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**Managerial factors influencing long-term Work
From Home adoption in small and medium-sized
enterprises post-pandemic**

A framework for long-term adoption of Work From
Home

Ann-Kathrin Röpke

Dissertation presented as partial requirement for obtaining
the Master's degree in Information Management, with
specialization in Information Systems and Technologies
Management.

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**MANAGERIAL FACTORS INFLUENCING LONG-TERM WORK FROM
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ABSTRACT

Due to governmental restrictions in response to the pandemic in 2020, work from home (WFH) was crucial to maintain business continuity and market competitiveness. Small and medium-sized enterprises (SMEs) were especially affected by the pandemic as they were not as well equipped for WFH as larger companies due to a lack of resources or digital knowledge. Consequently, the pandemic shifted the labor market resulting in an increased demand for WFH, leading companies to be pressured into implementing WFH to stay competitive and attractive to employees. Nevertheless, the managers make the decision regarding employee requests for WFH and therefore play a crucial part in the adoption of WFH in enterprises.

A systematic literature review is conducted to provide evidence-based factors that influence the long-term adoption of WFH post-pandemic from a managerial perspective. This dissertation applies a framework, guided by socio-technical systems theory and task-technology fit model, to examine the role of the individual, technological, organizational, and task characteristics on managers' decision-making for long-term adoption of WFH. The findings of this research show that individual factors are weighted highest by managers for their decision-making. Those factors include their experiences with WFH and the corresponding trust toward employees, which are prerequisites for the implementation and shape the attitude of managers. Technological, organizational, and task characteristics are key enablers for WFH and are the building stock for its effective long-term adoption. Firstly, crucial technological factors include broadband connection, quality of communication and collaboration tools, and the perceived usefulness of the technology. Secondly, WFH policies, IT security, IT infrastructure, training, and employee performance are decisive organizational factors. Lastly, crucial task factors are the type of tasks being performed and the corresponding accessibility of information while working from home. If trust and positive experiences exist, the interviewed managers of SMEs indicated that they strive to introduce a hybrid model, in the long term, to cope with the changes in the labor market by staying competitive and attractive to qualified employees. Although key enabling factors form the basis for effective WFH, they are not fundamental enough for decision-making.

KEYWORDS

Pandemic; Design science research; Managerial perspective; Small and medium-sized enterprises; Socio-technical systems; Task-technology fit model; Work from home

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LIST OF ABBREVIATIONS AND ACRONYMS

A	Assumption
BYOD	Bring-your-own-device
DSR	Design Science Research
ICT	Information and Communication Technologies
IL	Individual level
SLR	Systematic Literature Review
SME	Small and medium-sized enterprises
STS	Socio-technical systems
TTF	Task-technology fit
WFH	Work from home

1. INTRODUCTION

1.1. BACKGROUND

With the unexpected outbreak of the pandemic in early 2020, companies had to rethink their business models. They had to quickly adapt to emerging technologies to stay competitive and ensure business continuity. Consequently, the outbreak of the pandemic pushed digitalization within enterprises and led to new ways of working which might shape the future of the labor market, also known as the “new normal”. Flexible scheduling and hybrid work are expected to be in demand and may even become the “new normal” in the post-pandemic era (Vyas, 2022). Therefore, investments in new collaboration tools had to be made, and new flexible work arrangements were introduced, such as WFH. The adoption of WFH during the pandemic has had a significant impact on organizational structures (Bick et al., 2021).

WFH can be used interchangeably with telecommuting and remote work and is a newly established phrase resulting from the pandemic (Savić, 2020). Savić (2020) describes WFH as employees who belong to an organization or company and perform their work outside the company facilities and telecommute with the corresponding employer by using digital technology in real-time. Several digital platforms have been adopted to share and encourage communication and collaboration during the pandemic, for instance, Zoom, Skype, Slack, and Dropbox (Tønnessen et al., 2021). A sustainable WFH environment can be achieved through different lenses of tools and management support to increase the potential benefits of knowledge sharing and to reduce drawbacks, like loss of information, by adopting influential concepts and conditions.

The highest rates of WFH during the pandemic were seen in highly digitalized businesses. On average, over 50% of employees worked remotely, particularly in the information and communication services sector as well as the professional, scientific, technical, and financial sectors (OECD, 2021). Some companies, including Twitter and Facebook, announced that some positions would be moved permanently to remote work in the future (Wang et al., 2021). To decrease possible negative effects on individual workers and teams, it is of great interest for organizations to establish adequate working environments with respective conditions. The implementation of appropriate measures minimizes negative effects on the overall well-being and work productivity of employees (Ekpanyaskul & Padungtod, 2021). Therefore, enterprises must establish “new normal” working environments to facilitate technology adoption for employees in the long-term. SMEs tend to be more vulnerable and affected by the pandemic than other companies (Klein & Todesco, 2021). Their predicament is made more difficult by traits including a lack of specialist knowledge, limited financial means regarding the implementation of WFH, and the corresponding collaboration and communication tools and equipment. Additionally, before the pandemic, only 17% of SMEs had successfully incorporated digital technologies into their organizations, compared to 54% of larger companies that are substantially digitalized (Digital Innovation Hubs Working Group 1, 2018). One main reason for this difference provided by Digital Innovation Hubs Working Group 1 (2018) is that SMEs frequently lack information about the advantages of digitization and how to integrate those technologies into their operations.

Due to the expected shift in the labor market regarding WFH in the post-pandemic era, there is a need for managers to adapt to the “new normal” (Appelgren, 2022). As stated by Lautsch & Kossek (2011), managers serve as the “gatekeepers” to telecommuting when deciding whether to provide telework

allowance to their employees. Factors like managers' experience, technological know-how, and attitude toward WFH are crucial for their decision-making regarding long-term implementation (Beham et al., 2015; Sharit et al., 2009). The strict lockdowns set by the government can be seen as a test phase for the implementation of WFH and might have shaped managers' attitudes as well as increased the experience and technological know-how. Additionally, after being implemented during the pandemic, WFH might still save time and money for companies (Bick et al., 2021). In this instance, the pandemic may have unlocked significant welfare gains, such as decreased commuting expenses, increased productivity, and increased mobility (Bick et al., 2021). As a result, some managers and employees may continue to work remotely post the pandemic.

To date, there is still little research on pivotal factors for managers to consider when deciding whether to permit or prohibit WFH post-pandemic for their employees based on the "new normal", especially in the area of SMEs. Post-pandemic, in this context, refers to the time after the lockdown when managers and employees started to return to the office. Numerous analytical studies have examined managerial and organizational difficulties related to the implementation of WFH in large businesses as due to growing interest in its adoption, but little research has been done on smaller businesses (Dickson & Clear, 2006). As the pandemic continues to surge, the long-term effect of the pandemic deserves further attention and needs more research in this area (Chudziński et al., 2022). Most of the recent literature mainly focuses on crucial factors from an employee's perspective. Therefore, it would be of great interest to look further into relevant factors from the managerial perspective. Silva-C et al. (2019) mentioned, due to the pandemic, companies now have greater access to resources, digital information, training, technological support, and information security than before. Thus, it could help to clarify what now drives the development of managers' decision-making behaviour.

1.2. STUDY OBJECTIVES

This dissertation follows a systematic literature review (SLR) approach aiming to explore factors that ensure a long-term adoption post-pandemic of WFH within SMEs from a managerial perspective. It focuses on the managerial perspective since they serve as a "gatekeeper" in the decision-making process of the implementation of WFH. It contributes to the literature by providing a new lens to explore relevant factors from a managerial perspective. To answer the research question, the following intermediate objectives will be defined:

1. Description and definition of the concept of WFH by reviewing existing literature.
2. Identification of relevant implementation factors from a managerial perspective comparing prior to the outbreak of the pandemic, during the pandemic as well as potential long-term adoption factors post-pandemic.
3. Identification of theoretical frameworks relevant to the analysis.
4. Integration of existing framework to propose a new framework of potential factors and key enablers that lead to long-term adoption of WFH from a managerial point of view.
5. Validation of the suggested framework by conducting semi-structured interviews with managers of SMEs working in different industries.

2. LITERATURE REVIEW

2.1. CONCEPT OF WFH

The advancement of modern technology, driven by digitalization, enlarges the possibilities for people to work from home in a more flexible manner than traditionally performed. Therefore, the concept of WFH is a well-known phenomenon in today's work environment and has gained increasingly widespread acceptance within different sectors and industries leading to an expansion of the working model within companies. This concept implies that individuals may work from home rather than in the company's centralized physical office. Over the years, this phenomenon has increased in its popularity due to the continuous advancements in Information and Communication Technologies (ICT) which in addition changes the perception and ideas of WFH in general since it is gaining in popularity (Bentley et al., 2016; Bailey & Kurland 2002). Examples of ICT are cloud computing and analytics. Nevertheless, there is a lack of a commonly accepted definitions of WFH, as mentioned by Nakrošienė et al. (2019). For instance, Bellmann & Hübler (2020) define WFH as organizational work that is performed outside of the traditional work field and is offered by employers. WFH can be performed at any time and at any location. Synonyms such as - telework, telecommuting, remote work, or home-based telework are often used for WFH. These concepts may differ in their meanings and terms but focus on the same central principle of the physical or geographical distribution of work (Henry et al., 2021).

WFH might have a positive impact within and outside of an organization, e.g., the decrease of real-estate costs for employers, better work-family balance for employees because they can spend more time at home, as well as a reduction of air pollution and traffic since more people work from home instead of traveling to the physical office (Bailey & Kurland, 2002). One of the most reported outcomes is increased job satisfaction (Manroop & Petrovski, 2022). Additionally, further literature states stress reduction, employee satisfaction, and lower turnover rate as a benefit, to name a few (Manroop & Petrovski, 2022).

Moreover, due to the ongoing globalization of businesses, companies require higher mobility of ICT to keep up with the competition and changing needs within and outside the organization. Those developments impact the traditional way of working and shift it towards a more strategic organizational innovation resulting in a geographically working independent trend. ICT allows individuals to communicate and collaborate with colleagues, clients, and other corporate stakeholders, even though they are geographically separated. Therefore, advancements in ICT, organizational shifts towards WFH, and innovations make the concept of WFH more relevant for companies in the future and make it even easier, more accessible, and more effective for employees and employers in the long-term. In the process of conducting WFH, managers have to reexamine the supervision of employees, including the evaluation of the corresponding job performances and future needs and requirements. Mainly managers decide if WFH can be adapted to specific roles which in contrast depends on their attitudes towards it (Bentley et al., 2013). According to Mello (2007), managers must be involved for a telework program to be successful. Managers and supervisors must conduct themselves, engage with one another, and organize themselves in a way that supports successful telework. For instance, one of these steps would be to create a marketing plan that informs everyone in the company about the advantages of teleworking and inspires future teleworks (Gohoungodji et al., 2022).

Based on this definition of WFH, employees can perform their corresponding roles and activities of work outside the offices. The employees' activities must not be performed at a single, centralized location that is supported by technological connections. Such activities include meetings, training, communication, and socializing with colleagues.

Seventeen percent of U.S. employees already pursued WFH before the pandemic (Statista, 2020). The number even rose during the pandemic to an overall increase of 44 percent and therefore reached the tipping point (Statista, 2020). In comparison, in Germany, only four percent of employees had worked from home before the crisis whereas in the first lockdown in April 2020, almost 27 percent of the population moved the working location to their homes (Statista, 2022). As stated by (Bick et al., 2020), not every job was possible to transfer to the concept of working from home. The service sector had the highest incidence of working from home compared to sectors like health or transportation where the work could not be shifted to home or other locations outside the usual workplace. Additionally, mostly knowledge workers can perform such tasks from home since they do not require industrial equipment or raw materials. Knowledge workers refer to people whose input is cognitive rather than physical (Peetz et al., 2022). The three crucial factors they depend on are the accessibility of relevant data, the corresponding availability of technology infrastructure as well as existing competencies and intellectual capital (Hynes, 2014). Kudyba et al. (2020) state that intellectual capital is an important component of knowledge management and is directly connected with the future of work. They break down intellectual capital into four different categories, which is summarized in table 1.

Table 1: Intellectual capability (Kudyba et al., 2020)

Intellectual Capital	Subcomponent
Human Capital	Skills and knowledge of employees
Structural Capital	Technologies, systems, and information resources available
Social Capital	Ways individuals and teams collaborate and work together
Relational Capital	Ways organizations work with partners, vendors, and consumers

The intellectual capability was especially accelerated during the current pandemic. Besides intellectual capital, Razif et al. (2020) state that it is of great relevance to "understand the human-technology interaction". Organizations have to ensure that they have a sufficient understanding of the provided technology acceptance by their employees otherwise, any technical implementation could lead to resistance and economic losses. Currently, there is a demand for competent managers who, for example, can aid in the workforce's acceptance of such technology. Implementing and using innovative

work practices, like remote work, and organizational dynamics, such as virtual teams, also call for these managers.

2.1.1. Adapting to the “new normal” in working modality

During the occurrence of a natural disaster, organizations have to quickly adapt the existing working model to the changing environment to keep their business running and competitive. Donnelly & Proctor-Thomson (2015) define the term natural disaster as “a sudden event with widespread disruptive consequences”. ICT is one of the most crucial components to ensure business continuity during a disaster and reduce the probability of economic losses. The relevance of digitalization for corporate survival and resilience was emphasized by the unexpected outbreak of the pandemic at the beginning of 2020. It resulted in a massive disruption of the world’s economy as well as businesses due to restrictions set by the national government. These restrictions included social distancing and stay-at-home orders to contain the spread of the virus. Social distance includes physical distance between people, e.g., between coworkers and customers. To maintain business operations, organizational structures had to be quickly rethought by investing, adapting, and utilizing more technologies. Despite the physical distance, real-time communication with stakeholders and shareholders was still possible, as well as the flow of information transfer between them due to investment in collaboration and communication tools. Due to a physical separation between employees and managers, managers could not execute their traditional role of leading. Akkermans et al. (2020) described this exceptional situation as a “career shock” that critically impacts work experiences and well-being.

Most remote workers who performed remote work during the pandemic, prefer to continue working from home on a regular basis. Especially during a pandemic or similar catastrophes, WFH stays relevant for organizations to enable further economic activities (Razif et al., 2020). Post-pandemic, employees, and managers have significant experience with WFH arrangements as a result of the pandemic’s obligatory practice. As a result, future decisions, and expectations for WFH adoption might change significantly (Asgari et al., 2022). The preferences of employees and newly hired employees towards WFH have changed in the labor market based on the most recent occurrence of the pandemic, leading to higher demands for WFH in their current jobs or potential job openings. Asgari et al. (2022) conducted a survey concluding that around 77% of the 1,028 respondents said they preferred teleworking more frequently than before the pandemic. This finding suggests that businesses should consider long-term WFH policies that offer flexibility to match workers’ preferences and demands. Other respondents prefer a mix of working from home and the employer’s location. Some authors even state that this new work arrangement could be the “new normal” in the future working environment (Verbeemen & D’Amico, 2020).

The pandemic crisis has sparked a discussion about the role of managers in managing remote workers in difficult times. This is because remote work can be a disorienting experience for everyone if managers turn to a traditional set of leadership behavior, namely the focus on their own needs rather than employees, which can cause problems with task completion, performance reviews, and employee engagement (Lagowska et al., 2020). In those situations, employees look to managers to offer direction, consolation, hope, and truthful information (Lagowska et al., 2020). Thus, managers should ensure that proper tools (IT) are applied within the organization and that the skill level of employees is sufficient to ensure that employees can be shifted fast and effectively to remote working. Using

remote work provides employees with autonomy and flexibility, and leaves organizations with increased human resource potential and savings in direct expenses (Harpaz, 2002). Naturally, the use of remote work is associated with the emergence of potential threats such as isolation, the challenge to relationship-building, lack of a clear division between home and work (from the perspective of employees), as well as increased costs of new methods and tools and associated training, and problems with involvement and identification (from the perspective of the organization). Remote work, as an integral part of management strategies, plays an important role in increasing productivity, reducing costs, and solving the problems related to combining work and family life (Tan-Solano & Kleiner, 2001).

Managers play a crucial part in the implementation of WFH in their enterprises since they typically have the ultimate say when it comes to employee requests for telework arrangements. As Peters et al. (2010) claimed, one major hindrance to the adoption of telework is the absence of support from middle management. Additionally, a top-down initiative with strong management backing is thought to have a higher chance of success and achieving widespread adoption throughout the organization (Shin et al., 2000). At the same time, managers should ensure that appropriate IT tools and infrastructure are in place within the organization (Chudziński et al., 2022). According to Silva-C et al. (2019), raising the organizational workforce's level of qualification in terms of ICT skills, time management, results-based performance, and other mechanisms may help boost managers' trust in their employees. Furthermore, Tran et al. (2022) found one of the main pillars of building, maintaining, and continuously improving a WFH culture is the promotion of trust, engagement, and empowerment of the stakeholders. Another factor essential to consider for the long-term adoption of WFH is the development of organizational policies. The potential advantages and disadvantages for productivity, job quality, work-life balance, and mental health of employees will need to be carefully considered when developing policies to enable the shift to more widespread WFH (Nath & Lockwood, 2022).

At the same time, it is important to maintain IT infrastructure at a high level so that remote work can be carried out without interruption. The growing importance of remote work during the pandemic suggests that employers perceive remote work as a possibility for transferring part of their infrastructure costs onto employees while providing employees with savings in time and costs of commuting (Parker, 2020). Due to the fact that employers have already spent the fixed costs to set up remote work solutions for their employees, many businesses expect that WFH will become more prevalent after the pandemic (Bartik et al., 2020). Therefore, it is of great interest to analyze the trend toward WFH further. Since the pandemic has transformed and accelerated the WFH trend, new WFH demands on individuals have been created (Manroop & Petrovski, 2022). Those demands include assistance programs for technology or a form of psychological resources, regular organizational communications support to encourage employees, for instance, through virtual coffee breaks (Manroop & Petrovski, 2022).

Several companies now provide working packages containing the freedom to pursue WFH at any time requiring the continuation of work performance and related factors. This implies a cultural change within the organization combined with the continuous utilization of ICT and the corresponding digitalization. Digitalization is being more understood to be essential for post-pandemic company survival and prosperity (Doerr et al., 2021). However, small and medium-sized enterprises (SMEs) frequently struggle with acquiring digital skills and integrating digital processes. Therefore, SMEs tended to be more vulnerable during the pandemic based on, for instance, the lack of financial resources and specialized knowledge (Klein & Todesco, 2021).

Consequently, it is of great interest to better understand the needs and expectations of managers as well as management towards employees to enable organizations to implement an ongoing WFH environment, especially in the context of SMEs. Managers must lead the introduction of innovations and have the resources and motivation, in addition to having comprehensive technical, communicative, social, and management skill expertise, to ensure that the organization is managed effectively and efficiently. Depending on the type of job, personal needs, or explicit approval of the supervisors, some employees may be granted the option to WFH post-pandemic.

2.2. THE PROS AND CONS OF WFH FROM THE COMPANY PERSPECTIVE

Previous studies have extensively analyzed the potential benefits and challenges of WFH on companies as well as their employees. They have revealed several implications, benefits, and drawbacks for organizations, employees, and society. The findings of Earle (2003) highlight the significant difference in age-related perceptions of the benefits of telework, showing that younger workers value WFH more and view it as a source of flexibility and job autonomy.

Although results from different academics have shown mixed results regarding the positive effects of WFH, most literature found that especially social support from within the organization increases the productivity as well as job satisfaction of telework workers. For instance, Bloom et al. (2015) found in their study, that the performance of workers who worked from home increased by 13%. Additionally, the relationship within the organization plays a crucial role. Since the work is now performed from home, communication, and support from colleagues and supervisors must be given to ensure the system is well-functioning. Additionally, one of the most crucial justifications for businesses considering the adoption of WFH is increased employee productivity (Nakrošienė et al., 2019). Productivity increases because employees may work when they are most productive and are less distracted by co-workers when working from home (Golden & Veiga, 2008). Further benefits in the context of WFH include the freedom for time planning (Morgan, 2004), reduced informal communication (Khalifa & Davison, 2000), reduced stress levels (Fonner & Roloff, 2010), reduced commuting time (Tremblay & Thomsin, 2012), reduced travel and other expenses (Morgan, 2004), reduced traffic congestion and air pollution (Bailey & Kurland, 2002), productivity improvements (Golden & Veiga, 2008), increased family and leisure time (Ammons & Markham, 2004), increased job satisfaction (Manroop & Petrovski, 2022), and increased employment opportunities for women with children, students and people with disability (Morgan, 2004).

Regardless of the positive aspects of performing WFH, there might be negative implications that affect the organization as well as its employees. Under the WFH arrangements, negative outcomes like work isolation and job-related stress are further concerns, and both social and technical support is crucial in preventing negative results (Bentley et al., 2016). Since work activities are independent of the location, fewer opportunities exist to be in direct contact with other people, and a reduction of face-to-face meetings. Thus, face-to-face communication with coworkers, which is a key source of social connection, is weakened by IT and may restrain the development of employees' relationship quality (Ammons & Markham, 2004). According to Vendramin et al. (2021), over time, tasks could grow more challenging, and technology might not have the necessary features to support the users, which can lead to technostress. Technostress is the distress related to technology use resulting from the inability

to complete work activities properly when utilizing technology. Additionally, positive feedback given to employees working from home through IT may not be as rich as feedback given in a more traditional work environment and may result in misunderstandings (Caillier, 2013). Employees working from home experience difficulties understanding the company's values and goals (Madsen, 2003), feel less visible, and experience lower managerial support (Cooper & Kurland, 2002). Because of the decreased exposure, teleworkers have fewer professional options (Khalifa and Davison, 2000). Because working from home gives the opportunity to take care of family members, the option of WFH has long been seen as a way to improve work-life balance (Ammons & Markham, 2004). In contrast, it might lead to more frequent home interruptions, and working more hours per week may have a detrimental impact on a person's ability to manage work and life simultaneously (Bailey & Kurland, 2002). Since the boundaries between work and life are blurred, some individuals started working more hours than usual. This might negatively influence employees' satisfaction with telework and their overall productivity. Nevertheless, Baker et al. (2007) revealed in their studies, that managers' trust in their employees is an important variable for overall work satisfaction of the employees. It can be said that earning trust is more flexible, adaptive, and widely applicable than, for instance, the introduction of policies (Baker et al., 2007). Therefore, it is important to establish a trusting instead of a controlling environment to reduce the probability of potential problems and stress caused by controlling managers. Since physical distance inevitably leads to less direct control over employees' working processes, trust plays an important role for organizations.

Here it is important to differentiate between WFH pre-pandemic and pandemic because the circumstances differ from the traditional "normal" resulting in the "new normal". The study by Spilker & Breugh (2021) shows that those who had an option of whether to WFH experienced less professional isolation than those who did not leading to higher performance and job satisfaction. During the pandemic, the presence of autonomy, schedule flexibility, and adequate technology was found to improve employees' work-life balance which in turn resulted in higher productivity, performance, and job satisfaction (Jamal et al., 2021). On the other hand, heavy workloads, task interdependence, professional isolation, as well as family interference cause exhaustion and additional stress (Jamal et al., 2021). The main causes for stress as explored by a public sentiment analysis of Tran et al. (2022), are hours-long teleconferences, inadequate home office setups, and poor internet connections. Due to the lack of training for the necessary technology and preparation of an adequate WFH environment, employees had to adapt to the rapid and unexpected changes without prior training. It is crucial to provide extensive training to employees because technology provides a mitigating role by reducing potential disadvantages, for instance in communication and collaboration (Green et al., 2017). Pataki-Bittó & Kun (2022) analyzed the distinction between teleworkers' well-being before and after the pandemic. The findings show that while WFH during the pandemic increased people's irritation and anxiety, only teleworkers with toddlers found WFH had a substantial impact on their stress levels due to difficulties in balancing both, their overall well-being, and degree of involvement (Pataki-Bittó & Kun, 2022). Mental health and work-life balance during WFH in the pandemic are advantageous for some people but for others, it may be more stressful (Tran et al., 2022).

The impact of WFH varies according to how often it is used. As suggested by Green et al. (2017), to gain benefits from WFH, technological needs, communication as well as collaboration, the right working environment, and management styles must be assured. Managers must be open to exploring, adjusting, and especially supporting potential ways to implement the concept in the long-term.

Another influential factor is the technical support to ensure employees' engagement in WFH. An individual will require greater support the more WFH they perform, and organizational WFH policies and procedures should reflect the corresponding needs (Bentley et al., 2016).

2.3. MANAGERIAL WFH ALLOWANCE DECISIONS

2.3.1. Influential Factors for WFH Adoption

As already mentioned, managers are generally the main decision-makers regarding the implementation of WFH. When managers are presented with vague problems, threats, or chances for improvement within their team or company, this catalyzes their purpose to innovate, meaning to implement WFH. Such circumstances inspire them to develop fresh, customized solutions (Volberda et al., 2014).

Identifying potential factors relevant for managers from existing academia makes it possible to identify knowledge gaps and support prospective future academic studies into other, yet unexplored subjects. Web of Science has been selected as a database for the investigation to meet this dissertation's objective. This database is commonly utilized for examining academic literature because it is one of the most comprehensive sources of scholarly papers in the various sectors of social sciences (Gomezelj, 2016).

Hereby, different scientific literature has been identified and selected based on the following search criteria query to support the main study objective: (remote working, manager, decision) OR (telework, manager, decision) OR (telecommuting, manager, decision) OR (home office, manager, decision) OR (remote working, manager, attitude) OR (telework, manager, attitude) OR (telecommuting, manager, attitude) OR (home office, manager, attitude). Based on the defined criteria, a total of 13 documents were identified to be relevant for this dissertation within the timeframe ranging from 2009 – 2022. This query was used in the Web of Science to consider possible differences in perceptions of managers prior to and during the pandemic. Table 2 outlines previous literature on the influential factors relevant to the decision-making of managers.

Table 2: Influential factors for manager's decision-making about WFH adoption

Reference	Authors	Study Objective	Method used	Influential factors
1	Sharit et al. (2009)	Challenges of employing older workers as home-based teleworkers	Questionnaire	Trust, Reliability, ability to work independently, time-management ability, adaptability, technology skills
2	Peters & Heusinkveld (2010)	How institutional context affects how managers form their	Large-scale survey	Mimetic pressures: productivity, numbers of previous adopters

		attitudes towards telehomeworking		
3	Beham et al. (2015)	How managerial telework permit decisions in German firms were affected by person-related, task-related, and organizational context factors	Vignette study	Loss of control and authority, high-quality relationship between manager and employee, WFH experience of the manager, self-management skills of employees
4	de Menezes & Kelliher (2017)	Potential indirect impacts on worker performance through organizational commitment and job satisfaction	Survey	Difficulties in managing employees' performance
5	Massu et al. (2018)	Factors relevant to the application of new management practices "telework" when determining managers' ambition to innovate	Online Questionnaire	Attitude toward their view of organizational support for innovation, control over innovative behaviours
6	Kaplan et al. (2018)	Importance of trust as a foundation for managers' decisions regarding whether to permit or ban their workers from working remotely	Investigation of respondents	Managers' evaluations of workers' conscientiousness and trustworthiness
7	(Silva-C et al., 2019)	What factors affect middle managers' attitudes toward the implementation of telework	Questionnaire	Managerial practices, self-efficacy of employees, information security tools improvement in organization, ease of use
8	Rose & Brown (2021)	How general views of South Korean managers regarding WFH may have changed after	Survey	South Korean managers' attitudes and intentions to continue working from home in the future were significantly

		restrictions and if it affected their anticipations that WFH would endure in the long-term		improved by being forced to use WFH during the pandemic
9	Chudzinski et al. (2021)	Results of research in managerial choices taken in response to the pandemic	Survey	Decisions based on survival and business continuity
10	Williamson et al. 2022	Managers' allowance decisions on WFH on organizational, group, and individual level	Survey	Organizational level: organizational policy Group level: trust, reduction in social learning and innovation based on lack of face-to-face interactions Individual level: Productivity, trust, psychological contract, performance
11	(Chudziński et al., 2022)	Decisions made during a pandemic and their impact on objectives deemed essential for survival by managers	Survey	Decisions based on survival and continuity
12	Urbaniec et al. (2022)	Determining advantages of and obstacles to WFH from an organizational standpoint	Survey	Control of effects on work
13	Kis et al. (2022)	Preferences of managers for potential organizational implementation strategies: 1) totally remote, 2) totally office, 3) hybrid	Questionnaire	Type of work performed, average age of client and themselves, ability to manage people from a distance

The articles above summarize the different factors relevant for managers to implement WFH in the long-term. This kind of information is crucial for organizations to create strategies like management training programs to emphasize long-term adoption. In general, the main factors found are trust, experience with technology, attitude, reliability of employees, performance, time management, and control. In addition, it is of great interest to consider factors prior to and during the pandemic to highlight possible changes from the manager's perspective since experience plays a crucial role in the decision-making process that managers have gained during self-isolation regulations set by the government.

Articles [1][2][3][4][5][6][7] focuses on the factors prior to the pandemic. Conscientiousness, trustworthiness, loss of control, and experience appear to be the main drivers for WFH allowance decisions [1][3][5][6]. Furthermore, mimetic pressures and organizational support were found to strongly influence managers' attitudes toward the adoption of WFH [2][5]. Mimetic pressure corresponds to managers' estimates of productivity improvements related to WFH as the adoption rate of peer organizations. The higher the adoption rate of other organizations, the better the productivity of WFH is rated. Another relevant factor is the loss of control, authority, and the belief that WFH makes their job harder, which is negatively related to the adoption of WFH [3][6][7]. When working from home, employees gain more control over their work and the corresponding tasks whereas managers may lose control over the employees resulting in difficulties in managing and accessing employees' performance [3][4]. In addition, managers appear to anticipate work disruptions, increased coordination, intensive communication, and control effort, and limited knowledge transfer in their team when employees work from home [1][3]. This is due to the fact, that managers can no longer evaluate employees' performance by direct observation at the workplace. Thus, managers might assess employee performance differently than they would have if their employees were working in the office, leading to the allowance to work from home only for the "best" employees [3][4][6]. Having a good working relationship between an employee who requests WFH and the manager, a positive permission judgment is far more likely [3]. Characteristics required for a good working relationship include active listening, ways for establishing a common understanding, and strategies for exchanging resources (Major & Lauzun, 2010). In addition, the manager's own WFH experience and the employee's strong self-management abilities appear to considerably boost the likelihood of a favourable allowance decision since the manager would feel less stress, which would reduce the tension related to the usage of WFH by their employees [7]. Employees with interdependent work tasks appear to be less likely to be granted WFH allowances. Further, organizational improvements in information security tools, employee self-efficacy, and managerial practices impact attitudes toward adoption [7]. Rather than the belief that innovation is required to execute WFH, managers' overall support for the creation of novel ideas and practices is relevant, as well as the availability of tools or other enabling conditions, for instance, availability of financial resources, information, training, technological assistance [5][7]. Managers will find WFH easy to use and adopt a positive attitude toward it if the company has a high availability of resources for it. Lastly, [1] shows that younger professionals were preferred doing WFH by managers over older employees. This is mainly held by managers who are more likely to be older and less experienced with technology. In the study, managers perceived older employees to be rigid and relatively poor at engaging with others or keeping up with technology. On the one hand, older employees were favoured to work from home based on the important attributes of trustworthiness, reliability, ability to work independently, and time management. On the other hand, younger people were rated more favourably in terms of their capacity for teamwork, flexibility, and advanced technological skills.

Articles [8][9][10][11][12][13][14] focus on relevant managerial factors for the adoption of WFH in the context of the pandemic. During the crisis, managers' decisions to work from home were mainly based on survival and business continuity [9][11][12][13]. The decision that was taken the most frequently was those that were anticipated to improve cash flow reasonably rapidly [9][11]. Some managers acknowledged the absence of funding for organizational preparation and investment and therefore considered the new working paradigm to be problematic [12]. However, the study of [12] shows that organizations and managers have generally given the modification resulting from the pandemic a positive evaluation. Changing the traditional way of working to working from home, senior and more experienced managers, based on how long they have held a managerial job, were more likely to refrain from WFH [9]. Since organizations were forced to shift from the office to WFH, [8] found that managers will "think" positively about WFH as a result of their increasing first-hand interaction and the gained experience with it, and they will ultimately opt to "do" it [8]. Nevertheless, since managers are aware that their personal preferences for WFH have minimal bearing on the development of organizational WFH policies and individual circumstances, they are likely acting pragmatically [8]. [10] compares the managerial decision criteria from WFH in 2018 as well as mid-2020 in Australia. Presenteeism culture is now less of a problem, and workplace health and safety factors and prior resistance have generally decreased. Furthermore, decreased productivity and performance worries, provide proof that workers can be results-focused based on epiphanies, and a novel way to adapt WFH was found to be important for decision-making. Lastly, the managers gained more trust in their employees. They believed that they should be "always supportive" and made fewer ad hoc decisions in the future. The pandemic has hastened the intended changes within firms, demonstrating that businesses can adapt and grow and that emergency events may result in beneficial developments [12].

2.3.2. Intention to adopt WFH in the long-term

Before the pandemic, adoption behaviour might have been increasingly influenced by behaviour that seeks legitimacy and prestige since institutional pressures are likely to increase as WFH becomes more widely accepted (2). Now, organizational changes have been accelerated by the pandemic, demonstrating that businesses can adapt and grow. Newly developed and improved IT infrastructure, policies, technologies, and agile ways of working are the evolved consequences. Several studies confirm that most workers, including managers, have worked from home at least occasionally during the pandemic, and for them, the switch to WFH has been quite significant. Findings indicate that managers' views and intentions to continue working from home in the future were positively affected by the mandatory adoption of WFH during the pandemic [9][10]. This is due to the fact that they gained more experience dealing with a WFH environment, resulting in the creation of new expectations about the corresponding benefits [8]. Managers may, to some extent, adopt a long-term perspective and consider long-term benefits when making judgments regarding important employee WFH requests and interests, including enhanced retention of highly qualified employees (Beham et al., 2015). If the interests are not met, employees with the highest qualifications have the highest likelihood of quitting their jobs since they will find new jobs quickly (Chudziński et al., 2022). In addition, organizations are becoming more aware of the interests of their employees regarding WFH and the growing popularity of the hybrid model (Pokojski et al., 2022). A hybrid model implies the ability to work remotely and

strike a balance between the benefits of part-time WFH and the requirement for social engagement through in-person encounters at work (Rose & Brown, 2021).

3. THEORETICAL FRAMEWORKS

3.1. SOCIO-TECHNICAL SYSTEMS (STS) THEORY

As a result of the pandemic, internal communication increasingly shifted to virtual formats leading to organizational changes, from a people as well as a technology perspective. The socio-technical systems theory helps better understand the interplay between technology and people in their working space. An efficient and effective organizational development is only possible when people, technology, and organization develop together. It considers several environmental influences, such as market dynamics, financial changes, technological advancements as well as physical disturbance, for instance, during the pandemic (Eason, 2014).

The STS theory is one of the largest bodies of theoretical and practical studies supporting the establishment of organizational growth plans through creative work and employee involvement (Augustine et al., 2021). It has evolved over time and has been applied by various researchers in different fields of study. More generally, the technical and social systems are viewed as two linked systems that make up organizations and are interdependent (Wang et al., 2010). Any organizational system's design and performance can only be comprehended and enhanced if both social and technical aspects are combined and regarded as interconnected components of the entire work system. Thus, a working system implies two or more people interacting while using job design, machine(s) or tool(s) running software on/or hardware, and information or knowledge contained in a structure or process(es), in an internal and external setting (Bélanger et al., 2013). Most changes within an organization backslide because they mainly focus on one aspect of the system, such as technology, instead of viewing the whole system as interdependent. To better understand the complexity of the changing environment in which telework operates while maintaining organizational efficiency, the STS theory provides comprehensive insights.

Based on the multi-level STS theory framework for telecommuting, the three main factors, showcased in Figure 1, are incorporated within the system to transfer relevant input into output. It helps to theorize and analyze how several factors influence the adoption and outcomes of teleworking at the individual, group, and organizational levels. The main factors consolidated in the STS theory include technology-related factors in the technical subsystem, social and people-related factors in the personnel subsystem, organizational factors, and work processes in the organizational subsystem (Bélanger et al., 2013).

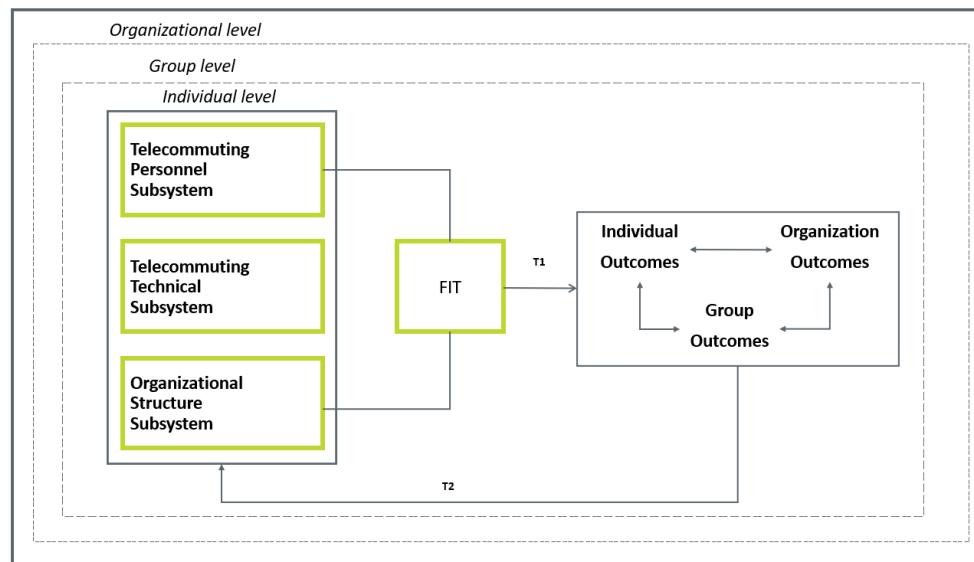


Figure 1: Multi-level STS
Source: adapted from (Bélanger et al., 2013)

Firstly, the technical subsystem refers to technologies used for teleworking, policies, and practices, which includes the tasks performed (Bélanger et al., 2013). With regard to WFH, this subsystem provides information about the types of ICT used within the organization, the corresponding ICT infrastructure, or the regular maintenance of technology. Secondly, the personnel subsystem mainly includes demographics, psychosocial factors, as well as the degree of professionalism of the workforce. Additional factors are, for instance, the workers' motives for telecommuting, attitudes toward work while working from home, and communication when working from home (Bélanger et al., 2013). Thirdly, the organizational subsystem includes aspects such as management structure, procedures, and policies (Bélanger et al., 2013). In terms of desired results for the worker and the organization, telework will be more effective the better these sub-systems "fit", but mismatches between system components may lead to work system breakdowns and undesirable outcomes. When teleworkers are not adequately supported, they may have person-environment fit issues (Haines, 2002.) These issues include social isolation since employees depend on technology and management support to plan their tasks and collaborate with coworkers (Baker et al., 2006). The interconnectedness of the subsystems and the outcomes at the three levels are represented by the model's dashed lines, which illustrate the permeability of the components across the levels of analysis (Bélanger et al., 2013).

The adoption and results of teleworking at the individual, group, and organizational levels are theorized and examined using STS theory in this model. Other workplace causal occurrences have an impact on the three subsystems; this is known as joint causation. The idea of joint optimisation, or the capacity of work systems to carry out their intended change process, is derived from the notion of joint causation. These ideas emphasize the need for feedback loops over time and across many levels of analysis as the work system tries to stabilize. These concepts are represented by the idea of "fit," and the impact of time on telework adoption. Results are depicted in figure 1 above as T1 and T2. The ability or capacity of a working system to carry out its planned transformative process is referred to as joint optimization. The technical subsystem is generally very stable once it has been designed, leaving the personnel subsystem to adjust to the organizational structure and external environment.

Employees who telecommute, for instance, may need to be in regular contact with ICT (Bélanger et al., 2013).

Based on the continued adoption of ICT and self-isolation, the way of telecommuting underwent a rapid change. Organizational support in the context of WFH should address technological, personnel, and organizational sub-system elements (Bélanger et al., 2013). Still, most organizations' answers to the pandemic seem to be primarily technical in nature (Galletta, 2013). As mentioned by Moriarty et al. (2020), the needs of employees and employee support should not be ignored in favor of currently predominating technological aspects. Therefore, the STS framework can be a useful tool to explain and further analyze a post-disaster acceptance and sustainable implementation of ICT within organizations in the context of a natural disaster from an individual perspective, namely the manager's perspective. It helps to combine different aspects of teleworking through the lens of each subsystem, since every subsystem experiences WFH differently and should be considered within the analysis. Additionally, it considers the interactions and results of various aspects of the work system at various levels. This is appropriate given the complicated circumstances surrounding the adoption of WFH following the pandemic and the results of this practice. Lastly, this framework is able to take into account the interactions between the sub-systems, the outcomes, and how they might alter over time as a result of the provided feedback loops.

3.2. TASK-TECHNOLOGY FIT MODEL (TTF)

In order to gain a deeper knowledge of the factors that influence the long-term adoption of WFH, it may be helpful to conduct research within the context of models that have already shown promising prospects in forecasting the effectiveness of information systems. Thus, besides the socio-technical system theory described above, the task-technology fit (TTF) model developed by Goodhue & Thompson (1995) would be another useful model.

Broadly speaking, the theory of TTF provides deeper insights into the extent a technology aids a person in their range of tasks which in turn affects the user's ability to do tasks effectively and the likelihood that the technology will be favourably accepted and used (Goodhue & Thompson, 1995). In general, it aims to comprehend why and how current information technologies that enable technologically connected tasks improve performance. It addresses the need to go beyond only examining people's intentions to use technology and focuses on how doing so improves performance at the individual level (Goodhue & Thompson, 1995). Performance impact here refers to a person's accomplishment of a portfolio of tasks. Greater efficiency, improved efficacy, and/or higher quality are all implied by higher performance (Goodhue & Thompson, 1995). Figure 2 showcases the four key constructs namely task characteristics, technology characteristics, TTF, and performance impact.

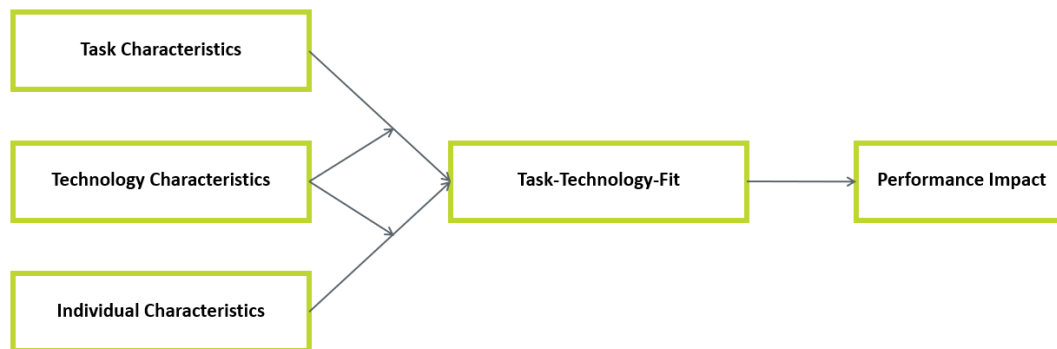


Figure 2: Task-Technology Fit Model
Source: adapted from Goodhue & Thompson (1995)

Firstly, task characteristics are defined as the operations or requirements that people must carry out to transform inputs into outputs (Goodhue & Thompson, 1995). Secondly, features of the tools that people employ to complete their work are referred to as technology characteristics. Thirdly, individual characteristics define users who carry out their tasks with the necessary technologies. Their traits, such as training, computing experience, and motivation, have an impact on how competent they are at using the technology (Goodhue & Thompson, 1995). Therefore, the TTF measures how much technology supports people in performing their tasks. When technology is employed to complete tasks, the result is referred to as a performance impact. The impacts of task characteristics and technology characteristics are notable for being mediated by TTF (Howard & Rose, 2019). Data quality, data locatability, authorization to access data, data compatibility, ease of use or trainability, production timeliness, system reliability, and information systems relationship with users are typical dimensions that are taken (Goodhue & Thompson, 1995).

Managerial decision-making (Goodhue et al., 2000) and healthcare are other areas where components of the approach have been tested (Pendharkar et al., 2001). The Staples & Seddon (2004) study, which took into account staff adopting a library cataloguing system and students using spreadsheet and word processing software, shows strong evidence for the influence of TTF on performance as well as attitudes and beliefs regarding the use of technology.

Many information system studies have investigated how performance and IT are related. Therefore, it is reasonable to expect, that by applying the TTF model, the main drivers, and consequences of WFH from a managerial perspective can be examined. Thus, as suggested by Goodhue & Thompson (1995), the alignment of task characteristics with IS characteristics lay a conceptual framework for investigating the decision-making attributes which is the main objective of this dissertation.

3.3. DEVELOPMENT OF A CONCEPTUAL FRAMEWORK

A framework that combines both models will be developed based on the theoretical models described above. The frameworks were chosen since they offer possibilities for conceptualizing different factors

which have been proven to have an impact on WFH outcomes and which are crucial to converting inputs into outputs in the work system. The models were used for WFH studies, and support was found for the usefulness within the WFH context (Bélanger et al., 2013). For developing this new framework, we focus on the individual level (IL) and the corresponding individual, technological, organizational, and task characteristics to identify factors that influence the long-term adoption of WFH from a managerial perspective. Figure 3 demonstrates the main constructs. The underlying models were chosen as they address several features of the work system and take into account their interactions and impact on long-term adoption. This is appropriate given the complicated circumstances surrounding the implementation of WFH following the pandemic and the takeaways of this practice for managers.

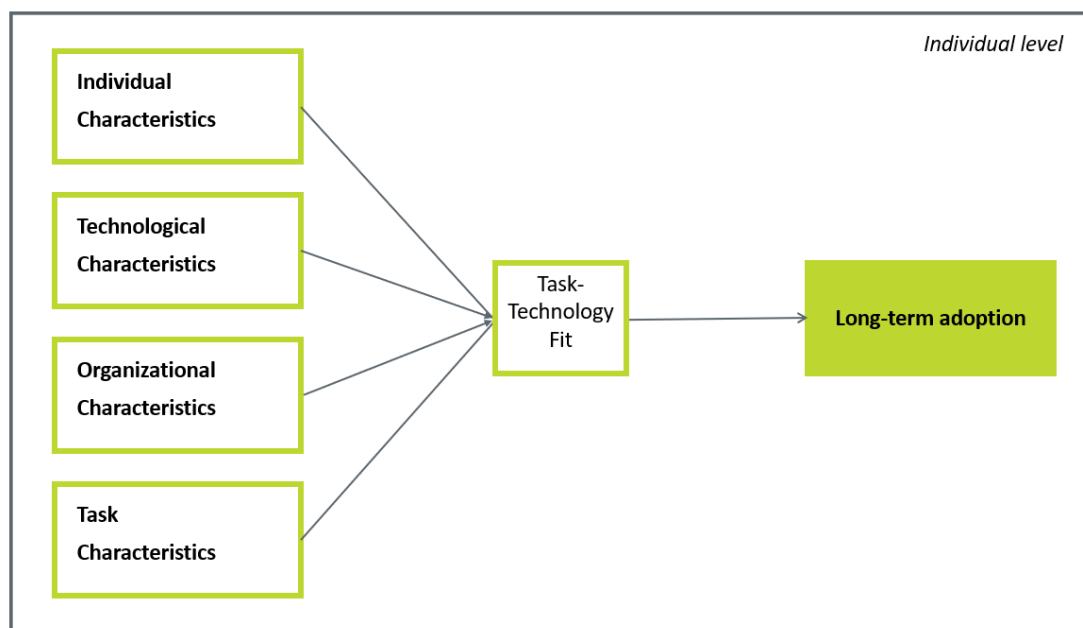


Figure 3: Research Framework
Source: own illustration

Firstly, individual characteristics contain general information gathered about the interviewees to provide a common understanding of WFH, how they have experienced the pandemic in the workplace, and demographic characteristics. Secondly, technological characteristics include factors that explain the nature and accessibility of various resources needed to complete activities e.g., the adopted Software and Hardware. Thirdly, organizational characteristics elaborate further on the changes in policies and contracts due to the pandemic and managers' expectations of the outcome of implementing WFH in the future. Lastly, task characteristics portray the current performance as well as the degree of different tasks that can be performed from home. The developed framework proposes that TTF is a function of individual, technological, organizational, and task characteristics. The fundamental claim is that the perception of managers of how well the tasks and technologies fit in the WFH context would influence their decision regarding the adoption of it, namely TTF. The TTF decreases as managers perceive a mismatch between the corresponding task's requirements and the technologies functionalities for WFH purposes. In turn, a greater TTF will lead to higher adoption rate of managers for WFH since it more closely coincides with the manager's perceptions regarding the

tasks and technologies fit in the WFH context. The individual level is chosen since managers are the decision makers, and every manager experiences and perceives WFH differently. It is a helpful technique to examine which factors worked well and which did not by implementing WFH during the pandemic and in a post-disaster context. Additionally, it represents managers' perception regarding the technology used to support them and their employees in a range of their working activities. These activities can include communicating and collaborating with colleagues and other managers, accessing working information, and supporting documents. A variety of attitude and belief elements, which influence the use of technology in both mandatory and voluntary settings, impact the long-term adoption of managers. Since those factors are important to determine acceptance towards managers, they must be identified and analyzed to rebuild a business as usual (BAU) environment that now includes the "new normal" while increasing managers' attitudes towards using the technology. Extending the framework and applying it to a post-disaster situation would give more valuable insights into the changing working environment and the corresponding changes in managers' perceptions of WFH by opening new areas of research.

This dissertation considers the role of the multi-level STS and TTF model for the long-term adoption of WFH from a managerial perspective. Based on previously defined factors relevant for managers from the recent research literature, the following assumptions (A) relevant to this dissertation are proposed:

- A1: Individual characteristics impact managerial decision-making regarding long-term WFH adoption.
- A2: Technological characteristics impact managerial decision-making regarding long-term WFH adoption.
- A3: Organizational characteristics impact managerial decision-making regarding long-term WFH adoption.
- A4: Task characteristics impact managerial decision-making regarding long-term WFH adoption.

4. RESEARCH METHODOLOGY

4.1. DESIGN SCIENCE RESEARCH APPROACH

The dissertation will follow a Design Science Research (DSR) approach, which is widely known in the area of Information Systems. Figure 4 illustrates the corresponding process model. By answering the research questions, artifacts will be created, which will “improve upon existing solutions” or provide the first solutions to a certain research problem (Simon, 1996). Artifacts can be constructs, models, methods, or instantiations (Gregor & Hevner, 2013). The artifact of this dissertation is a framework with crucial factors that drive the long-term adoption of WFH post-pandemic.

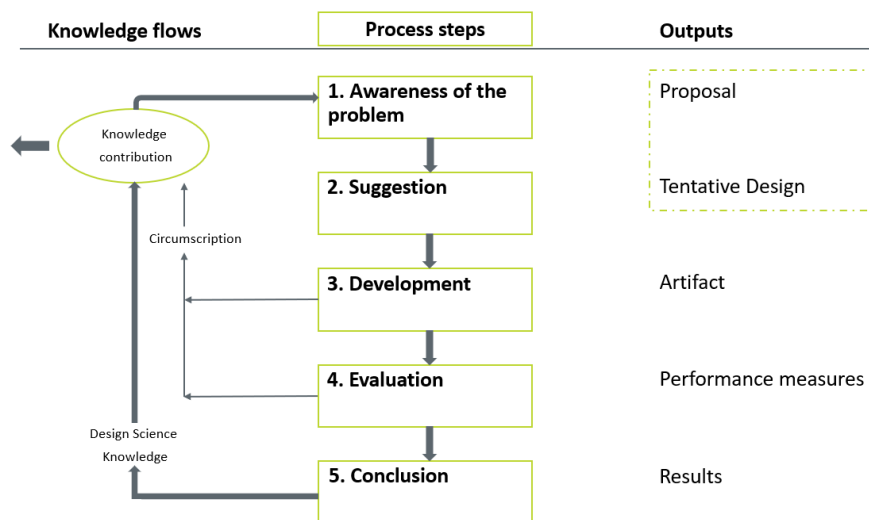


Figure 4: DSR Process Model
Source: adapted from Vaishnavi & Kuechler (2004)

Each of the five process steps of the DSR approach introduced by Vaishnavi & Kuechler (2004) can be described as follows:

1. **Awareness of the problem:** To pay attention to the current problem, an extensive literature review is conducted to find the related research gap relevant for future research. Thus, the aim is to develop the artifact and provide an overview of its relevance.
2. **Suggestion:** A prototype is introduced to suggest a creative way of solving either the existing or new existing problem, as previously identified, within a specific domain.
3. **Development:** In this phase, artifact's previously developed prototype will be revised or adjusted.

4. **Evaluation:** This step evaluates the constructed artifact based on additional information from, for instance, iterative feedback loops. Thus, the artifact can be refined or enhanced if needed.
5. **Conclusion:** The final step of the approach aims to finalize the findings and new knowledge gained and provide possible limitations for future research.

The results can be considered as the output of the DSR approach and are classified into the knowledge contribution framework established by (Gregor & Hevner, 2013). The objective is to get an overview of the output that was created and to determine in which manner the output contributes to new knowledge. Additionally, the framework focuses on helping researchers to find appropriate ways to consume and create knowledge. The intended output of this dissertation, a framework with success factors for the sustainable establishment of a WFH environment, can be attributed to the second quadrant.

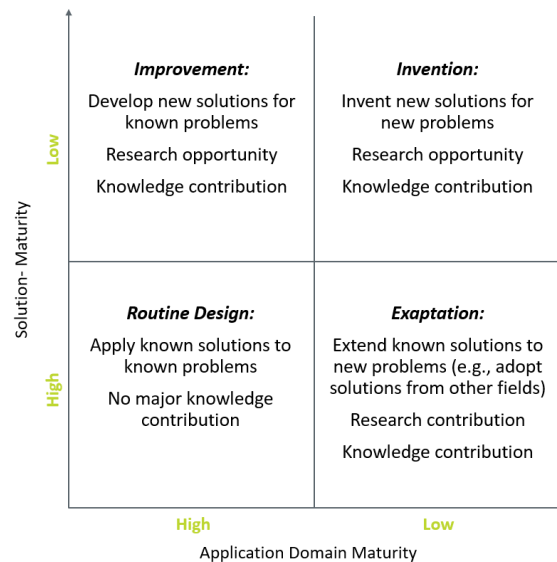


Figure 5: DSR Knowledge Contribution Framework
Source: adapted from Gregor & Hevner (2013)

The quadrant, labelled as "improvement", is described by a high application maturity and a low solution maturity. As this type of output offers a unique research opportunity, this dissertation indicates a contribution to existing problems by providing new solutions (Gregor & Hevner, 2013).

4.2. DATA COLLECTION

Ultimately, this dissertation follows a qualitative semi-structured interview procedure to identify the main factors that establish a WFH environment from a managerial perspective. It intends to address

and fill the current research gaps in this topic, which have not yet been covered in the current scientific research. Relevant questions have been determined in advance and are then presented to selected interviewees in advance. The prepared questionnaire includes open-ended as well as closed-ended questions. Each formulated question is related to one of the main constructs of the developed model, namely individual, technological, task, and organizational characteristics. The questionnaire can be found in the Annex. This approach has been chosen as it addresses aspects of the research issue while allowing room for the corresponding participants to add additional interpretations of the topic. The semi-structured interview approach started with a broad discussion of the general understanding of the concept of WFH and their personal experience during self-isolation. After, the interview shifted towards more specific areas of WFH, for instance, their perception of the usefulness of the software and hardware for communication and collaboration purposes, to gain deeper insights into relevant factors for the managers regarding a long-term implementation of WFH in their organizations.

Before conducting the interview, four CEOs from different industries were identified to examine the crucial factors that influence their allowance decisions on working from home for their employees. As mentioned by Lautsch & Kossek (2011), managers exercise judgment and serve as “gatekeepers” by making choices that promote or restrict employees to exercise WFH and therefore, serve as selected interviewees for this dissertation. Besides, the main focus of this dissertation is small and medium-sized enterprises (SMEs) since these businesses, among a few others, faced the greatest challenges regarding the adoption of technology for work purposes during the pandemic, as mentioned in the previous section. The interviews were carried out within a four-week timespan between August 2022 and September 2022 and were performed via online communication tools. All interviewees agreed for the interviews to be recorded. The interview questions can be found in the annex section.

Table 3: Participants’ Expert Interview

ID	Position	Type of industry	Age
I1	Manager (male)	IT sector	42
I2	Manager (male)	Agriculture sector	35
I3	Manager (male)	Manufacturing sector	60
I4	Manager (male)	Watch and jewelry sector	30

4.3. RESEARCH GUIDELINES

Following the DSR approach as mentioned above, the following steps can be applied to this dissertation:

1. **Awareness of the problem:** An extensive literature review based on multiple scientific papers was conducted to identify and define the main concepts and factors related to managers’ decision-making regarding WFH. Based on that information, the problem

statement and existing research gaps can be defined and can be used as the building block for the development of a suggested conceptual framework.

2. **Suggestion:** After collecting relevant information about the main concepts and theories in this field, it can be said that most academia focuses on WFH from an employee's perspective. Additionally, there is limited research in the field of WFH post-pandemic. Since managers are the decision-makers regarding its implementation and businesses are pressured to adopt WFH due to an increased demand, it is of great interest to analyse factors that influence their decision-making process post-pandemic. The Socio-technical systems theory and Task-technology fit model have shown promising prospects in forecasting the effectiveness of information systems and are therefore used to illustrate the artifact.
3. **Development:** A framework based on the defined models in chapter 3 was developed.
4. **Evaluation:** This step of the approach is based on a qualitative evaluation resulting from several expert interviews in different industries.
5. **Conclusion:** After evaluating the outcomes of the interviews, recommendations and limitations are identified for future research in this area. The goal is to contribute to the current literature in the context of WFH post-pandemic and to provide new insights into the decision-making process of managers and how their perception regarding WFH has changed after the self-isolation.

5. RESULTS AND DISCUSSION

5.1. FACTORS RELEVANT TO WFH

The semi-structured interview with four different managers working within different industries identified crucial factors relevant to the long-term implementation of WFH. Additionally, their perceptions of the concept of WFH and their own experience regarding being constantly connected to work during the period of self-isolation have been analyzed. Table 4 summarizes the main findings from the interviews by highlighting the factors relevant for long-term adoption categorized by the characteristics and the type of industry the interviewee operates in. Additionally, the corresponding interview outcomes and the related impact on TTF for each interviewee has been highlighted. The following subsections, divided into the relevant characteristics, will now be discussed utilizing quotes from the interviews as evidence.

Table 4: Main findings extracted from interviews

Characteristics	Type of industry	Impact on TTF	Factors for long-term adoption
Individual	IT sector	Already has positive experiences prior to the pandemic and thus, a positive attitude towards WFH	Experience, attitude, trust
	Agriculture sector	Already has positive experiences prior to the pandemic and thus, a positive attitude towards WFH	Experience, attitude, trust
	Manufacturing sector	Is skeptical towards WFH since he had a negative experience during the pandemic and thus, a negative attitude towards WFH	Experience, attitude, trust
	Watch and jewelry sector	Already has positive experience prior to the pandemic and thus, a positive attitude toward WFH	Experience, attitude, trust

Technological	IT sector	Perceive current technology as useful since the provided technology support their work and performance – well equipped	Quality of communication tools, broadband connection
	Agriculture sector	Perceive current technology as useful since the provided technology support their work and performance – well equipped	Quality of communication tools, broadband connection, ease of use, monitoring tools
	Manufacturing sector	Only standard software is available, and there is no need to invest further in technology since physical work presence is required	Broadband connection, ease of use
	Watch and jewelry sector	Perceive current technology as useful since the provided technology support their work and performance – well equipped	Quality of communication tools, broadband connection, ease of use
Organizational	IT sector	Company's and employee's performance increased during the pandemic, increase in productivity, employees demand WFH therefore, a hybrid model was implemented	Trust, IT Infrastructure, IT Security, family support, training, tools, and equipment, employees' performance
	Agriculture sector	Company's and employee's performance have remained the same prior to and during the pandemic, increase in productivity, WFH is offered based on prior consultation with management therefore, a	Trust, communication, collaboration, IT infrastructure, IT security, policies, training, tools, and equipment; employees' performance

		hybrid model was implemented	
	Manufacturing sector	The performance of employees decreased because of lack of monitoring therefore, physical presence is requested	Trust, communication, collaboration, IT infrastructure, employees' performance
	Watch and jewelry sector	Company's and employee performance have remained the same prior and during the pandemic, therefore a hybrid model was implemented	Trust, communication, collaboration, IT infrastructure, IT security, policies, training; employees' performance
Task	IT sector	Technology is perceived as useful to support required tasks. Interactive tasks are preferred to be performed from a physical office	Access to information, type of task, collaboration
	Agriculture sector	Technology is perceived as useful to support required tasks, but some clients prefer physical meetings	Access to information, type of task, collaboration
	Manufacturing sector	Not every task can be performed from home, and a physical presence is requested for some tasks	Type of task, collaboration
	Watch and jewelry sector	Technology is perceived as useful to support required tasks, interactive tasks are preferred to be performed from the physical office	Access to information, type of task, collaboration

5.1.1. Individual characteristics

All interviewees presented the same understanding of the concept of WFH. This includes flexible time management, output-oriented focus (instead of the location and timeframe of the work being done), and digital working stations. Three out of the four interviewees' companies were already well equipped for WFH since either they were considering further expanding WFH for their employees or partly offering WFH within the company (I1, I2, I4). This finding was mainly based on the statement

that by providing WFH, the motivation of employees to work from home would increase leading to higher performances which in return positively influences the outcomes relevant to clients (I1, I2, I4). However, the performance might decline as working hours and workload intensity rise (Alghaithi & Khaled Sartawi, 2020). Their understanding of the concept has not changed prior to or after the pandemic.

Meanwhile, I3 claims that the technology equipment (i.e., software, internet connection) was not sufficient prior to the pandemic which changed during the self-isolation due to adjustments that had to be made to adapt to the new situation quickly. Therefore, investments were made to ensure a smooth transition, for instance in IT infrastructure. Nevertheless, most managers were already familiar with working from different locations other than the office and being constantly connected to their work and there was no need to be highly invested in new tools and equipment since those were to some degree already established prior to the pandemic (I1, I2, I4).

“I’ve been used to always being available for the company my whole life. Not much has changed now, so to speak.” – Agriculture sector (I2)

The industry, in which the managers work plays a crucial role in adopting WFH. For some companies, it was difficult to shift everyone from working in the office to working from home because some employees depend on direct contact with the clients (I2, I3). For instance, in the agriculture sector, farmers are more face-to-face driven, making it more difficult for the sales department to communicate solely using online communication tools. On the other hand, within the IT sector, managers, and employees, have constant touchpoints with IT, implying that there was no significant change in their working behavior and that they were able to shift to WFH quickly and efficiently within a short time. The IT sector is a highly competitive labor market in which employees make demands and dictate conditions. Therefore, those employees who are software developers demanded WFH before the pandemic. Fulfilling employees’ needs and demands increases employees’ work motivation, which increases performance and outcomes relevant to clients (I1). Thus, most interviewees had already established WFH before the pandemic (I1, I2, I4). Either it was the wish of the employee to perform their work from home (I1, I4), exceptional cases like important deliveries or family members’ health issues (I2), or because it was already established within the company philosophy (I4).

“In the areas where there is a shortage of occupation or a shortage of skilled workers, people say what they want to have. This is different in areas where there is a lot of labor that is interchangeable” – IT sector (I1)

Regarding their employees, during lockdown periods, managers have received feedback about their employees’ boundaries between work-life being blurred, for instance, by finding it more difficult to end a workday. However, this might depend on the respective personality and tasks (I3). Therefore, spatial, and temporal separation of work is an important factor, which should be considered, and managers must create relevant policies and maintain a work-life balance supporting organizational culture to avoid those situations (Nam, 2014). On the other hand, considering increased punctuality and communication with clients, work is generally more efficient since travel time is reduced.

“You do ten meetings in one day where it would have probably taken you three weeks otherwise, just from all the travel.” – IT sector (I1)

Additionally, managers' experiences play a crucial role in the adoption of WFH. Their expressed experiences regarding work during self-isolation show, that for the interviewees not much has changed. They were already used to being constantly connected to work, either from the office or home, and some had already established WFH before the pandemic. For those who practiced WFH prior to the pandemic, it was a positive experience (I1, I2, I4). Firstly, they prefer the flexibility to perform work from everywhere instead of being bound to one single location. Secondly, meeting punctuality increased, for both, employees, and clients (I1). This was also reflected by their general attitudes toward WFH.

"The subject of WFH has not changed my inner attitude, which is rather skeptical."

– Manufacturing sector (I3)

"It is based on the professional experience which may not always be great and because if someone cannot visualize it, what it is it is even harder to implement WFH." – Agriculture sector (I2)

Thus, managers seem less likely to implement WFH in the long-term since they still prefer physical presence (I3). This may also be due to the fact, that he mainly worked from the office during the pandemic. One manager stated that he used the pandemic as a test phase for the implementation of WFH and had high expectations that it would lead to a positive experience for the whole company (I3). Unfortunately, the performance of his employees decreased, leading to a negative event which led to a more skeptical view of WFH. Therefore, he requested physical attendance from their employees. It is possible that WFH's acknowledged advantages for worker satisfaction, organizational efficiency, and adaptability will not be realized (Bentley et. al, 2013). Another disadvantage that the managers experienced was a reduction in the quality of communication. There was a significant lack of interpersonal exchange about, for instance, their employees' general well-being or problems they were currently facing. This is especially relevant for managers since it potentially impacted the company's and employees' performance. Being in the office gives a manager a better overview of their employees' feelings because they are in direct contact with them. With online communication tools, managers must rely on employees to come forward.

Besides, other factors that were highlighted in the interviews are the age and technological know-how of the manager which play a crucial role in the long-term adoption of WFH.

"Technical affinity is important. And there are differences to the generations."

– Watch and jewelry sector (I4)

"There are very many who cannot even grasp how this works in the IT world. And then, when they can no longer see what the employees are doing all day, it is incredibly difficult to maintain confidence that the performance is there." – Agriculture sector (I2)

5.1.2. Technological characteristics

Some of the interviewed companies support a bring-your-own-device (BYOD) environment or a mix of using personal and company devices. BYOD refers to a policy that enables employees and managers to use their own devices for work purposes, such as laptops, smartphones, or tablets (Trziszka, 2018). Often, using BYOD devices is cheaper when considering, for instance, administration costs because

they do not have to undergo maintenance work. Supporting a BYOD environment with iPads and other devices became very popular for the reasons mentioned (Bentley et. al, 2013). The devices only allow remote access to the company infrastructure; for instance, with the laptop, the manager or employee has remote access to the corresponding terminal server (I1, I3). In contrast, others provided the hardware to their employees. The main hardware provided by the company was a laptop, a mobile phone, a mouse, a screen, and a keyboard. Here, it is important to differentiate between the department and if they were working with a terminal server or, as I4 stated, equipped with e.g., google infrastructure. Employees who are regularly in touch with clients, such as salespeople, obtained a mobile phone provided by the company.

A broadband connection is one of the main characteristics of technical equipment that leads to the manager prioritizing their working location (I1, I2, I3, I4). This is especially important if you work with conference systems. The quality of the broadband connection has changed positively over the last couple of years leading to better WFH conditions. This is a necessity to perform WFH and a condition of effectively implementing WFH long-term. Furthermore, the ease of use of the technology and the technical equipment plays a part in the manager's preference for work from the office or home (I2 & I3).

"In the optimal case, there should be no difference between WFH and in the office"

– Watch and jewelry sector (I4)

Besides the hardware, the main communication tools used were Teams, Zoom, and Google Meet. Most managers chose those applications based on the quality of how they experienced the communication during the lockdown. A good quality of communication and collaboration is a key factor in effectively implementing WFH in the long-term. For both the exchange of information but also to understand the well-being of employees and the potential challenges they are currently facing. Based on that, managers either invested in different software including the necessary licenses or relied on the same tools as before, depending on the delivered quality and the client's requests. Furthermore, internal Wikis have been used by employees more often during and after the pandemic as a communication tool to exchange ideas, information, or opinions. I3 advised that they do not use any of the communications tools mentioned, since they have not installed the 365 Microsoft package area wide. Their main communication tools were either phone or e-mail. This leads to having meetings in the conference rooms, which have access to the 365 Microsoft package conducting online meetings invited by the client. Nevertheless, the company is not considering investing in the package, as they prefer their employees to work from the office.

Most interestingly, by rating the technology used for collaborative work, was equally rated as either very adequate (I2, I4) or inadequate (I1, I3). As mentioned, some experienced technical issues while running the needed software. Nevertheless, it depends on the kind of collaboration and the type of tasks that must be performed. In general, the adopted technology must support the communication between and within employees and clients. Yet, it does not seem to replace face-to-face conversations. This is especially important for creative and innovative processes that need a high proportion of interactions and communications (I1, I4). For these processes, traditional tools, such as whiteboards installed at the office, are still preferred. Additionally, it was stated that, especially for the manager it is of great interest to understand and realize the well-being of the employees. This cannot be realized by working by oneself. Nevertheless, I1, I2, and I4 agreed that the current technology supports their

work performance. I3 did not perceive this as relevant, because physical presence in the office was mandatory.

“Work performance increases but not necessarily because of the technology but because of the acceptance.” – IT sector (I1)

Lastly, the interviews show that the “trust” factor plays an important role for managers in regard to their employees. Based on previous experiences, managers know about the required time frame of a task. Therefore, there was no need for employees’ performance measurements, such as monitoring systems (I1, I2, I4). Still, there may be differences in the organizational cultures of the industries, for instance, one that promotes a trust-based culture, which is said to be more suitable for WFH, while others perform consensual management systems that rely on monitoring (Peters & Heusinkveld, 2010). Yet, there are no official governmental regulations in place that state that control systems within the company are allowed. Due to the wider acceptance of WFH, this might change in the future.

“We have no desire at all to monitor how much our employees work, but rather the other way around, when they are there, I have to see that they do not work too much.” – IT sector (I1)

This statement is aligned with the opinion of the I1, I2, and I4. Thus, the quality of the task’s results is more valuable to the manager than the time or place of its process. I4 explained that they have weekly team calls to clarify current priorities and status updates on projects or different tasks.

“The more the tasks work, and there is trust, which is of course always the goal, the less you have to check in concrete terms” – Watch and jewelry sector (I4)

5.1.3. Organizational characteristics

Most firms currently provide the hybrid solution (I1, I2, I3). Numerous businesses adopt this arrangement to improve employees’ productivity, lower absenteeism, and ensure that employees have a work-life balance (Galea et al., 2014). All managers advised that their working distribution within the company has changed during the pandemic. It was found that this mostly depended on employees’ preferences about their working location. Furthermore, some managers still prefer face-to-face communication as they experienced a lack of direct information exchange during the self-isolation, in both interpersonal and work-related information. Interpersonal information exchange mostly happens within the office, for instance, during coffee breaks.

*“We have a hybrid solution with a tendency to 70% attendance and 30% from home, but only because the employees would like to be in the office and we as managers would prefer it.”
– Agriculture sector (I2)*

“Physical presence is required. In single cases I am flexible. However, it does not work without a reason.” – Manufacturing sector (I3)

“Our company philosophy is still being in the office.” – Manufacturing sector (I3)

Currently, no new formal company policies have been introduced in the four companies. Most policies have been informally established by the employees about the desired Dos and Don’ts. Thus, there is

currently no discussion about implementing new work policies in the future. Nevertheless, in general, the managers say, for an effective implementation of WFH in the long-term, new policies must be considered. Regarding the contracts, the interviewees' opinions vary. Either there is no apparent intention to include an additional text (I2, I3), or an additional contract is added that regulates the workplace, delivery of equipment, and the distribution of work. This was mainly established due to legal reasons, tax benefits, and liability issues.

Furthermore, there was no proper setup of home office equipment provided by the company. Instead, the employee negotiated a budget with the manager, to purchase home office equipment.

The managers expect WFH to be implemented in the long-term and decided upon this implementation for their own teams (I1, I2, I4). The final decision depends on the company's Chief Executive Officer (CEO), but managers can decide if their teams can perform the work from home. Direct and prior arrangements must be made with the manager. The interviewed managers experienced WFH during the pandemic as having a positive impact on their employees and themselves. Especially employees or managers with a family might benefit from the new work distribution. Personal family time can be increased based on travel time reduction, which has generally a positive effect on work and the company. Yet, this differentiates between the tasks performed and the corresponding departments. Nevertheless, one interviewed manager seems skeptical about the long-term adoption of WFH and prefer the physical presence of their employees in the office (I2).

"Yes, definitely. Because it is expected by the employee and if we do not offer it, we would not get the good people." – IT sector (I1)

"I am already thinking about creating that opportunity, but that is in the early stages."
– Agriculture sector (I2)

"The acceptance of the overall population regarding WFH during the pandemic has changed simply out of necessity and at the same time, the expectations of the employees have changed. In the sense, before it was a wish and now it is a requirement. If we did not offer it, it would be difficult for us to find people." – IT sector (I1)

Factors relevant to the efficient implementation of WFH are mainly trust, which builds the base (I1, I2, I3, I4). This is followed by efficient communication, collaboration, flexibility, IT security, policies, and IT infrastructure. The employee's well-being is equally important but refers more to a consequence of WFH than a requirement. Besides, family support and the type of tasks are relevant for an efficient implementation of WFH. The factor of "training" seems to be not as important as the factors mentioned above. Needs-based training, for instance, for newly hired employees or familiarization with new tools, might be necessary but as soon as the foundation of IT usage is built, no further training is needed (I2, I4). It is relevant to constantly connect with the employees and communicate with them to learn about potential problems.

"The most important factor is trust – if I have the attitude that employees do nothing, it is difficult. Then it will not be productive in the end, and the employees will not be satisfied" – IT sector (I1)

The main potential challenges faced by implementing WFH are communication, collaboration, and technical issues, and a decrease in the performance of employees. Security issues are not a potential challenge (I1, I2, I3, I4). Even though security threats are constantly there, the interviewees stated that

they felt they are securely positioned as far as their servers are concerned. They have secured VPN tools and 2-factor authentication (I1, I2). Nevertheless, for some companies, this can be a challenge for the long-term adoption of WFH. To bypass the potential challenges of WFH, the managers of the interviewed companies decided to implement the hybrid model to benefit from the advantages and overcome the potential challenges.

Nowadays the demand for WFH is increasing, and employees are asking for more autonomy and independence. Companies have the challenge of adapting to those changes and the corresponding demand to stay attractive as an employer in the labor market.

“It is, of course, an argument in the job market that you have the option of WFH and the corresponding flexibility.” – Watch and jewelry sector (I4)

Regarding the employees' and company's performance, it can be said that for neither company there has been a change prior to and after the pandemic. On the contrary, due to the reduction of travel time, overall, some companies were able to increase the frequency of interaction, leading to an increase in efficiency (I1, I2, I4). Nevertheless, during the first week of lockdown, a decrease in performance was recorded based on the transition to online meetings in which the employees mainly talked about the pandemic or organizing home office setups. However, this was an exceptional case, especially at the beginning of the pandemic. I3 recognized that during WFH in the lockdown, the performance of the employees decreased, in some cases, even more. His explanation for this phenomenon is that he had less control over his employees and what they were doing at home. Multiple factors are relevant from a managerial perspective to increase employees' performance. Those factors include relevant training, tools, and equipment to simplify their work, a good relationship with colleagues and managers, and providing work flexibility (I1, I2, I3, I4). I1 mentioned that his employees achieve high performance if they were confronted with a challenge, if they had fun during work and when they received recognition from their colleagues, managers, and the public. Additionally, for I2, the workload, reduction in travel time, and financial benefits are important factors to drive employees' performance. The company provides training for their employees where they can learn about time management.

“We always have feedback meetings. It is very important to listen to wishes, think about, and discuss them. If it does not work out, it is usually okay. The main thing is to have an open ear.”
– Agriculture sector (I2)

5.1.4. Task characteristics

Not every work task can be performed from home. This ability usually depends on the industry the business is operating in and the corresponding department. For instance, sales tasks, production, development, and warehouse are departments where tasks cannot be performed from home. Additionally, direct customer contact, like customer support tasks, are preferred from the office since the employees value the direct exchange of information among each other. Tasks in finance, programming, and controlling departments are easier performed at home. In short, standard tasks are more easily done at home than creative processes and team-building tasks, which highly depend on active human interactions.

“Innovation processes or everything concerning team building and interpersonal relationships simply do not work from home. Not in sufficient quality. We would not be competitive.” – IT sector (I1)

Nevertheless, in performing the corresponding tasks at the physical office versus from home, several factors play a crucial role in the eyes of the managers. Those factors include access to information, communication, and collaboration with their employees.

“WFH can be a limitation because in my job, it is sometimes necessary to work with physical documents, which I do not have in the home office by definition.” – IT sector (I1)

Firstly, in some situations, there is a need to access physical documents stored in the office and not digitalized. This includes older documents that are not available online or, letters sent by post (I1, I2). This applied mainly to the I4 position since employees had fewer needs for physical documents by having online access to the documents, for instance, through google drive.

Secondly, interpersonal communication is reduced when working from home. When employees have questions regarding certain tasks, they were less likely to contact the manager directly than if they were located in the office. This seems to be especially true for new employees. If any questions occur, physically present employees can approach their colleagues. Since this is impossible when working from home, they now depend on finding and reserving a timeslot for any clarifications. In addition, important content regarding tasks can get lost because employees do not have the same open conversations online as they had before (I4).

Security does not play an important role for the managers since they are already well-equipped with security software, and not much has changed in this regard. To ensure security, new software has been installed, which acts as a firewall, to identify possible security gaps.

Technical support was an important factor for some companies that were not as digitalized as others. For instance, in an IT company, employees were constantly confronted with digital topics or companies who already provided WFH and were therefore already familiar with working from different locations. Hence, these employees only created documents in online formats, such as guidelines. Meanwhile, companies that had to adapt to the new situation of the pandemic quickly, provided online training either provided by the IT, Human Resources (HR), or the manager. This took place through, technology such as Team Viewer.

Post-pandemic companies implemented core days throughout the week, where their employees must come into the office. This decision was made by the managers by considering the employees' needs and determining fixed office days. Though, managers do not provide additional benefits or compensation regarding WFH as some employees prefer working from home as they do not have interfering influences, they experience in the office such as colleagues who constantly interrupt their work. Additionally, WFH offers employees flexible, autonomous, and independent work. No incentives are needed to manage the motivation level of employees concerning WFH since the managers do not plan to implement the full-time WFH model.

*“Anyone who wants to use WFH can use it. We do not have any real benefits for this”
– Agriculture sector (I2)*

Lastly, every interviewed manager perceived planning and prioritizing their tasks during WFH as easier. The tasks or requests from employees arrived channeled without further disruptions like phone calls. Some managers set up standup calls three times per week with their teams to talk about current tasks and their corresponding prioritization (I1, I4). The asked statement regarding “performing tasks during WFH is easy to achieve with minimal time and effort” is perceived as neutral by the interviewees since it usually depended on the atmosphere at home but also on how busy the business days were. Therefore, it differs for each individual. However, regarding collaboration during WFH with other employees, it is perceived as inadequate by the interviewed managers since some tasks still required face-to-face communication.

5.2. CONCLUSION

After a thorough examination of existing literature regarding the concept of WFH and associated decision-making factors from a managerial perspective, relevant factors for the long-term adoption of WFH have been identified. The concept of WFH is an already well-known phenomenon in research, and this dissertation helps to extend the knowledge in this area. The STS and TTF models provided a valuable lens for WFH since it gives the ability to explain complicated and interrelated information clearly and logically in this context. Therefore, these models have been used to develop a new and extended framework. Individual characteristics have the highest impact on managers’ decision-making toward WFH adaption post-pandemic and therefore on TTF. Whereas, technological, organizational, and task characteristics served as key enablers for the effective implementation of WFH and thus only have a moderate impact on TTF.

The most crucial factors that ensures the implementation of WFH are managers’ experiences with remote work (prior to and during the pandemic) and trust toward their employees regarding how well and reliable they perform their tasks, which relate to individual characteristics. Trust is built by establishing a positive experience (Buchner & Schmelzer, 2003). In general, a person who trusts another person is convinced that this person will fulfill his or her expectation (Buchner & Schmelzer, 2003). Thus, experiences shape managers’ attitudes toward the concept of WFH. One interviewed manager stated that he had negative experiences with WFH during the pandemic, e.g., long response times of their employees or the manager was not able to reach them, resulting in a lack of trust. Therefore, he will not implement WFH soon. Additionally, he prefers to be physically present in the office. He did partially invest in WFH set-ups, requested their employees to perform their work from the same physical location, and will not make further investments into collaboration tools. On the other hand, managers who already partly implemented WFH before the pandemic were well-equipped with tools and equipment and had positive experiences with WFH and are going to implement the hybrid solution in the long-term post-pandemic. Managers who lack trust in their employees due to negative experiences are less likely to implement WFH in the long-term. Trust serves as the basis for implementing WFH. As stated by Paliszkiewicz (2012), the ability of managers to trust their employees is crucial for employees’ ability to perform well at work. Thus, increasing the level of trust can improve organizational performance (Paliszkiewicz, 2012).

Technological, organizational, and task characteristic factors are considered key enablers for WFH. They build the building blocks for effective implementation of WFH in the long-term. Crucial technological factors include good broadband connection, quality of communication and collaboration

tools, and the perceived usefulness of IT from managers. The perceived usefulness of technologies depends on experiences and was more favorably viewed by those managers with relevant positive prior experiences on WFH. This finding is supported by the study of Irani (2000), which states that prior experience affects how technologies are accepted and how they are ultimately used. Policies, IT security, IT infrastructure, training, and employee performance are relevant organizational factors. Those factors are a prerequisite to providing effective WFH and can increase productivity on both an individual and team level (Bosua et al., 2012). When switching to WFH during the pandemic, the managers who did not offer WFH prior to the pandemic offered instruction on how to carry out tasks and how the different channels have to be used. In the post-pandemic era, training might only be relevant to new employees to familiarize them with the corresponding technology. Lastly, the type of tasks and access to relevant information serve as enabling factors within the task characteristics. Thus, creative, and innovative processes which need a great amount of information exchange are preferred by managers to be performed at the physical location. In general, these enablers must be ensured to successfully adopt WFH. The findings of Thulin et al. (2019) confirm that routine and standardized tasks are gradually becoming workable from home because they do not demand high collaboration with team members. As stated by the interviewees, relevant business information might get lost when communicating virtually and the relationship with the employees may suffer. Thus, in high-interdependency tasks, WFH is linked to a reduction in the quality of employee relationships and satisfaction, making it unsuitable for high-degree teamwork (Okubo, 2022). Benefits incentivizing employees to perform WFH did not necessarily seem to be an important factor, since employees now request WFH. One manager stated, instead of incentivizing the employees, they regularly organize team events and constructive feedback to keep the motivation of the employees high. Based on the “new normal”, managers consider the outcome of a task more important than the location and time where the task is performed and the corresponding employees’ performance. Therefore, online access to the necessary information must be assured. During the self-isolation, managers sometimes experienced a lack of connection, teamwork, and face-to-face communication but they stated that it occurred mainly at the beginning of the pandemic. Thus, they set up the needed software to improve the corresponding quality of the communication tools.

To summarize, if trust and related experiences are not given by the managers toward its employees and WFH, key enabling factors have no impact on the decision-making process regarding WFH. Implementing or approving WFH depends heavily on trust (Stout et al., 2013). The essential elements of a manager-employee relationship include trust since it directly affects the level of commitment, performance, and corresponding job satisfaction (Golden, 2009). Managers who implement WFH strategies show a stronger level of employee support and trust (Golden & Fromen, 2011). Nevertheless, key enablers must be confident to effectively adapt and perform WFH in the long-term. Therefore, individual characteristics are more weighted as relevant for the implementation from a managerial perspective than technological, organizational, and task characteristics which serve as WFH enablers. To stay competitive and attractive in the labor market, companies nowadays are feeling pressure to offer WFH and the associated flexibility since more employees are now demanding it. Most managers acknowledged the benefits of WFH and want to exploit them post-pandemic. To overcome potential disadvantages of WFH, the hybrid solution was implemented by some managers. Nevertheless, there is no “one-size-fits-all” answer, therefore, businesses have to proactively design a long-term WFH, or hybrid work strategy based on their individual needs (Vyas, 2022). In the post-pandemic era, WFH is a significant trend, still there are numerous pressing concerns regarding the

well-being of employees, regulations, and cyber-security that necessitate monitoring and further solutions. To develop a more sustainable model for “new normal” work habits, relevant parties at all levels of society, including governments and corporations, must collaborate (Vyas, 2022).

5.3. LIMITATIONS AND FUTURE RESEARCH

One main limitation of this dissertation is the limited existing research in the field of post-pandemic adaption of WFH, especially in the domain of managers’ perspectives. Only a few studies published prior to the outbreak of the pandemic can be found that identify relevant managerial decision-making factors. Therefore, the factors relevant to establishing a WFH environment post-pandemic from a managerial perspective, that were explored in this paper are mainly compared to relevant factors that were identified prior to the pandemic. There is only a limited number of studies regarding influential decision-making factors for WFH adoption from a managerial perspective with a focus on the pandemic and post-pandemic eras available. Thus, comparing factors in different time periods might distort the results since the perceptions from employees, and employers are continuously changing due to increasing technology acceptance and new technology developments.

Additionally, this dissertation focuses only on a small selection of selected managers from different industries. The opinions toward WFH adaption might differ between managers in a company and at the same time, even between industries. For instance, managers who already established WFH prior to the pandemic or are mainly active in the IT industry are more likely to adopt WFH than others.

Further limitations include this study’s focus on SMEs as they were most affected by the pandemic and the introduction of the “new normal” since they were the least prepared due to limited resources and technological know-how for WFH implementation. Therefore, the results are not representative of corporate groups with the resources available to implement WFH.

Due to time constraints, it was not possible to include other influential factors and revise the developed model with more interviews from different industries. Future research in the domain of this dissertation might consider relevant components from the external environment that influence the decisions of managers for implementing WFH, for instance, governmental regulations and policies regarding WFH. The concept of WFH will be encountered in almost every business in the future and might bring along changes within the work sectors as well as governmental policies in the long-term. It would be of great interest to further analyze and identify factors that positively increase the perception and trust in the concept of WFH from a manager’s perspective to ensure long-term adoption. Additionally, factors on a group level to explore how WFH impacts group dynamics and productivity, for instance, if one group member works from home while the rest of the group works from the physical office location, should be analyzed in more detail. Lastly, further research could focus on a larger sample of managers within organizations and concentrate on a specific sector to identify industry-specific factors for the long-term adoption of WFH. This would also be relevant to maintain a higher level of reliability of data.

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ANNEX

Interview Questions

Objective: Factors that establish a work-from-home (WFH) environment post-pandemic

1. Age:
2. Current position:
3. Operating industry:
4. How long have you already been in the company:
5. Please state your opinion/understanding of the concept of WFH. Has your perception changed before/after the pandemic?
6. Can you share your experience about being constantly connected to work during self-isolation? (3 main advantages / disadvantages)
7. Do you use your (personal/company) devices for WFH purposes? If so, which personal/company devices do you use?
 - Laptop
 - Mobile phone
 - Screen
 - Mouse
 - Keyboard
 - Other (specify)
8. Are there any characteristics of technological equipment that makes you prioritize WFH over working from the office (or vice versa)?
 - Broadband connection
 - Ease of use
 - Look
 - Other (specify)
9. Which software did you use before the pandemic and now?
 - Teams
 - Zoom
 - Skype
 - WhatsApp
 - Signal
 - Google Drive

- Dropbox
 - Slack
 - Outlook
 - Other (specify)
10. How would you rate the current technology for collaborative work? Why?
1. Very adequate
 2. Fairly adequate
 3. Inadequate
 4. Grossly inadequate
11. Does the current technology support your work performance? Can you elaborate further? (Yes/No)
12. How did/do you measure your employee's performance during remote work?
- Automated systems
 - Online Status
 - Reporting
 - Other (specify)
13. How is the current distribution of your employees at work?
- Hybrid
 - Physical attendance
 - Remote
 - Other (specify)
14. Does your company already have policies in place regarding WFH? (Yes/No)
15. Are there any changes in the contracts regarding WFH? Can you elaborate further? (Yes/No)
16. If you provide home office setups to your employees, what do you provide?
- Chair
 - Desk
 - Other (specify)
17. Do you plan to keep WFH in the long run? Please elaborate further. (Yes/No)
18. How does the strategic decision process regarding the implementation of WFH look like?
- Decision of manager
 - Decision of board of directors
 - Other (specify)
19. Which factors are needed to effectively implement WFH?
- Trust

- Communication
- Collaboration
- Flexibility
- Infrastructure
- Well-being
- Workspace
- Adequate training
- IT security
- Policies
- Other (specify)

20. What might be potential challenges for implementing WFH?

- Security issues
- Communication and collaboration issues
- Technical issues
- Decrease in performance
- Other (specify)

21. Can you tell me more about the company's/employee's performance regarding before and during self-isolation?

22. What are factors contributing to employees work performance in general?

- Trainings
- Tools & Equipment
- Workload
- Relation with colleagues
- Flexibility
- Financial benefits
- Other (specify)

23. How do the current tasks differ from performing them at the physical office vs. from home?

- Access to information
- Security
- Collaboration
- Other (specify)

24. Did you provide technical training to employees regarding WFH? Can you elaborate further? (Yes/No)

25. Do you think every task in the company can be performed from home? Please elaborate further. (Yes/No)

26. How does your company manage the motivation level of the employees concerning remote work?

- Financial benefits
- Work environment
- Work autonomy
- Work-life balance
- Opportunities for growth/development
- Recognition
- Flexibility
- Independence
- Other (specify)

27. Can you reflect on autonomy and independence based on working from home? Please elaborate further.

28. Please rate the following statements based on how much you agree or disagree with them based on remote work: (1 – Strongly agree; 5 – Strongly disagree)

1. Planning and prioritizing my tasks doing WFH is easy
2. Performing the tasks during WFH is easy to achieve with minimal time and effort
3. Collaborating with others during WFH is very productive

29. Are there any additional comments you would like to make?

