, whereas the municipality of Cottbus in Brandenburg, with a population of 99,515, was the largest.

This figure includes 46 "Verbandsgemeinden" from the state of Rhineland-Palatinate, a unique inclusion not typically accounted for in every list of Mittelstädte due to the individual smaller Ortsgemeinden (local municipalities) within the Verbandsgemeinden retaining official political autonomy (Junkernheinrich et al., 2010). However, considering

that Verbandsgemeinden act on behalf of their constituent Ortsgemeinden in managing administrative affairs (Junkernheinrich et al., 2010) and given that my research delves into the aspect of remote work within municipal administration—therefore concerning the execution of these administrative tasks—their inclusion seems justified.

As previously elucidated, HR departments were identified as the most suitable points of contact within the context of my research, given their central role in matters related to remote work and their comprehensive oversight of administrative policies. Despite this clear preference, a ready-made dataset containing such specific contact information was not available. While statistical offices of the German states do offer datasets with general contact information for the municipalities, these resources were deemed insufficiently focused for the purposes of my study. Consequently, the necessity arose to compile the contact information manually. This process involved visiting the public websites of each of the 675 municipalities in my study. Although time-consuming, this approach ensured targeted and effective outreach. It engaged directly with the most relevant departments, enhancing the data's quality and relevance.

Combining the 54 responses received via email from municipalities in Baden-Württemberg with the 146 responses from the online survey, a total of 200 responses were obtained out of the 675 administrations contacted. This yields a response rate of 29.6%, providing valuable insights. With this sample size and a total population of 675, I do not achieve a 95% confidence level with a margin of error of 5%. Still, I do reach a 90% confidence level with the same margin of error. To maintain transparency and accuracy, I provide the number of respondents (n) for each figure in the lower left corner throughout the results section of this thesis. This practice is crucial because the number of responses may vary for individual questions. It should be noted that when the respondent count falls below 195, I also fail to meet the 90% confidence level.

As noted, the online survey distributed outside of Baden-Württemberg contained a broader array of questions than the email queries sent within Baden-Württemberg. Both question sets were designed to delve into the prevalence and departmental spread of remote work within city administrations, specifically identifying departments with a significant remote work presence, quantifying employees working predominantly from home, and assessing whether cities had previously advertised or were considering advertising remote positions. Furthermore, inquiries were made regarding the platforms or outlets municipalities had used or intended to use for promoting such remote work opportunities.

Additionally, the online survey encompassed questions specifically aimed at understanding the increase in the utilization of remote work since 2019, a choice of

comparison year that was evidently influenced by the onset of the COVID-19 pandemic, which has been a significant catalyst for the shift towards remote work practices globally. Furthermore, the survey delved into the perceived challenges associated with the implementation of home office arrangements within municipal administrations. For this question I summarized and synthesized the comprehensive overview on challenges and drawbacks of remote work put together by Prodanova, J., & Kocarev, L. (2022, p. Fig. 1). The final set of additional questions in the online survey focused on the number of full-time equivalent employees within the municipalities. This aspect was particularly addressed to enable a more nuanced differentiation between the sizes of administrations. Although all participating entities are classified as medium-sized cities (Mittelstädte), there is a clear recognition of the variance in administrative scale that exists within this category, especially between the administrations at the lower and higher end of the size spectrum of Mittelstädte. Furthermore, the inclusion of these questions was strategic in setting the context for the number of employees working predominantly in remote settings against the backdrop of the total workforce. This approach provides a more comprehensive understanding of the extent and integration of remote work practices within the municipal administrations. The full set of questions for both inquiries is available in the appendix (A2 & A3) for reference.

### 3.3 Employee Survey Calw

The final original dataset collected for this master thesis was derived from a survey distributed to all employees of the municipality of Calw. As highlighted earlier, Calw represents the focal case study of this thesis, with all qualitative interviews conducted among employees from this municipality, who were purposively sampled to gather in-depth insights. This qualitative data was further supplemented by this survey, offering a broader quantitative perspective on the attitudes, experiences, and practices relating to remote work within the municipal administration of Calw. This approach of combining qualitative interviews with a comprehensive employee survey allowed for a rich, multifaceted exploration of the subject matter, ensuring a robust and nuanced understanding of remote work dynamics in the context of the specific municipal setting.

The survey questions for the municipality of Calw were strategically distributed by leveraging the annual employee satisfaction and feedback survey conducted by the mayor's office. The city administration's annual employee survey, which is sent to all employees and has had between 278 and 175 responses in recent years (J. Hambach, personal communication, April 10, 2024). The questions that I formulated were appended to this existing feedback survey, accompanied by a clear disclaimer indicating that these

additional questions were neither formulated by nor distributed under the auspices of the city's leadership. To facilitate a wide-reaching distribution and ensure broad participation, the Human Resources department of the municipality ingeniously added the access codes for the survey to the payroll statements of municipal employees. This method not only capitalized on an existing communication channel but also guaranteed that the survey reached the widest possible set of the workforce, thereby enhancing the representativeness and depth of the collected data. This innovative approach underscores the collaborative effort between the research project and the municipal administration of Calw, aiming to enrich the understanding of remote work practices within the municipality.

The integration of my survey questions into an existing employee satisfaction and feedback survey posed certain constraints. It notably limited the number of questions I could include. Given the broader context and primary objectives of the municipal survey, I had to make my contribution concise. This limitation made me carefully select questions that contributed to understanding the nuances of remote work practices within the workforce of Calw. Despite these constraints, this strategy offered a unique opportunity. I could gather meaningful data directly from a broad spectrum of municipal employees. This enriched the research findings with diverse perspectives on remote work in Calw.

The complete set of questions that were integrated into the satisfaction and feedback survey, as well as the precise wording of the disclaimer clarifying the origin and intent of these additional questions, are documented in the appendix (A7).

The set of survey questions was finalized and sent to the responsible individual within the mayor's office on April 10th<sup>2</sup>. Access codes were then generated and included with the payroll statements<sup>3</sup>, allowing a brief period from mid to late May for analyzing responses before the thesis's finalization. This tight timeline required quick, efficient analysis to integrate findings into the thesis, followed by proofreading before submission.

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<sup>2</sup> The original timeline of survey distribution needed to be extended, because the responsible individual in the mayor's office launched a successful mayoral campaign in a smaller municipality than those targeted in this thesis.

<sup>3</sup> To encourage municipal employees to participate in the survey, a brief video message from the author of this thesis was published on the municipal intranet. In the message, I explained the importance of employee feedback for both the city's leadership and my research.

## 4. Results

Similarly to the previous sections this section is structured to reflect insights from the three distinct sources of empirical data, each offering a unique perspective on remote working within German municipalities. The first chapter explores in-depth interviews with key personnel from the municipality of Calw, providing a detailed examination of local practices and challenges. The second chapter presents results from a national survey of mid-sized municipalities across Germany, offering a comprehensive view of common trends and challenges in remote working arrangements. The third chapter details findings from a survey administered to all employees of Calw, capturing the workforce's direct experiences and opinions on remote work.

### 4.1 Interviews Calw

In the quantitative assessment of the codes derived from the interviews, I observed trends in the discussion topics among the interviewees. Concerns related to perceived job security in remote configurations and job stability after introducing remote positions were seldom mentioned. This suggests these areas might not be primary concerns for the participants or are not impacted by remote work settings in their experiences. The lack of concern about job stability in a changing work environment is probably closely connected to the pressing issue of skilled labor shortages.

Conversely, the availability and functionality of technical tools emerged as a universal concern, with every interviewee commenting on this aspect. This indicates a widespread recognition of the importance of robust technical support and tools in facilitating effective remote work environments. A deeper examination reveals that the functionality of technical tools in Calw was seen positively.

“I am glad that we in Calw have already taken the steps we have now taken in terms of digitalization, because I believe that the municipalities will have to go down this path sooner or later. I am simply glad that we have already initiated certain things and can already work in the way we can.” Interview 11

“technically we are ready. Theoretically, we can already implement it (full remote work), so the technical infrastructure requirements are not a problem right now.” Interview 12

This progress in Calw was repeatedly set into comparison with other German municipalities, highlighting the city's advantageous position and showcasing its effective implementation of technical resources relative to its peers.

“So, we here at Calw City Council are relatively well positioned, but if we think ahead to other administrations, that is not yet the case.” Interview 7

“And of course, in times of a shortage of skilled workers, nothing better could happen to us than to offer something like this. 100% remote Which town hall can offer this in Germany? You don't need to take a folder home with you. When I think about it, my wife works at the district administration office, [...] Nothing works there, nothing works there.” Interview 8

Concerns about obstacles in team dynamics and collaboration arise frequently about a work environment where colleagues are mostly remote. This highlights a prevalent issue: maintaining effective team cohesion and collaborative practices when adapting to a hybrid workforce, where some work mostly remote. This quote summarizes the issue well:

“... (working) from Bali is no problem at all, technically it is no problem at all. Yes, it's purely a question of how is organizationally possible” Interview 4

One of the main concerns regarding team dynamics in teams with remote colleagues centers around the necessity for more formality. Unlike in-office environments where interactions can occur spontaneously, remote settings require that meetings be scheduled in advance, and discussions need to be deliberately set up or actively initiated rather than occurring on an ad-hoc basis. This could sometimes hinder the natural flow of communication and may slow down decision-making processes. The shift to a more formalized way of interacting can also impact the casual exchanges that fosters team cohesion and spontaneous problem-solving. Additionally, the shift to a more formalized way of interacting can impact team cohesion and identification with the work, particularly in the context of municipal administration, where a strong sense of local governance is crucial. These are seen as potential problem areas that might affect the effectiveness and morale of remote teams in such settings.

“When working remotely, I think communication is something that can go wrong very quickly or (work) not at all. Accordingly, I think 75% (remote work) is a lot, but it also depends on the area.” Interview 7

“What has probably disappeared since then are these door-to-door conversations, which make a lot of things easier to do. Because I think it's less of an obstacle to walk one door further than to write or call someone now. Because of course you can reach someone more quickly at the next door. I've dealt with the matter more quickly than if I call now and

can't reach them. I write an e-mail and wait for a reply. I was exaggerating, of course, but I got my question answered quickly between door and door and vice versa.” Interview 13

The hands-on experience of dealing with issues during the lockdown is still very much present in the minds of practitioners. Many recall the challenges of maintaining community connections and ensuring effective communication when face-to-face interactions were no longer possible. The abrupt shift to digital communication highlighted the importance of those spontaneous, informal interactions that often lead to quick problem-solving and community bonding. The absence of these personal encounters not only slowed down processes but also impacted the social fabric of teams and departments, underscoring the value of in-person dialogue. Some observed a differentiation between those who worked in-house as much as possible and those working more remotely. This resulted in a more cohesive core group and a more isolated peripheral team of members. The core group, benefiting from the occasional in-person interactions, maintained a stronger sense of camaraderie and collaboration. The transition to remote work created a noticeable divide in team dynamics, especially between those who embraced home office options and those who continued to work on-site. This shift significantly affected team integration and cohesion. Remote workers often felt less connected. Reflecting on this, one interviewee noted the distinct reactions and adaptations among employees during the pandemic:

“I would still say that, at least in the team that had basically always worked together in person up to that point, the employees reacted differently (to the pandemic) and some of them used the home office options early on and for a long time, as much as possible, and that made a difference. In fact, these people were less integrated into the team. I think so, yes. It's perhaps different if you set it up like that from the outset. I would say that was the case.” Interview 10

Beyond these individual experiences, the pandemic acted as a significant catalyst for change in Calw, particularly by advancing the adoption of remote work, which was previously not practiced (Interview 13, Interview 4). This transformation period coincided with notable leadership changes, including the election of a new mayor and the appointment of a new IT department head (Interview 4). These changes were timely and brought fresh perspectives and renewed energy to the challenge of rapidly transitioning to remote work setups. The new leaders played a pivotal role in steering Calw through this critical pivot. They used the push towards digitalization from the pandemic to implement long-needed updates and improvements in the city's technological infrastructure and work practices.

“Before that, it would have been inconceivable for us. I have to be honest because it always depends on the department management, that's for sure. Mayor Kling is very interested in this and has a solid IT background.” Interview 13

“It's just difficult when there's no contact at all, that is, no physical contact, only through Teams or other media telephony, but it's feasible. So, thanks to Corona, that was really a brutal acceleration of the matter. It's something that was unthinkable in Calw until 4-5 years ago. Now it's standard, or it's not a major problem.” Interview 5

Calw's experiences with remote work also included a noteworthy instance in which a new employee worked remotely for the initial months, with the onboarding process conducted entirely online. This scenario, although spontaneous and not initially planned when the position was advertised, was deemed a success by both colleagues and the employee involved.

“For example, our press spokeswoman was still living in Bavaria when we started here and also spent the first few months working entirely from there. This is another response to the shortage of skilled workers.” Interview 1

In this specific instance, several facilitation factors contributed to the success of the remote onboarding process for the new press spokeswoman role in Calw. Firstly, the role was directly under the mayor within the administrative staff, which streamlined communication and decision-making. Secondly, the mayor, as the highest decision-maker, had the authority to set clear expectations easily since the role was part of his own team. Thirdly, Calw had an established system in place where a secondary writer for the town journal attended in-person events whenever the spokesperson was unavailable. This existing setup proved advantageous as it could be utilized to support the remote work arrangement. What was highlighted here again was the support of the leadership towards new work arrangements and change, as well as the success in providing high-quality technical tools that enable seamless work.

“All of that was really cool, I got a real care package sent home with a welcome brochure. It included little goodies, a laptop and a laptop bag. The latest iPhone, which I got as a work phone, was set up perfectly straight away. I was able to get started straight away, which was wonderful. I've never really experienced anything so uncomplicated.” Interview 2

This case in Calw presents an intriguing experiment with remote work, albeit with some notable considerations. First, the initial interview process was conducted in person, maintaining a traditional element in the hiring stage. Second, job contracts in Calw are

still signed in person, on paper, reflecting a preference for conventional practices. Third, the training process was largely improvised, consisting mainly of video calls, which suggests flexibility but also a lack of a pre-established remote onboarding framework. Lastly, it was always intended that the employee would relocate to Calw when her family situation permitted, and she now splits her work time between the office and home. These factors highlight both the adaptability and the limits of previous remote work implementation in Calw.

In my interviews with individuals across various levels—leadership, individual contributors, and employee representatives—it became clear that digitalization and discussions about remote working are closely linked to the issue of talent shortage and issues in recruitment (see also the quote from Interview 1 above). All parties view these modern work arrangements and organizational changes as strategies to combat the scarcity of skilled workers. These shifts are not just operational but are seen as essential in attracting and retaining the necessary talent in a competitive labor landscape.

“Of course, there is the often-mentioned shortage of skilled workers, which forces us to rethink the way we work and do things differently due to external circumstances”  
Interview 3

“If we have to advertise a position for 2-3 years... It feels like a permanent situation right now, so one must consider a Plan B. I assume it will eventually move towards working from home.” Interview 5

In this regard, the progress Calw appears to be yielding some positive outcomes already by attracting talent, suggesting that their efforts to innovate in work arrangements are beginning to pay off.

"We now also have the feeling, since it has become a bit more known, that more people are applying in Calw. Especially from the universities, because the graduates say: 'Ah, things are done a bit differently in Calw, that's interesting.' Can we apply there?"  
Interview 9

On the other hand, there are concerns regarding the existing workforce's ability to handle rapid transitions. The shift to new working models, generally seen as necessary, could be potentially disruptive. Rapid changes can require both technological and cultural shifts that not all employees may be ready to embrace. This is especially pressing in a public sector context, where stability and continuity are critical.

"I can imagine that acceptance might be difficult for one or two individuals. Things need to change in this respect, but it might be challenging for some in terms of acceptance,

thinking along the lines of: 'He's not here' or 'She's not here'. [...] So, I would find it difficult to imagine, or conversely, I know of one or two cases where acceptance will be difficult." Interview 5

The specific context of local government is essential for this thesis, and it came through again and again in the interviews. Most roles in the administration do require direct public interaction and accessibility and it has been called into question if and how they can be adapted to remote work scenarios.

"Nevertheless, we still have a certain level of public service provision for the citizens in public administration. This means that we also need to be somewhat present on site; in some areas, let me just say, I am able to work from home 50% of the time, but in other areas, like in my department [...] it is not possible at all." Interview 7

"Well, in my department it is - well, ok, you have to say that where there is a lot of public traffic, registration of residents, foreigners and so on, the issue of home office is of course limited to a certain extent by these opening hours and this obligation to be present, but these employees still have the opportunity to use home office in the afternoons when there are closing times, for example." Interview 11

On the other hand, some interviews indicated that as long as the output remained high and citizens' needs were met, the internal work structure of the administration might be less relevant or not of concern. For instance, one interviewee expressed,

"I believe it still depends on the quality of the work. So, if I contact someone at the city hall and they respond quickly and can satisfactorily address my concerns, I think it doesn't really matter to the citizen whether the person is physically present or if communication happens over the phone or otherwise." Interview 11

This perspective suggests that the effectiveness of remote work can be judged by the outcomes and service quality rather than the traditional metrics of physical presence and length of opening-hours. Many interviewees are concerned that remote work in the administration might pose challenges for older or disadvantaged citizens. They fear changes to work arrangements could widen the digital divide, making it harder to reach remote employees than those available in person at the town hall. This shift might make it difficult for specific groups to access municipal services. It underscores the importance of inclusive planning and support systems to mitigate these disparities.

"I still see it this way, and I always say this to Mr. Kling, that we must not leave behind those who are educationally disadvantaged or older people. We have a mandate, and it

applies to all citizens. And citizens are not just digitally savvy people who say, 'Oh great, I can do my things online.'" Interview 13

"One must consider the older citizens in the community who might not yet have a smartphone, or who are not particularly tech-savvy." Interview 11

In line with the results mentioned concerning the role of local government and awareness of the digital divide, there is a repeatedly expressed need for arrangements that guarantee availability to the public. Various solutions have been proposed to meet this requirement. Technologically mediated options, such as video calls, are one way to maintain public accessibility while supporting remote work arrangements. Alternatively, adapting the workflow to have a limited number of personnel available in-person for a broad spectrum of tasks offers another practical solution. These staff members would effectively act as first-line support, providing immediate assistance and ensuring the continuity of essential public services.

"I can't think of any reason why we shouldn't do this at 100% (remote), really. And I would really like to explicitly exclude the things that require direct customer contact, because we still need a town hall that has opening hours. Although we also have digital registration for citizens for the citizens' office downstairs. But you still need an open door and someone on site to do that." Interview 8

"I think it (the extend of remote work) depends very much on how the structure itself is. Are there many employees around it who don't work remotely, who could then mainly take on the tasks that arise on site? Does it even fit into the team that someone is not there much? Does it fit in with the tasks? You just have to see whether you can perhaps redistribute the tasks." Interview 7

Such adaptations are crucial for local governments aiming to balance the efficiency of remote work with the necessity of being accessible and responsive to their communities.

In my interviews, I asked all participants about the maximum number of the approximately 600 employees or around 400 full-time equivalents in Calw's city administration that could potentially work predominantly remotely in the future. This line of questioning aimed to benchmark the maximum extent to which it is conceivable that a significant portion of a city administration's workforce might primarily operate from remote locations moving forward. The responses showed a wide range of estimates, offering diverse opinions on the potential for remote work within the city administration.

The estimates I received ranged from as few as 2 employees to as many as 70 employees (see Table 4), with the median of these estimates being 36 potential future remote workers.

Most interviewees provided their answers as percentages of the core administration, thereby excluding positions in childcare, education, or the municipal building yard. This approach focused solely on office jobs within the administration, identifying them as the most feasible candidates for remote work. Based on information from the HR department and VPN usage data from Calw, the number of jobs within the core administration that could potentially accommodate remote work is estimated to be around 140. Interview 8 estimated that up to 50% of the core administration, or 70 employees, could work remotely. Similarly, Interview 9 suggested 40% (56 employees), while more conservative estimates came from Interview 12 and Interview 7, proposing minimum figures of 10% (14 employees) and an extreme low of max. 2 employees respectively.

Interview	Estimate	Estimate of Maximum Remote Employees from a Core Administration of 140
8	50% of the core administration	70
9	40% of the core administration	56
4	50	50
6	Max 30% of the core administration	Max. 42
13	30	30
5	20	20
12	min 10% of the core administration	Min. 14
7	Max. 2	2

*Table 4 Estimations for the Max. Amount of Potential Remote Workers in the Administration of Calw*

This data reflects a significant variance in perceptions and expectations about the adaptability of different roles to remote working conditions within the city administration. It is important to note that these figures represent spontaneous and rough estimations provided by the interviewees. They are not based on detailed analyses or empirical data, but rather reflect the individual perceptions and immediate thoughts of those interviewed about the feasibility of remote work within the administration.

Given these perspectives, it appears there is potential to implement at least some remote positions within the city administration. To further explore this possibility, I also inquired about the changes and adaptations in leadership needed to prepare for such positions. This included discussions on the development of new communication protocols, and the adaptation of management practices to oversee a distributed workforce effectively.

Practitioners emphasized the importance of fostering a work culture, which is open to remote work, repeatedly coined as a "start-up mentality". This involves being adaptable, innovative, and willing to embrace new ways of working. Leaders emphasized the need to identify the inherent limits of remote work based on specific tasks, ensuring that remote work is limited if the tasks cannot be efficiently managed off-site. To combat the isolation

that can accompany remote work, increasing departmental face-to-face time through outings or team days was also highlighted. These measures are aimed at ensuring that while remote work is integrated into the municipal administration, it is done in a way that maintains team cohesion and effectiveness.

“There's a lot to do with the work culture, which means that the first prerequisite is to build up a certain start-up mentality in order to say okay, now we're going remote. Since we also live out or internalize this startup mentality to a certain extent. That's why I don't see a problem with the city of Calw employing someone (remotely).” Interview 12

“Here in Calw, it's also clear that this (remote work) is generally seen as a positive thing. And the opportunities it offers to hire people that you otherwise wouldn't be able to get, and so on and so forth. And it simply has the advantage for the employees, which is why I see what is difficult in terms of work as the limit:” Interview 10

The idea of increasing the frequency of departmental outings to enhance team cohesion in a predominantly remote work environment was raised in an interview. The interviewee noted that, traditionally, departments have organized annual outings, but with the shift to remote work, these infrequent gatherings may no longer suffice.

“Up to now, we've generally gone on a departmental outing once a year, with each department going somewhere individually for the whole day, and I think that if everyone were actually working from home, then I think we should perhaps meet somewhere once a quarter and go on an outing together, or at least twice a year. I think it's a bit low if you only see each other once a year.” Interview 11

Leaders also underlined the importance of ongoing professional development and training to equip both managers and employees with the skills needed to thrive in a hybrid work environment, where some employees work mostly from home. This includes enhancing digital literacy, mastering remote collaboration tools, and fostering a sense of accountability and self-discipline among remote workers.

The initial period with a new employee has been the most controversial, with most interviewees suggesting that a mostly remote start is counterproductive. Instead, they recommend an in-person phase at the beginning of at least a few weeks.

"Before hiring, I would like to have met the person in person. However, that question hasn't arisen yet. So, I don't have any positions that are 100% remote. It could happen eventually, and then the logical consequence would be that the application process would be conducted completely online. But at least so far, I haven't had that." Interview 10

“If someone were to work from home right from the start, I would still require that they work in person for the initial period, at least 50%. This is important even if they have a specific task, to learn about our internal workflows, and then we must see what the employee's results are like.” Interview 6

“Indeed, I do find social integration important, and it's good to be there in person for the first few weeks. It helps in getting to know the team, developing a feel for the colleagues and the supervisor. And then, moving to remote. So, I think a dual system isn't bad for the start.” Interview 12

“That is indeed more challenging at the start. Of course, this can be resolved by taking plenty of time, conducting many online meetings, but I don't believe it can completely replace being there in person.” Interview 9

The question of how this approach might undermine the benefits of a mostly remote work position remains unclear. While the initial in-person phase can enhance integration and communication, it could potentially conflict with the flexibility and cost savings typically associated with remote work. Balancing the need for effective onboarding with the advantages of remote work requires careful consideration of how much physical presence is truly necessary and whether alternative virtual onboarding techniques could achieve similar results without compromising the inherent benefits of remote working arrangements. This ongoing evaluation is crucial for organizations aiming to optimize both employee satisfaction and operational efficiency in a remote work model.

It has become evident that many practitioners recognize the potential for expanding remote work opportunities (see Table 4). In my interviews, I, followingly, explored which sectors and job types adapt best to remote work. The consensus indicated that roles in central services, human resources, and finance could transition effectively to remote settings. These areas excel in telecommuting due to their digital and process-oriented nature, enabling efficient task performance outside a traditional office.

“I actually only have two areas where I say it's really very important, that's the residents' registration office and the immigration authorities, because I still need fingerprints to create ID cards and documents at the moment. That's why people have to come. Exactly, and all the other areas (HR, IT & Telecommunications and Internal Organization) could also be done differently via video or something.” Interview 11

“Especially in the area of finance, it is very possible for them to work on a mobile basis because, as I said, they have no customer contact and they are actually a cross-sectional office internally.” Interview 13

“But for the jobs where it is feasible, the 50% limit will probably fall at some point [...] I know it now for the financial sector. It's going to get even worse there, because these are not exactly the most sought-after jobs, but that will be a huge problem, and then at some point people will say, before I can't get anyone else, I'll take someone from Hamburg 100% or 80% (remotely) if necessary.” Interview 5

Most of the openness to predominantly remote work positions was in regard to non-leadership roles. Remote leadership, on the other hand, was seen as especially problematic and, at best, a distant possibility.

“In my opinion, more than 50% (remote) is not possible, but even up to 50%, as a classic manager, I find it extremely difficult to fulfill one's management tasks and, above all, to gain a little insight into the team...” Interview 5

The consensus among interviewees was that personal presence is crucial, particularly in local administration and leadership positions. Being physically present not only facilitates more effective communication and decision-making but also helps leaders to be visible and accessible to their teams and the community. This visibility is essential for building trust, fostering a sense of accountability, and ensuring that leaders can respond promptly and appropriately to the needs and concerns of their constituents.

“I think in 10 to 20 years' time, it will certainly be common practice for managers to work remotely and employees to be on site. I can already imagine that. But of course, I think it's also important for the employees (that the manager is there). They need someone they can look to for guidance, and that's easiest if someone is on site” Interview 12

Thus, while remote work is gaining acceptance for many roles, the value of in-person leadership remains highly appreciated and is seen as indispensable for now. Starting with primarily remote positions is expected to happen at non-leadership levels, with the possibility of remote leadership being considered a future step.

HR is an interesting case in this context because they are not only crucial in facilitating the implementation of remote work models but are also prime candidates for telecommuting themselves. My selection of interviewees proved advantageous as I engaged with both HR leadership and regular employees<sup>4</sup>, gaining a comprehensive view of the challenges and opportunities from different levels within the department. Leaders

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<sup>4</sup> While I conducted one formal interview with a regular HR team member, my on-site stay in Calw proved invaluable for gathering additional insights. This experience allowed me to engage in numerous informal discussions with other HR employees, which enriched my understanding and provided a broader perspective on the issues at hand. These interactions complemented the formal interview by highlighting practical experiences and opinions from within the HR department.

emphasized the strategic importance of HR in shaping remote work policies that are inclusive and effective, while employees highlighted the practical aspects of remote HR functions, such as virtual recruitment. Interestingly, HR seemed relatively critical of the aspects of remote interviews and onboarding processes. They suggested that predominantly remote work should ideally commence only after a new employee has been physically onboarded and integrated into the work culture. This perspective underscores the importance they place on face-to-face interactions in establishing a solid foundation for employee relationships and understanding of company values. Despite this, it was clear that the HR team is already quite accustomed to working remotely on a part-time basis, a model that has functioned well within their team structure. However, they appeared hesitant to expand beyond their current practices, indicating a cautious approach to fully transitioning to a more remote-focused operation. Additionally, it was noted that the estimates of the maximum potential for mostly remote positions in administration from HR practitioners were generally lower than those provided by other administrators. This discrepancy suggests a more conservative approach from HR professionals regarding the expansion of remote work within the organization.

## 4.2 Survey German Municipalities

The following are the results of the national survey conducted among German mid-sized municipalities. The data shows that the vast majority of city administrations (94%) now provide mobile working options, and only a small fraction of city administrations (6%) have not adopted mobile working. The survey also showed that the extent of mobile working has clearly increased since 2019, with 84% of city administrations reporting a "significantly increased" level of mobile working (see Figure 3).

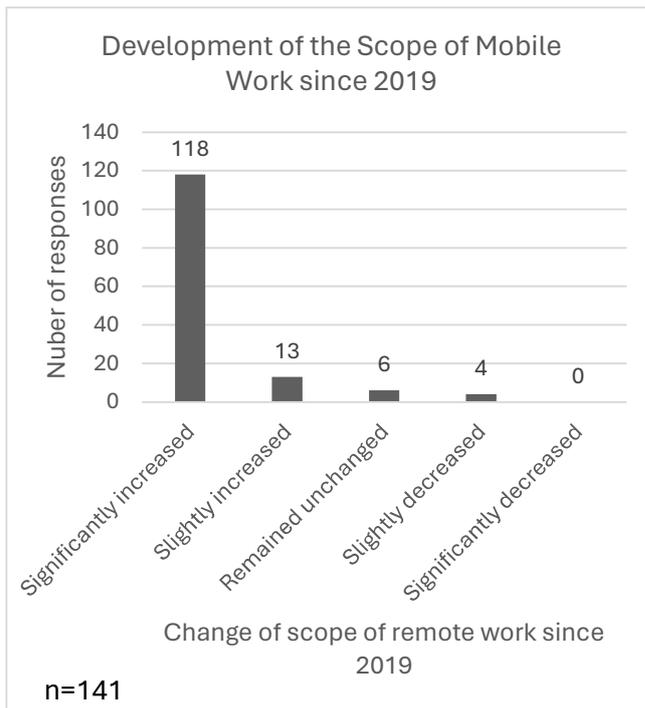


Figure 3 Change of Scope of Remote Work Since 2019

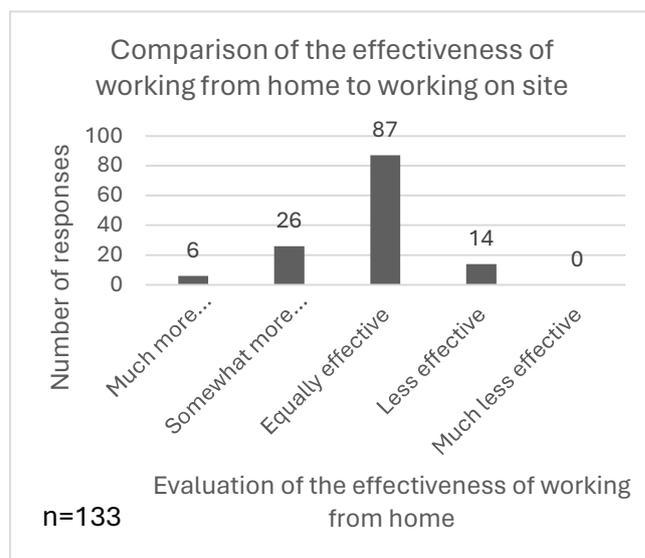


Figure 4 Comparison of the Effectiveness of Working From Home to Working On Site

The data gathered from city administrations on their assessment of home office effectiveness versus on-site work reveals a slight rightward skew, suggesting a positive reception of remote work's efficiency (see Figure 4). A significant 65% of the responses, amounting to 113 respondents, consider home office to be just as effective as traditional office work. This majority perspective signals an overall positive regard for remote work arrangements

In alignment with findings from other research on public service, such as the study by Roy (2022), my research finds that most German mid-sized municipalities have established regulations regarding the maximum amount of time employees can work remotely. Specifically, 74% of the respondents affirmed having fixed upper limits for mobile working. Often, this takes the form of agreements made between the municipal leadership and the staff council to regulate internal matters affecting the

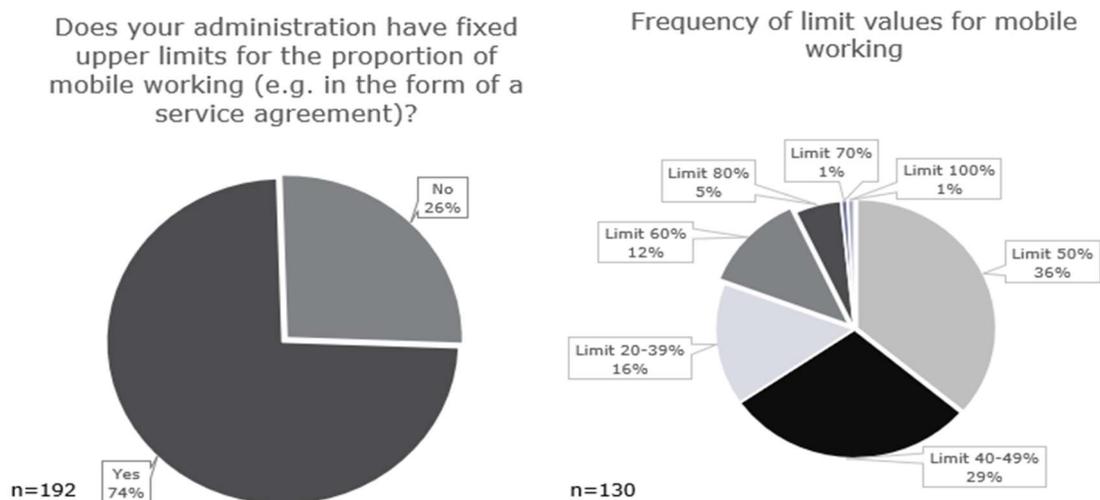


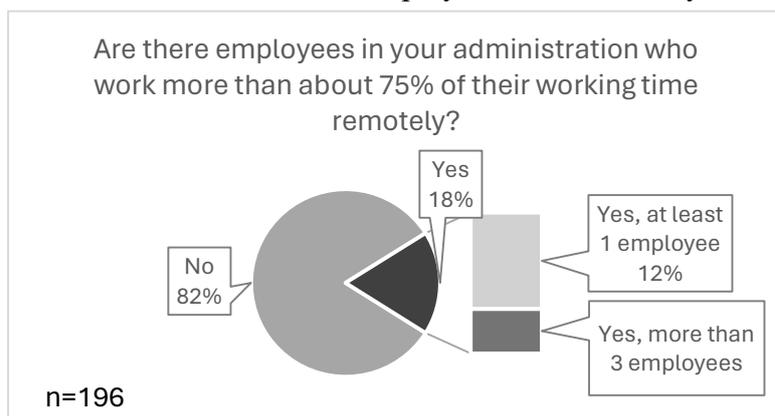
Figure 5 Established Upper Limits for Mobile Working

employees' working conditions. These findings indicate a structured approach to remote working within the municipal framework. Figure 5 illustrates the distribution of these upper limits for mobile working. The most common limit is 50%, accounting for 36% of responses. Limits between 40-49% are also prominent, comprising 29% of the 130 cases. And at the lower end we have 16% of the responding municipalities with an upper limit between 20-39%. A respectable 12% generally offer positions that are allowed to work remote for most of the time with an upper limit of 60%. Limits above 60% are very uncommon with a combine percentage of 7%.

Building on the current landscape where most cities now offer remote work options with defined upper limits, the following explores what future plans exist for expanding remote working opportunities within these municipalities. Just 23% of administrations plan to increase the proportion of work performed remotely in the future. It is often municipalities that have seen less change since 2019 that plan to expand their remote work offerings. Specifically, only 22% of municipalities that significantly increased remote work since 2019 plan further increases. In contrast, 31% of those that made slight increases and 50% of municipalities that had not previously expanded remote work at all, plan to do so. Meanwhile, 77% of the administrations do not have plans to extend their remote work practices further.

The data also reflects that only a small minority (18%) of the surveyed administrations allow a substantial level of mobile working ( $\geq 75\%$  of their working time) for their staff. Specifically, merely 11 city administrations report that more than three employees work more than 75% of their time remotely, this corresponds to 6% of the municipal administrations (see Figure 6). The average number of employees working remotely for  $\geq 75\%$  of their working time across the 35 municipalities that have such positions was 5.6. However, many of these municipalities have a maximum of three such employees.

Given that the arithmetic mean is sensitive to outliers, this indicates that there is an even smaller subset of municipalities with a large remote workforce. This suggests a few administrations might be significantly skewing the average upwards with a higher number of remote workers, reflecting a stark contrast in the adoption rates of remote work policies among municipalities. Indeed, the municipality of Mettmann significantly skews the average number of remote workers upwards. They reported having 50 positions within their administration where employees work remotely for at least 75% of their working



time. This constitutes 3.7% of their full-time equivalent positions. Located in the North Rhine-Westphalia region of Düsseldorf, Mettmann has approximately 40,000 residents.

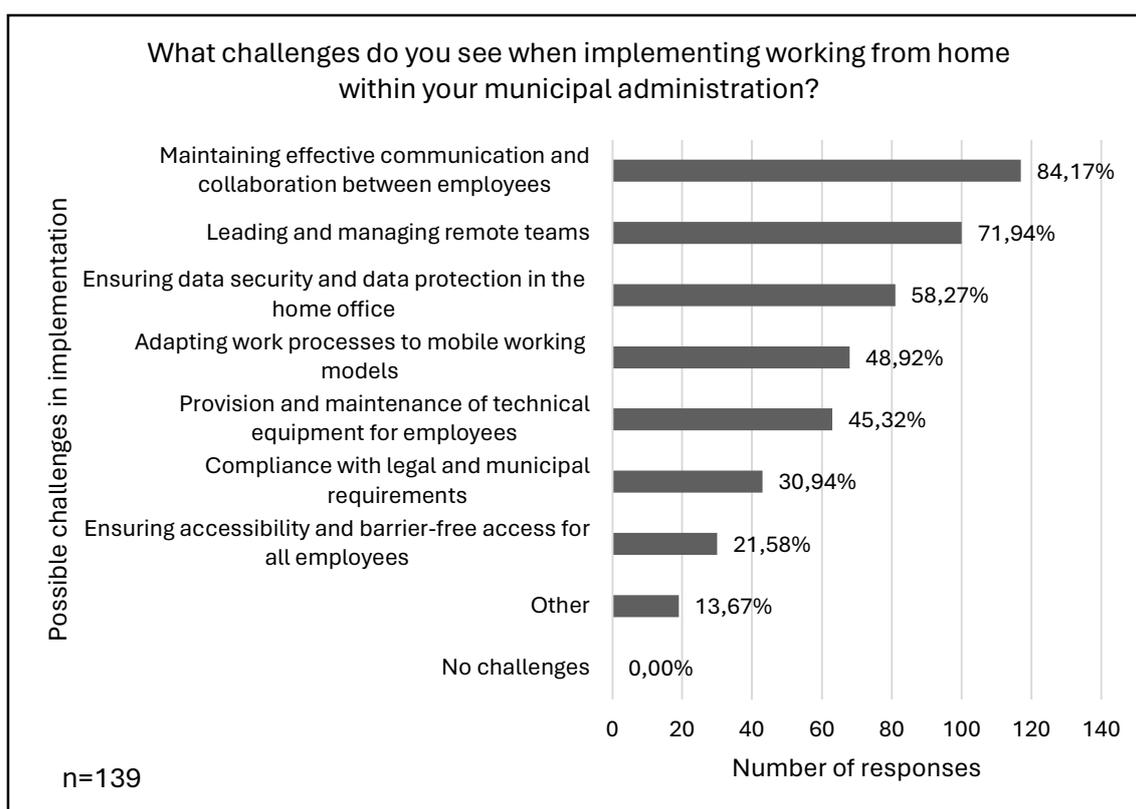
Figure 6 Employees Working Remotely More Than 75% of their Time

Closely connected to this, this research also explores the publication of job positions that entail at least 75% remote working<sup>5</sup>. I asked municipal administrations if they had already advertised positions mainly to be carried out in mobile working. I provided three response options: “Yes”; “No”; “No, but such a job posting is planned”. The responses were revealing, as only 2.6% answered yes, indicating that they have already advertised such positions. Merely 1.6% reported plans to advertise such positions in the future. This suggests that despite the presence of high remote work allowances in some municipalities, the transition towards advertising predominantly remote positions is still very nascent. Following this thread, we also find that among the few administrations that answered yes to advertising positions primarily involving remote work, 40% of them already have at least one employee who works mostly remotely. This suggests that there is a small group of remote work frontrunners among the administrations, pioneering these flexible working arrangements even as the majority remain more conservative in their remote

<sup>5</sup> The topic of announcing and promoting remote and hybrid positions within German municipalities has been touched upon in my research for this thesis, but it is not extensively covered in the thesis itself. I will, therefore, only succinctly discuss the insights I gathered on this topic, given that the primary research already includes three independently gathered empirical data sources. Initial responses from experts at job platforms specializing in remote work indicate that few municipalities or public service entities effectively leverage these platforms. Furthermore, most job platforms aimed at public service roles do not yet have, or are just starting to implement, filters for remote or hybrid positions. Here, again, I encountered numerous issues and discrepancies concerning the definitions of work arrangements, highlighting the complexity of categorizing the spectrum of workplace settings. These challenges primarily stem from the need to differentiate between various arrangements, ranging from alternating Telework on specific days of the week to entirely flexible, 100% remote work setups.

work policies. Interestingly, among the administrations that indicated plans to advertise positions predominantly involving remote work in the future, none currently have employees working remotely to such a high degree. However, this group consists of only three cities, which limits the generalizability of these findings.

Finally, we address the responses to one of the major questions in the questionnaire, which was exclusive to the online survey and thus did not include responses from administrations in Baden-Württemberg: "What challenges do you see when implementing



*Figure 7 Perceived Challenges in Implementing Remote Work in Municipal Administrations*

working from home within your municipal administration?" Respondents could select multiple challenges, based on categories derived from my literature review, with an option to add "other" challenges via a free-text comment (see Figure 7).

The main challenges in implementing remote work within municipal administrations included maintaining effective communication and collaboration among employees, which 84% of respondents cited, and leading and managing teams remotely, noted by 72%. The third most cited challenge, mentioned by 58% of respondents, was ensuring data security and privacy while working remote. Additionally, significant findings include that 45% of respondents mentioned the provision and maintenance of technical equipment for employees as a challenge. Notably, none of the participants reported having "no challenges" in implementing remote work within their municipal administration.

The option to add "other" challenges through a free-text comment was used by 13.7% of respondents, providing intriguing insights. I categorized these comments into thematic groups to analyze and understand the specific, perhaps less common, hurdles faced by municipal administrations when implementing remote work. Figure 8 visually presents and details the categorization of these responses. Among the "other" challenges noted in the free-text comments, 26% focused on specific digitization hurdles unique to their administrations. These may be less relevant on a broader scale. Still, 32% of the comments emphasized the special importance of providing on-site citizen services as a local

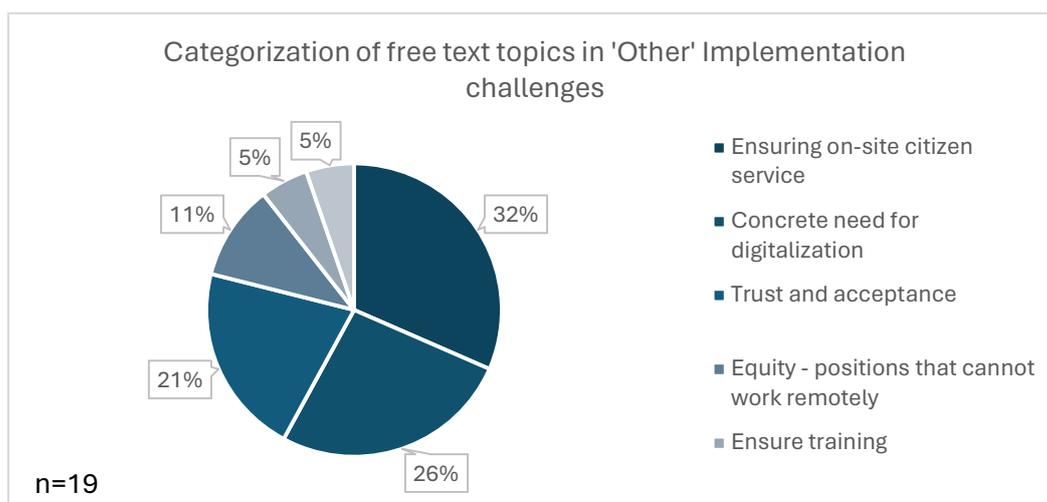


Figure 8 Categorization of 'Other' Perceived Challenges in Implementing Remote Work in Municipal Administrations

government responsibility. This highlights a critical challenge in remote work implementation in municipal administration. One of these challenges is being characterized as issued related to trust and acceptance of remote work arrangements, which was brought up by 21% of the responses. In addition to that, 11 % of the comments expressed concerns related to equity and fairness, particularly regarding positions that cannot be performed remotely, which undermines a perceived disparity in work arrangements within the administration. It is argued that some roles are unable to benefit from the flexibility of remote work, potentially affecting morale and perceived organizational justice.

In summary, this survey offers a comprehensive overview of the current state of mobile working in German mid-sized municipalities, highlighting both the widespread adoption and the challenges of remote work practices. Most city administrations now offer flexible remote working arrangements, but there is a clear divide in the extent of adoption and future plans for expansion. The data indicates a generally positive reception towards remote work, supported by a structured regulatory environment in most municipalities. Still, the adoption of high-level remote work and the promotion of predominantly remote positions remain limited. These findings suggest that while remote work is viewed as a

viable and effective option within municipal administrations, its full potential remains unexploited, often constrained by operational, cultural, and technical challenges.

### 4.3 Employee Survey Calw

This chapter presents the findings of the survey conducted to gather insights into remote work experiences among municipal employees in Calw. The survey, which remained open until May 24, 2024, was distributed to all municipal employees. Previously, I detailed the results from my in-depth interviews with employees in Calw, providing detailed qualitative insights. This chapter presents the responses and analyzes the data to provide a comprehensive understanding of the employees' perspectives on remote work within the municipality.

The employee survey conducted by the mayor's office this year, which included my questions on remote work, garnered 146 responses. This marks a decline from the 175 responses received last year and a significant drop from the 278 responses in the survey's inaugural year. With approximately 600 individuals employed across all branches of the municipality, this year's response rate is just shy of 25%. The largest share of responses came from individuals working in Kindergarten/Childcare, representing 37% of respondents. This proportion aligns roughly with the general composition of the workforce in Calw, where the "Fachbereich 2 Bildung/Kultur" sector holds the largest number of employees. My work and interviews primarily focused on administrative and desk-work roles, which comprise approximately 140 employees in Calw. From the answers to the question "In which area do you work?" in the general part of the survey, we can attribute 72, to four areas that inherently onsite jobs, like Kindergarten/Childcare, Music school, building depot and service (cleaning & janitor). I have summarized these 4 areas in following under the headline "Education and Maintenance" and split my analyses where it seemed sensible to do so, between employees from Education and Maintenance and other areas where remote work is probably more realistic.

This argumentation that remote work is less likely in the work of these employees has been nicely supported their own estimation of the percentage of work time feasible for remote work (see Figure 9). When we first look at all responses we see, the data shows a wide range, from a minimum of 0 to a maximum of 100. The median (30) is lower than the average (41.26), indicating

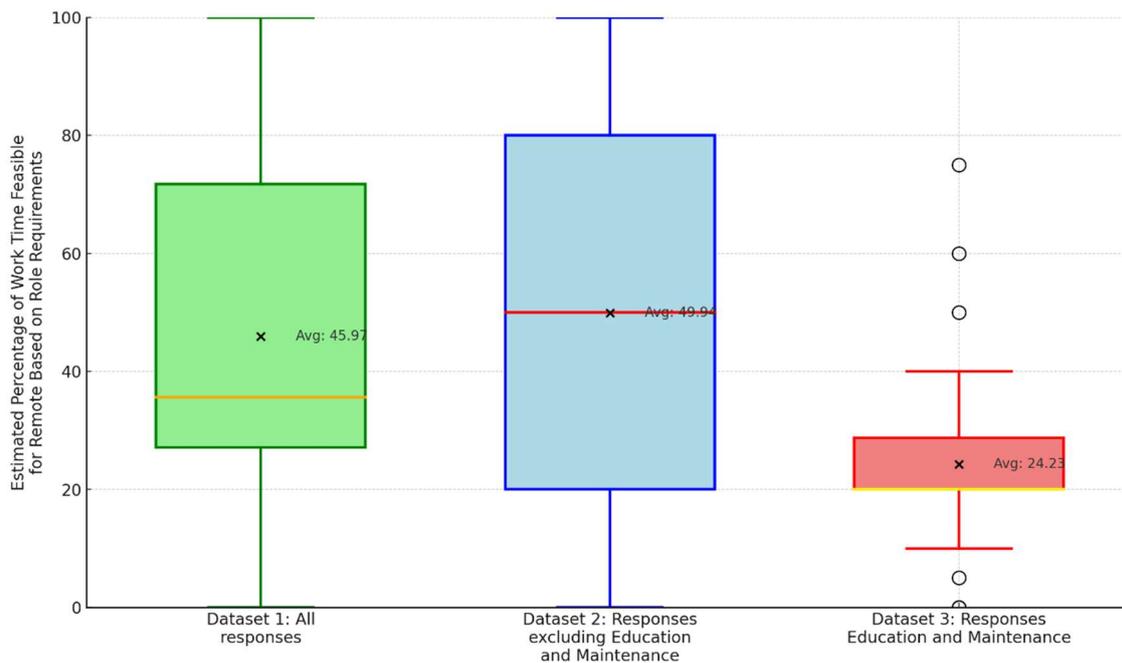


Figure 9 Estimated Percentage of Work Time Feasible for Remote Work Based on Role Requirements

a left-skewed distribution where more values are concentrated on the lower end. The standard deviation of 29.51 suggests that the data points are spread out over a large range of values. The interquartile range (IQR), which is the difference between Q3 and Q1, is  $70 - 20 = 50$ . This indicates a moderate spread of the middle 50% of the data.

When we exclude the responses from employees in education and maintenance roles, the distribution changes noticeably. The average estimated percentage of feasible remote work time increases to 49.34, with a median of 49. The data still exhibits a wide range, with a standard deviation of 28.77. The IQR for this subset is  $60 - 30 = 30$ , indicating a somewhat tighter clustering of responses around the median. In contrast, focusing solely on responses from employees in education and maintenance roles reveals a significantly lower average (24.23) and median (20). This subset demonstrates a lower feasibility for remote work, which aligns with the nature of these roles that often require physical presence. The data here also shows a smaller range and lower standard deviation (20.15), indicating that the estimates are more tightly grouped.

In the survey, I also included a simple question on the use of remote work in the last month. The responses were as follows: Yes: 44 responses (35.2%) and No: 81 responses (64.8%). This indicates that a significant majority (64.8%) of employees in Calw did not work from home in the last month, while a smaller portion (35.2%) did. Again, the picture flips after we exclude those employees from areas that especially necessitate physical presence, such as education and maintenance roles. Among the remaining roles, we find that a majority (56.1%) of these employees in Calw did work from home at least once in

the last month, while a smaller portion (43.9%) did not. This shift underscores the influence of job type on remote work feasibility and utilization.

One of the questions that was identical in the employee survey and the national survey was, "What challenges do you see when implementing working from home within your municipal administration?" Respondents could choose multiple options in both surveys. Figure 10 shows the responses from the survey in Calw. I received 135 responses to this question, with "Maintaining effective communication and collaboration between employees" identified as the most mentioned challenge. This was closely followed by "Adapting work processes to mobile working models" and "Provision and maintenance of technical equipment for employees." Interestingly, no single challenge was mentioned by more than 50% of employees, and 14 employees (10.4%) even selected the option "no challenges."

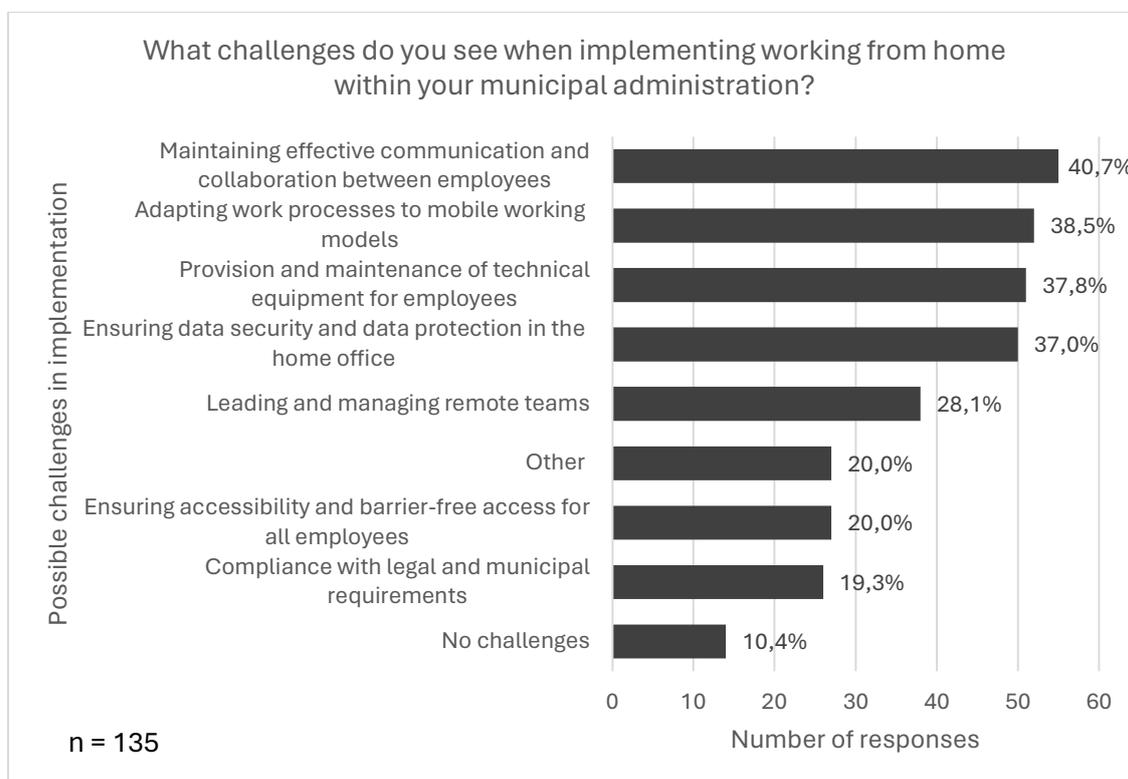


Figure 10 Challenges in Implementing Remote Work in Municipal Administrations Perceived by Employees of Calw

For the results from Figure 10, I checked if the exclusion of employees from education and maintenance would change the most mentioned challenges. This was not the case. A chi-square test confirmed that the differences in the distribution of challenges were not statistically significant ( $p \approx 0.976$ ). This suggests that excluding employees from education and maintenance did not significantly alter the overall perception of challenges in the remaining group.

In line with effective communication being the most mentioned challenge, the responses to the question "What support and infrastructural adjustments do you consider necessary to ensure effective collaboration and a positive working atmosphere when colleagues work almost entirely remotely? How do you assess the current situation in this regard?" mainly revolve around the topic of collaboration and team communication. With a significant portion of the comments (23 out of 40; 57,5%) addressing these general topics, it is clear that employees see communication and team integration as critical factors.

For example, one respondent mentioned, "When working almost entirely from home, communication between employees and colleagues/supervisors must be very clear and regular. Integration into team processes and new information within the team are very important from both sides." Another commented, "Meetings should be planned where all employees of the department must attend." Additionally, a suggestion was made that "At least one day a week, the entire team should be present for discussions and team building." These responses underscore the importance of structured and frequent communication, regular in-person meetings, and dedicated team-building activities to maintain a cohesive and productive remote work environment.

Like Figure 7 in the previous chapter, Figure 11 breaks down the responses given in the "other challenges" section. 13% of respondents used the free-text comment option to add "other" challenges, providing intriguing insights. I categorized these comments into thematic groups to understand the specific, less common hurdles faced by employees in Calw when implementing remote work.

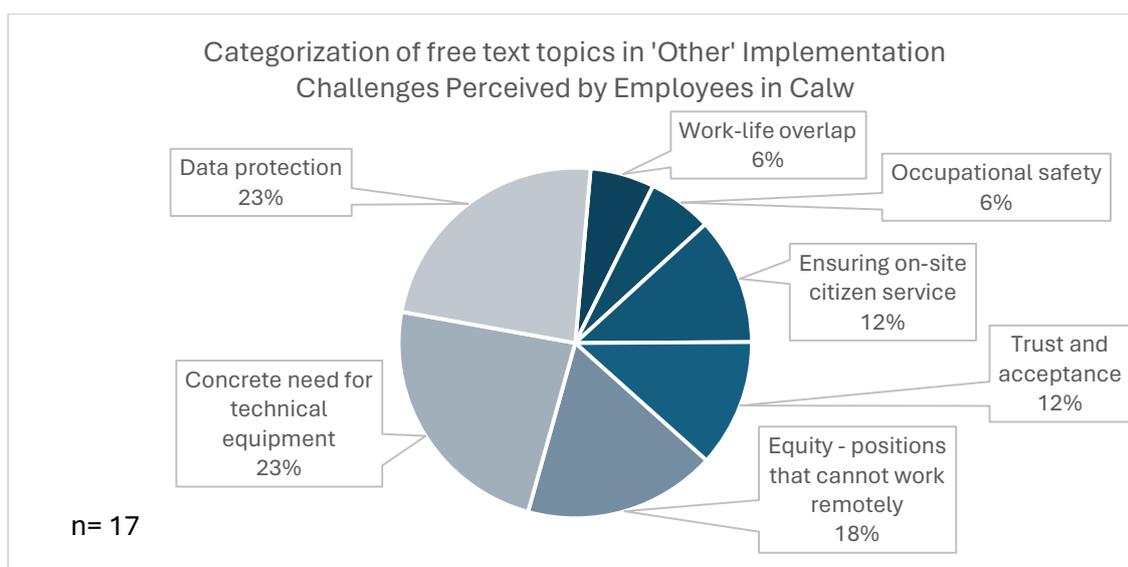


Figure 11 Categorization of 'Other' Perceived Challenges in Implementing Remote Work in Calw

What we see again from the free-text responses regarding possible changes in the team if mostly remote positions are created is the significant challenge of professional isolation.

For example, one respondent noted, "Collaboration decreases. The person working from home is often ignored in their presence, even though they are on duty." Another mentioned, "Team cohesion would decrease, and the individual employee is left out." Moreover, concerns about the lack of contact with colleagues were expressed: "There is a lack of contact with colleagues, no bond is formed, and there is pressure to perform because no one sees what you are working on." These comments highlight the potential decrease in collaboration, the feeling of being sidelined, and the pressure to perform without visible recognition, all contributing to a sense of professional isolation among remote workers.

In this broader survey, compared to the targeted in-depth interviews, we again see a dual perspective. On one hand, many respondents emphasize that certain tasks and jobs within the municipality can only be effectively performed in person. For instance, one comment states, "Home office does not work in the construction department; on-site presence is much more effective," while another highlights the importance of personal communication in the kindergarten sector: "In the kindergarten sector, personal communication is very important, so it would be disadvantageous if all preparation and follow-up time, and even team meetings, were done exclusively from home. Many activities cannot be carried out from home, such as events, parents' evenings, and parent-teacher meetings." On the other hand, we also have responses from employees in these roles, especially from the kindergarten sector, advocating for an extension of remote work in their jobs. For example, some mentioned, "The city must be ready to introduce this for all departments (daycare centers)," or "One employee office for two areas is not enough. Concentrated work is hardly possible. The possibility of taking laptops home to use as a 'home office' would sometimes be helpful." Another respondent suggested, "The possibility to organize preparation time in the home office, but a solution for data protection needs to be found." These comments underscore the nuanced views among employees, highlighting both the challenges and the potential benefits of remote work in various municipal roles.

Technical issues and concerns about reliable internet connections emerged more prominently from the employee survey. This contrasts with the in-depth interviews where these concerns were less emphasized. The main issue highlighted is the quality of internet connections. For instance, one respondent noted, "Disadvantages: Internet connection is not always optimal - availability in the home office is therefore disrupted." Another stated, "The best hardware and the best software are worthless without stable internet connections (kindergartens!)." These comments underscore the critical importance of a robust internet infrastructure for effective remote work.

## 5. Discussion

Since 2019, the opportunities for mobile working in medium-sized municipalities have significantly expanded, as both survey results and my interviews clearly indicate. Despite some quantitative restrictions, such as the requirement to work 2-3 days per week or 40% to 80% of the monthly working hours in the office, there has been a significant shift in the role of telework and hybrid work models compared to the pre-pandemic era. The pandemic has undoubtedly had a profound impact, and a complete return to the old model seems unrealistic. Faced with a labor shortage and a fast-paced, competitive labor market, public administrations appear forced to adapt. The response seems to be a hybrid workforce, where employees combine working from a location of their choice with working at a designated workplace.

From the recent national survey, it's evident that the majority of municipalities have implemented a fixed upper limit for remote work, with most limits aligning closely between 40% and 50% — 36% of these have a strict 50% cap. These uniform policies across different municipalities likely stem from a phenomenon known as institutional isomorphism. During the pandemic, municipalities faced similar challenges regarding new work arrangements and probably drew inspiration from the service agreements (*Dienstvereinbarungen*) of other local governments and public sector employers. This mimicry among organizations often occurs under the pressure of real or perceived external demands arising from similar environmental conditions. Institutional isomorphism, a term popularized by DiMaggio and Powell (1983) in their highly cited sociological paper, describes this process of alignment. This process tends to unfold more or less unconsciously and involuntarily, heavily influenced by the "institutional environment" that encompasses both explicit and implicit norms, rules, and schemas embedded in laws and professional standards within society. Through such mechanisms, once organizational models are institutionalized, they become widely diffused, leading to increasingly similar organizational structures (DiMaggio & Powell, 1983). In the context of the adoption of remote work policies by municipalities during and immediately after the pandemic, the phenomenon of mimetic isomorphism, as identified by DiMaggio and Powell (1983), becomes particularly relevant. This type of isomorphism occurs as organizations respond to uncertainty—such as that introduced by the pandemic—by imitating the practices of others perceived to be more legitimate or successful in dealing with similar challenges (DiMaggio & Powell, 1983, pp. 151–152). In this case, the similarity in remote work limits across municipalities likely reflects these entities looking to peers for models that had already been tested. According to DiMaggio and Powell, mimetic isomorphism is one of the three driving forces behind institutionalization, alongside coercive isomorphism, which stems from political pressure and the need for

legitimacy, and normative isomorphism, which relates to standards set by professionalization (DiMaggio & Powell, 1983, p. 150). The findings by Frumkin and Galaskiewicz (2004) further enhance our understanding of how formal rules and upper limits for remote work among municipalities likely evolved due to institutional isomorphism, particularly under mimetic pressures. According to their research, government establishments, such as municipalities, are more susceptible to coercive, normative, and mimetic influences compared to business establishments (Frumkin & Galaskiewicz, 2004, p. 301). This tendency is significant during periods of uncertainty, such as those experienced during the pandemic. Municipalities, facing unprecedented situations and the rapid need to adapt to remote work, likely looked to other similar organizations to model their responses. This mimetic influence, as Frumkin and Galaskiewicz suggest, prompts organizations to adopt more centralized and formalized structures (Frumkin & Galaskiewicz, 2004, p. 302), resulting in a uniformity of practices such as the setting of upper limits on remote work.

While it is clear that municipal administration will primarily operate on-site due to its critical role as the most local level of government, there is potential to increase the number of positions that work mostly or exclusively remotely. Many cities have already implemented such remote positions, although they are often exceptions based on special circumstances. However, as outliers in the survey have shown, this does not need to be the upper limit for remote roles within municipal administrations. There are municipalities that already boast double-digit numbers of employees who work mostly remotely instead of on-site, demonstrating that higher levels of remote work within municipal administrations are indeed feasible. The interviews conducted in Calw further support this potential, suggesting that with the right strategies and technological support, a significant portion of the workforce could transition to remote work. These examples serve as benchmarks for other cities contemplating similar shifts.

In my survey of municipal administrations across Germany, the most common challenges associated with remote work were leading and managing remote teams and maintaining effective communication and collaboration between employees.

These issues also emerged prominently in the in-person interviews I conducted in Calw. The consistency across different data collection methods highlights the significance of these challenges. Managing interpersonal dynamics and team cohesion remotely presents substantial hurdles for municipalities as they shift toward more flexible work arrangements. The strategy most frequently mentioned in the interviews involves aligning an in-person onboarding phase with a subsequent transition to mostly remote work. This phased approach helps maintain stability and ensures that new employees are adequately

acclimatized to the organization's culture, expectations, and systems before working remotely. Such a strategy not only smooths the transition for new hires but also minimizes disruption within existing workflows and maintains high morale among staff. Yet, a potential issue is the delay in transitioning to remote work, which could reduce the attractiveness of positions. Prospective employees seeking flexible work arrangements might be deterred if they believe remote opportunities are only available after a period of traditional, on-site work. This delay could lead to a talent drain, as individuals might prefer positions at other organizations that offer immediate remote work options. Therefore, municipalities need to balance the onboarding process with the strategic deployment of remote work to remain competitive and appealing to a wider pool of job candidates.

Here it is important to keep in mind that the main concerns highlighted in the survey and interviews focused on social integration and collaboration rather than on the functional aspects of work or training for specific tasks. Providing the necessary technical infrastructure allows training on the job and direct task performance are less seen as concerns. If that is indeed the case, then more remote-friendly processes might be devised to address issues related to social integration and collaboration. In remote work environments, it is essential to ensure that communication opportunities are provided not only for task-related meetings but also for social interactions akin to joint lunch and coffee breaks, and spontaneous meetings in hallways<sup>6</sup>. Combining communication tools with strategically scheduled onsite days to specifically address integration and collaboration challenges, as suggested by interviewees, could provide a balanced approach. This hybrid model leverages the appeal of remote work as a potential draw for employees while acknowledging that excessive onsite requirements might deter those attracted by the flexibility of remote positions. By designating certain days for in-person interaction to bolster team cohesion and interpersonal relationships—which are often more difficult to develop remotely—the organization can harness the productivity benefits of remote work. This method not only supports a robust organizational culture but also aligns with the desires of a modern workforce that values flexibility and the option to work remotely.

In contrast to previous cases, there were also notable differences between the survey results and the data collected from the case study in Calw. While 45% of the municipalities in the survey mentioned the provision and maintenance of technical

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<sup>6</sup> Various communication technology applications enable meeting participants to split into smaller breakout rooms. Some apps, like Kumospace.com, Wonder.me, and MeetingRoom.io, specialize in facilitating small-group discussions. These technologies support informal interactions and multiple simultaneous conversations in the same virtual space. This feature helps prevent a single group virtual coffee break from being dominated by one speaker (Jämsen et al., 2022).

equipment for employees as challenges, the situation in Calw was different. During the interviews, employees of Calw almost unanimously agreed that their administration had effectively overcome technical hurdles. They stated that expanding remote work was easily feasible from a technical standpoint, indicating their infrastructure and support systems were well-equipped to handle increased remote work demands.

This evolution towards a 'new normal' in remote work arrangements offers significant benefits for municipal governance. If municipal administrations can successfully navigate the challenges associated with remote positions, particularly in terms of team collaboration and remote leadership, and develop effective strategies for advertising these job opportunities, the benefits could be substantial. This adaptation could help the municipalities attract and maintain a diverse and inclusive workforce, which is crucial for fulfilling its missions effectively. By standardizing and clarifying the rules for teleworking and hybrid work, this shift could enhance the public sector's ability to compete with the private sector in attracting and retaining talented employees.

The discussion on the extent of remote work in Calw, as illustrated in the results section from interviews, indicates the potential for a shift in workplace dynamics. With a median estimation of 36 potential remote employees, it's evident that despite currently falling within the 82% of municipalities in its size range that do not employ predominantly remote workers, Calw's employees see the capacity for change. Except for one notably low estimate, all interviewees envisioned the possibility for Calw to support double-digit numbers of remote workers, positioning it among the leading municipalities in this aspect. The highest estimate suggested that up to 50% of the core administration could work mostly remotely, which would not only transform Calw's operational strategies but also potentially make it the municipality with the highest number of remote workers among mid-sized municipalities, surpassing the current top figure of 50 identified in my national survey. Notably, these insights come from within Calw itself, underscoring a significant shift in perspective. Just a few years ago, before the pandemic and the changes in leadership, Calw did not offer remote working options at all. This contextual backdrop makes the current estimations particularly noteworthy. Of course, these are rough and spontaneous estimates, and there remain challenges to be overcome, but it is a clear signal of openness towards such positions in the administration.

This positive perspective on remote work in Calw is again seen when comparing the question on perceived challenges in implementing remote work, between my national survey and the survey conducted in Calw (see Figure 12).

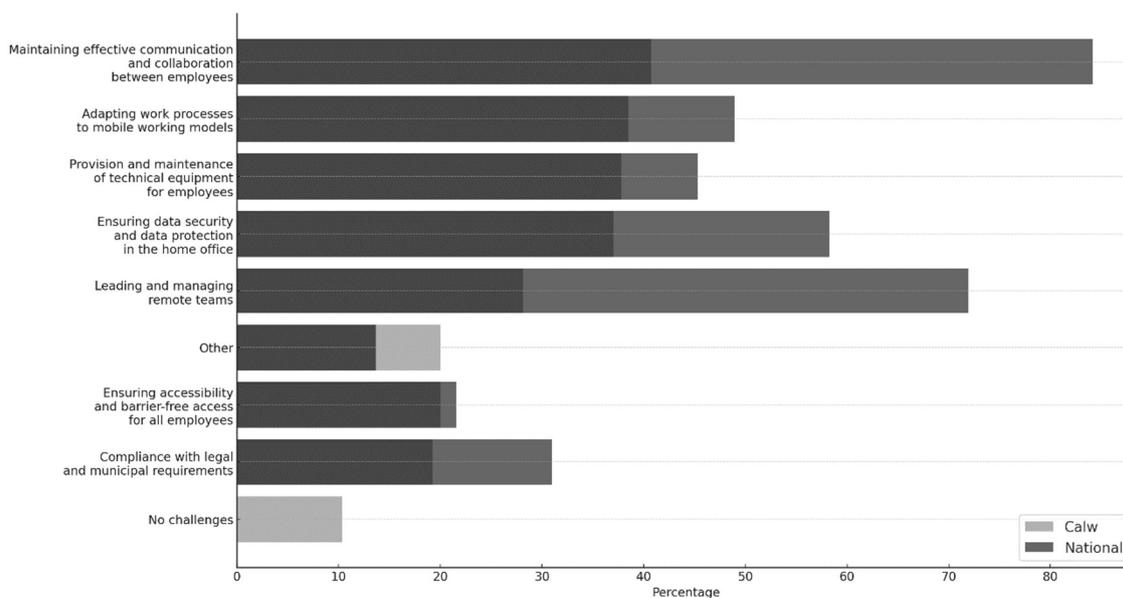


Figure 12 Comparison of Perceived Challenges in Remote Work: Calw vs. National Survey

The national survey highlights greater challenges in several areas, especially in leading and managing remote teams and maintaining effective communication and collaboration between employees. The question "What challenges do you see when implementing working from home within your municipal administration?" revealed notable differences between the national survey and the employee survey in Calw. Although maintaining effective communication and collaboration was identified as the highest challenge in both datasets, it was significantly higher in the national survey (84.17%) compared to Calw (40.7%). Moreover, challenges such as leading and managing remote teams and ensuring data security and data protection were more prominent in the national survey. Furthermore, in the internal ranking of challenges, "Provision and maintenance of technical equipment for employees" was of much higher concern for employees in Calw, ranking as the third highest concern, compared to the national survey where it ranked fifth. Interestingly, 10.4% of respondents in Calw reported no challenges, an option not reflected in the national survey. This discrepancy indicates that employees in Calw perceive fewer obstacles to remote work, suggesting a more favorable or well-adjusted view of remote work implementation compared to the more critical national perspective. The Chi-Square test comparing perceived challenges between a local survey from Calw and a national survey reveals significant differences. With a chi-square statistic of 44.595 and a p-value of 0.000000439, the analysis strongly rejects the null hypothesis, indicating that the observed discrepancies are not due to random chance. This statistical evidence highlights that the distribution of responses about perceived challenges varies considerably between the two groups. Specifically, issues like leading and managing remote teams, and maintaining effective communication, are notably more significant in

the national survey compared to the local survey from Calw. Calw shows a more balanced distribution of challenges with some respondents indicating no significant issues.

The findings from the employee survey emphasizes that employees outside of education and maintenance roles believe they could feasibly work remotely for a significant portion of their work time, with a median of 49% and an average of 49.34%. This indicates that nearly half of these employees perceive they could work more than the current upper limit of 50% remotely. This insight is crucial, as it suggests that there is untapped potential for remote work within these roles, beyond what is currently stipulated in existing service agreements. This aligns well with the qualitative data from interviews, where it was noted that primarily remote positions are possible. The consistency between the quantitative survey results and qualitative interview findings underscores a clear opportunity for the municipality to reassess and potentially expand their remote work policies. From my observations and interviews, it appears that there are two primary reasons for Calw's success in providing a functional toolkit for remote work.

First, the mayor's hands-on approach plays a crucial role. He sets ambitious goals, is directly involved in staff training, and even participates in programming and configuring software. This hands-on approach by the mayor has been repeatedly mentioned as a key motivator, energizing staff, and promoting a strong sense of commitment and innovation across teams. When leadership at the highest level is visibly committed, it ensures that no part of the administration can remain passive during the transition. This top-down influence reinforces the message that the shift towards paperless, digital work practices is mandatory, and will eventually be adopted by every team. This approach has established the groundwork for remote work and the potential to creating predominantly remote job positions. By prioritizing digital transformation from the top down, the administration sets a clear standard and framework for remote work to thrive. The transition to paperless operations and the use of universal software tools enhance efficiency and enable employees to work effectively from various locations. However, the deep involvement by the mayor also raises some concerns regarding the concentration of responsibility in a single individual. Critics argue that this might lead to an overburdening of the mayor, potentially affecting decision-making and overall project efficiency. Additionally, there is apprehension about the sustainability of these initiatives, particularly in terms of reelection or if the mayor were to exit his role. Such a departure could disrupt the continuity and momentum of the implemented systems, highlighting the need for a more distributed leadership approach to ensure long-term stability. During my interactions, I encountered apprehensions about the speed of change and the potential dangers of an incomplete transition. These concerns reflect a cautious perspective on organizational change, emphasizing the need to manage transformations in a way that

minimizes risks and avoids detrimental outcomes to the administration's overall functionality and service delivery. What surely is relevant in the context of the critical role of the mayor in Calw is its location in Baden-Württemberg, which operates under the Süddeutsche Ratsverfassung. This system grants the mayor the most robust position within any municipal government tradition in Germany, providing them with substantial authority to implement changes. This contrasts sharply with the governance structure in states like Hesse, where the administration of municipalities is managed by a collegial "government team" consisting of the mayor (or county commissioner) and the appointed deputies (Gemeindevorstand/Magistrat or Kreisausschuss). This system, known as the "Magistratsverfassung," distributes authority more evenly among members, potentially complicating the kind of swift and unilateral transformations seen in Calw.

Secondly, Calw's success in equipping its workforce for remote work can also be attributed to its focus on widely utilized, non-municipal-specific technical tools. By investing both attention and financial resources in common software solutions like Microsoft Office and Teams, along with general hardware such as laptops and headsets, Calw has facilitated a transition to remote and hybrid work environments. These tools are not unique to public services but are crucial for collaboration across various work settings, including on-site and hybrid teams. This approach means that the transition in Calw is relatively internal, and while the changes are significant, they may seem mundane and receive less external attention. This subtlety in the implementation process might contradict the goal of attracting talent through digital leadership. By focusing on commonplace tools and technologies, the initiatives might not appear innovative or particularly appealing to potential talent. However, what changed that and garnered some media attention was the relocation of the mayor's staff, including the mayor himself, to a flex desk "multispace." This move led to headlines like "the mayor without an office" (see, for example Frenzel, n.d.; Schmitt, 2023; SWR Aktuell, 2023), which highlighted Calw's innovative approach and made it stand out as a forward-thinking municipality. But it also means, that it is shifting away from traditional municipal service providers like Komm.ONE<sup>7</sup>. The leadership in Calw believes that there is greater potential in leveraging software from global market leaders, particularly for everyday office functions such as video calls, document handling, chat, and correspondence.

The impact of the pandemic on remote work within municipal administration has been notably transformative and enduring. A substantial 84% of city administrations reported a "significantly increased" level of mobile working, underscoring the widespread shift

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<sup>7</sup> Komm.ONE is a public institution jointly owned by the state of Baden-Württemberg and the municipal special-purpose association 4IT and the main provider in the state.

towards remote operations. This trend was not only reflected in statistical data but also emerged repeatedly during the interviews, stressing its significance. The continued reliance on remote work configurations indicates a real and lasting change in how municipal services are delivered, driven by the pandemic's catalytic effect on remote work practices. At the same time, now in the post-pandemic phase, the speed of adoption of remote work has slowed, and a new status quo seems to have been established. Most desk jobs continue to incorporate remote work, but it typically constitutes less than 50% of their working hours. Yet, more than 50% of the employees outside of education and maintenance roles believe they could feasibly work remotely for more than half of their work time, indicating untapped potential for expanding remote work policies. Despite the technological feasibility of expanding remote work options, as recognized by most interview partners, there are currently no widespread plans to increase remote work adoption within municipal administration. This observation suggests a cautious approach to further extending remote work arrangements. The consistency between survey results and interview findings suggests a clear opportunity for the municipality to reassess and enhance their remote work policies.

The most cited reason for offering positions that work mostly remote was the shortage of skilled labor, with the hope of filling vacancies. There was an acknowledgment that having a remote colleague is better than leaving a position vacant. Once again, municipalities seemed to be pushed towards remote work, this time not by the pandemic but by demographic changes in Germany, characterized by low birth rates and a declining population size. When remote work is embraced proactively, it often aims to gain a competitive advantage over other employers, especially in public service, in the race for talent. Municipalities offer more flexible working conditions to position themselves as attractive options in a tight labor market. The progress Calw has made in digitization appears to have already had a significant impact, and the administration is intensifying its efforts by emphasizing this aspect in their recruitment strategies. Most of my interviewees believe that offering mostly remote job positions is the logical next step in leveraging this digital advancement. Anyhow, they are hesitant about the timeframe for implementation.

The hesitation to fully implement mostly remote job positions in Calw predominantly stems from three key factors. First, there are significant challenges associated with managing hybrid teams, where some employees work remotely while others are onsite. Balancing communication, fostering team cohesion, and ensuring effective works is seen as a challenge that needs to be addressed. Second, there are concerns about how well the unique roles of local government—often requiring direct public interaction and accessibility—can be adapted to remote work scenarios. It has been repeatedly stated that few roles in the municipality lead them self to remote work, because nearly all have

interactions localized in the municipality be with the public or with local infrastructure. Finally, the speed of change itself is a considerable factor in the hesitancy to expand remote work. The administration is mindful of not wanting to overburden the existing workforce. Rapid transitions to new working models can be seen as potentially disruptive and may place undue stress on employees who need to adapt to different work environments and expectations quickly. This concern is particularly significant in a public sector context, where stability and continuity of service are paramount. The fear that too swift a change could lead to operational inefficiencies or lower morale.

The culture of the organization and employee support are critical factors. Establishing clear communication about the goals and articulating the reasons for adopting positions that work mostly remotely is crucial. Addressing this upfront can set expectations and build trust among participants and colleagues. Thus, I recommend highlighting the voluntary basis to differentiate from the negative experiences during the pandemic, highlighting benefits and preparing, especially for communication in hybrid teams. Supporting and enabling communication are important in situations where only a part of the personnel is working remotely. Technology provides many opportunities for organizing informal and spontaneous encounters, but the change in communication practices requires actions and timing from management. Leading by example and supporting team communication practices are crucial actions to make success in collaboration possible in remote work. This can help to fulfill relationship requirements of remote work. In a traditional on-site setting, employees simply had to walk through the office to get to know each other personally, to know how the other person is doing, and how they are to work well together. But the virtuality of remote work may lead to the invisibility of skills and colleagues. Zeuge et al. (2023) have termed the term situation awareness, to describe employees being informed about the competencies and knowledge of their colleagues and to know whom to ask about something to work together efficiently. They have found that situation awareness positively supports the fulfillment of knowledge work process requirements in a crisis-driven digital transformation. Thus, attention should be paid to raise situation awareness in hybrid teams, with members that work mostly remote, for example by implementing virtual cross-departmental exchanges or by using project management tools (e.g., Kanban boards). These tools can provide a comprehensive overview of tasks, detailing who is working on what, the current capacity and availability of each team member, and the specific results and accomplishments achieved.

Exploring this fully remote setup in an iterative process could mitigate future challenges by addressing issues like operational processes, communication barriers, and technology needs. In the interviews conducted, it was mentioned that certain processes, such as job

contracts being printed and signed in person, are still in practice. This insight brings attention to specific operational steps that might be revisited in the context of a fully remote work environment. Even so, it's also likely that there are other similar operational aspects that did not come to mind for the interviewees during our discussions. Operating entirely remotely may uncover procedural dependencies and inefficiencies that only become apparent when traditional in-person interactions are removed. Being prepared to address such dependencies when they are discovered and reflecting on the experience gained, especially with the first few mostly remote positions, seems very important. As the shift to remote work unfolds, it will be essential to continuously evaluate and adapt operational procedures to ensure they align with remote work dynamics. This means not only identifying and solving immediate issues but also considering long-term implications for workflow and employee engagement. Regular feedback loops with team members, where they can share experiences and challenges openly, will be vital. This iterative process will refine remote work practices, making them more robust and responsive to the needs of the organization and its employees. Such proactive management will not only address operational hiccups but also foster a culture of innovation and resilience, crucial for sustaining effective remote work environments over time.

In my interviews, it was evident that most openness towards remote work was directed at non-leadership roles. There is a significant hesitation about how effectively leadership positions in municipal government can be executed remotely. The idea of team leaders or higher-level roles working primarily from a remote setting is regarded as unlikely for now.

Two main concerns arise in this context. First, there is the issue of 'flexibility stigma.' Ballantine et al. (2022) identified this phenomenon in the Northern Ireland Civil Service, where those who use flexible schedules are perceived as less committed, negatively impacting their evaluations, compensation, and career advancement. This stigma could also apply here, with remote workers potentially facing similar challenges. Cristea and Leonardi (2019) found that employees working away from the main office often felt compelled to put in extra effort to be seen as hardworking and competent. Despite their efforts, these employees were frequently overlooked by headquarters. Addressing this issue is crucial, perhaps through revised HR strategies or evaluation processes.

Secondly, there is the concern of social disconnect between remote and office workers. Collins et al. (2016) noted that remote workers tend to form support relationships with other remote workers, while office workers do the same amongst themselves. This phenomenon was also observed by several of my interviewees during the lockdowns of

the pandemic. Those who returned to the physical office earlier formed a tighter-knit core of the team. If leadership roles are rarely extended to remote arrangements and never primarily remote, there is a risk of a disconnect between leadership and parts of the team.

### *Limitations*

My research is not without its limitations. The focus of my study is on the specific municipality of Calw, which serves as the basis for both the in-depth interviews and the employee survey. While I anticipate that the findings from Calw could be applicable to other mid-sized municipalities, this may not necessarily hold true everywhere. Calw is notably advanced in its digital transformation efforts, having made significant strides toward digitizing its processes and transitioning to a paperless office concept. Additionally, caution should be exercised when attempting to generalize these results to municipalities of different sizes or to those in other countries. Each region may have unique characteristics and challenges that could affect the applicability of my findings.

My thesis also faces limitations due to challenges in defining and articulating the scope of remote work arrangements consistently across languages and methodologies. Despite efforts to use precise terminology, variations in the usage of percentage cutoff points to define remote work have led to a lack of uniformity. Different interviews applied different thresholds. Some used 80%, while others used 75% as the benchmark for considering a position primarily remote. The national survey also used the 75% marker. Although the general concept of positions that are carried out entirely or primarily through work was maintained, the variability in these critical definitions may have impacted the thesis's precision. Future research would benefit from establishing a clear and consistent definition at the outset to ensure comparability and reliability of findings.

Despite achieving a satisfactory response rate for both surveys, this study also has limitations regarding the statistical confidence levels achieved. The sample size was insufficient to reach the standard 95% confidence interval with a typical margin of error. For specific questions with fewer responses, the study failed to meet the lowest of typically used confidence intervals. To maintain transparency, I provide the number of respondents for each figure in the results section. This limitation underscores potential constraints in the generalizability and robustness of the findings, emphasizing the need for cautious interpretation of the data.

## 6. Conclusion

In addressing the question "How are remote roles presently implemented in municipal offices across Germany?" the data provides a comprehensive overview of the current landscape. Findings reveal both widespread adoption and a significant increase in remote work opportunities across municipal offices in Germany. Additionally, the research highlights the prevalence of formal upper limits for remote work in municipalities, with 74% of respondents confirming such regulations. Moreover, 65% of respondents view home office work as effective as traditional office settings.

Technology provision remains a significant challenge for many municipalities, where there is still a pressing need to implement digital document management systems and provide tools like laptops that facilitate remote work. Overcoming these challenges can significantly transform the workplace, as demonstrated by the municipality of Calw, which served as a case study for this thesis. Once these technological hurdles are overcome, there remain three main challenges. The hesitation to fully implement mostly remote job positions in Calw predominantly stems from three key factors. Firstly, there are significant challenges associated with managing hybrid teams, where some employees work remotely while others are onsite. This raises issues in balancing communication, fostering team cohesion, and ensuring effective workflow. Secondly, there are concerns about how well the unique roles of local government—often requiring direct public interaction and accessibility—can be adapted to remote work scenarios. It has been repeatedly stated that few roles in the municipality lend themselves to remote work, due to the necessity of local interactions either with the public or with local infrastructure. Finally, the speed of change itself is a considerable factor in the hesitancy to expand remote work, as rapid transformations can disrupt established processes and cultural norms.

The benefits noted by practitioners primarily relate to the attraction and retention of skilled labor, as the flexibility offered to employees increases. According to a national survey, the data reveals that only a small minority of the surveyed administrations permit a substantial level of mobile working ( $\geq 75\%$  of their working time) for their staff. Specifically, only 11 city administrations report that more than three employees work more than 75% of their time remotely, which corresponds to 6% of the municipal administrations. The very limited extent to which mostly remote work is offered in German municipalities is seen as a possible unique selling point in employee branding. This scenario presents an opportunity for municipalities to differentiate themselves in a competitive labor market. With many practitioners adopting the stance of "better a remote employee or colleague than none at all," the move towards more flexible working arrangements could be a strategic advantage, helping to draw and keep talented

individuals who seek greater work-life balance and flexibility in their roles. Additionally, demographic shifts in Germany, characterized by low birth rates and a declining population, are pushing municipalities toward remote work to remain competitive in the public service talent race. By offering more flexible working conditions, municipalities position themselves as attractive options in a tight labor market.

This thesis also sows the practitioners' perspectives on expanding remote work arrangements in municipal administrations, revealing several key findings.

Firstly, the pandemic has significantly impacted both the extent to which remote work is practiced and the level of familiarity that practitioners have with such arrangements. The forced adaptation to remote operations during health crises has accelerated the acceptance and implementation of remote work policies, transformed daily operations, and introduced new norms within municipal environments.

Secondly, the challenges of collaboration and hybrid team management are the most pressing issues. Technology provision is still a challenge, but maintaining high levels of collaboration and identification with the municipality while minimizing isolation and friction is a universal concern. Practitioners are grappling with how to foster a sense of unity and team spirit in a hybrid work environment, where in-person interactions are limited, and remote communication can sometimes fall short. They are exploring various strategies, such as regular virtual meetings, team-building activities, and improved digital tools, to bridge the gap between remote and on-site employees. These efforts aim to ensure that all team members feel included and engaged, regardless of their physical location, and to sustain a cohesive, productive work culture in the evolving landscape of municipal administration.

Lastly, most practitioners see the potential for remote work if arrangements are made to guarantee availability to the public. This could be technologically mediated, such as through video calls, or by adapting the workflow to ensure that a limited number of personnel is available in-person for a broad range of tasks. These insights suggest that while there are challenges, there is also a growing acknowledgment and proactive stance towards the integration of remote work within municipal operations, aiming to harness its benefits while addressing its limitations. Practitioners are well aware of the digital divide and are actively considering ways to mitigate the potential negative impacts of remote work on elderly or less technically savvy citizens. This includes developing strategies to ensure that all community members continue to have access to services and can engage with local government without hindrance, regardless of their digital literacy or access to technology.

Building on the findings of this thesis, which focused on mid-sized municipalities in Germany, future research could conduct a cross-country comparison at the municipal level. Such a study would investigate whether the trend of remote work adoption with fixed upper limits is consistent across different countries and whether the challenges perceived are similar or differ internationally. It would be valuable to explore how remote work is adopted in countries with less federalism and organizational freedom compared to Germany. Future research should explore the long-term impacts of predominantly remote work positions in municipal administration, particularly focusing on employee productivity, job satisfaction, and the quality of public service delivery. This thesis used a municipality that is currently not employing any employees in predominantly remote positions but is considering and planning to do so in the future. Future studies could benefit from continuous scientific monitoring of this process to see if the presumed benefits and challenges materialize when the first predominantly remote positions are introduced. Additionally, comparative studies between municipalities with varying degrees of remote work implementation could provide valuable insights into best practices and common pitfalls.

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## Appendix

### A1 Declaration of Authorship

I hereby declare that, to the best of my knowledge and belief, this Master Thesis titled

Enabling Remote Work in Municipal Offices - Insights for Workforce Transition

is my own work. I confirm that each significant contribution to and quotation in this thesis that originates from the work or works of others is indicated by proper use of citation and references.



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Vincent Christian Welzel, 07.06.2024