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The future of working from home: A mixed-methods study with IT professionals to learn from enforced working from home

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Abstract

Purpose – Positive experiences with working from home (WFH) during the Corona pandemic (COVID-19) have motivated many employees to continue WFH after the pandemic. However, factors influencing employees' WFH intentions against the backdrop of experiences during pandemic-induced enforced working from home (EWFH) are heterogeneous. This study investigates factors linked to information technology (IT) professionals' WFH intentions.

Design/methodology/approach – This mixed-methods study with 92 IT professionals examines the effects of seven predictors for IT professionals' WFH intentions. The predictors are categorized according to the trichotomy of (1) characteristics of the worker, (2) characteristics of the workspace and (3) the work context. Structural equation modeling is used to analyze the quantitative survey data. In addition, IT professionals' responses to six open questions in which they reflect on past experiences and envision future work are examined.

Findings – Quantitative results suggest that characteristics of the worker, such as segmentation preference, are influencing WFH intentions stronger than characteristics of the workspace or the work context. Furthermore, perceived productivity during EWFH and gender significantly predict WFH intentions. Contextualizing these quantitative insights, the qualitative data provides a rich yet heterogeneous list of factors why IT professionals prefer (not) to work from home.

Practical implications – Reasons influencing WFH intentions vary due to individual preferences and constraints. Therefore, a differentiated organizational approach is recommended for designing future work arrangements. In addition, the findings suggest that team contracts to formalize working patterns, e.g., to agree on the needed number of physical meetings, can be helpful levers to reduce the complexity of future work that is most likely a mix of WFH and office arrangements.

Originality/value – This study extends literature reflecting on COVID-19-induced changes, specifically the emerging debate about why employees want to continue WFH. It is crucial for researchers and practitioners to understand which factors influence IT professionals' WFH intentions and how they impact the design and implementation of future hybrid work arrangements.

Keywords: Working from home, COVID-19, Survey, Structural equation modeling, Text analysis

1. Introduction

The COVID-19 pandemic fast-forwarded the diffusion of working from home (WFH) practices as it forced employees worldwide to leave their offices. Whereas, pre-pandemic, WFH levels doubled every 15 years, two years of enforced working from home (EWFH) quadrupled this growth (Barrero et al., 2021; Felstead & Reuschke, 2023). One-third of all employees in Germany (Bodanowitz, 2020) and in the United States (Brynjolfsson et al., 2020; Gartner, 2020) worked from home at the beginning of the pandemic. Although the rapid shift from the office space to the home was unexpected (Waizenegger et al., 2020), many organizations were able to provide employees with the technical means to continue their work at home on short notice (Barrero et al., 2021). More than half of employees could conduct more tasks remotely than they had initially expected. Only one-third stated that their organization had to introduce new technologies to enable WFH (Erdsiek, 2020).

Working from locations other than the office has been possible since the advent of personal telecommunication technology (Bélanger, 1999). While working from home or at clients' sites has been popular among technology and management consultants, other professions have mainly worked from the company office. In 2014, for example, only 22% of German employees worked at least partly from home (Pauly & Scheufele, 2019). Pre-pandemic reasons against WFH include, amongst others, insufficient technical equipment, organizations' concerns about reduced productivity because of less social and informational exchange with colleagues and supervisors and managers lacking the willingness to allow WFH (Bailey & Kurland, 2002; Fischer et al., 2021; Laumer & Maier, 2021; Pauly & Scheufele, 2019). Early survey studies on the impact of EWFH have shown that the pandemic has accelerated the digitalization of work: Companies rapidly provided their employees with the technical equipment necessary for WFH (Barrero et al., 2021; Erdsiek, 2020; Watson et al., 2020). Policies and routines needed for digital work were developed in days rather than years (Bodanowitz, 2020; Richter, 2020; Waizenegger et al., 2020).

As a lasting consequence of the pandemic, big technology companies such as Google, Apple and Microsoft have offered hybrid work arrangements—a blend of working from home and the office. Many of their employees are allowed to work from home one to three days per week (Finnegan, 2022; Tsipursky, 2022). Medium-sized companies also plan to implement hybrid work arrangements (ZEW,

2022). Recent surveys have indicated that most employees prefer to continue WFH after the pandemic (Barrero et al., 2021; Bockstahler et al., 2022; Felstead & Reuschke, 2023; Gibbs et al., 2021; Microsoft, 2022). These surveys have been supported by an emerging literature specifically investigating which factors explain employees' WFH intentions (Jain et al., 2022; Moglia et al., 2022; Olde Kalter et al., 2021; Weber et al., 2022). Reasons for WFH include an increase in perceived productivity (Abelsen et al., 2021; Asgari et al., 2022; Danilova et al., 2023; Felstead & Reuschke, 2023; Hofmann et al., 2020; Stefaniec et al., 2022), improved work-life balance, or increased employees' well-being (Schifano et al., 2023; Zacher et al., 2021) during EWFH compared to office work (Bockstahler et al., 2020, 2022; Bodanowitz, 2020). Yet, certain work tasks, e.g., building networks and relationships, seem to be more challenging in virtual environments (Gibbs et al., 2021; Moglia et al., 2022; Whillans et al., 2021) which can lead to reduced perceived productivity (Gibbs *et al.*, 2021; Kumar *et al.*, 2022). Other factors against WFH are siloed and static information networks (L. Yang et al., 2021), longer workdays (DeFilippis et al., 2022), or reduced work engagement (Adisa et al., 2023; Cao et al., 2021).

As IT professionals are working closely with information and communication technology (ICT) and enjoy greater autonomy, they have worked from home more frequently than other professions before the pandemic (Milasi et al., 2020) and keep WFH to a great extent currently (IFO, 2022). COVID-19 studies focusing on IT professionals have investigated work-life balance (Biju et al., 2022), technostress (Satpathy et al., 2021), or perceived productivity (Patanjali & Bhatta, 2022). While these studies have examined the immediate outcomes for IT professionals from EWFH, understanding why employees (Jain et al., 2022; Moglia et al., 2022) and specifically IT professionals (Morrison et al., 2019) want to continue WFH in the future remains in its infancy. Since hybrid work arrangements will be part of the future work for IT professionals (Nakayama et al., 2022; Patanjali & Bhatta, 2022), examining factors determining their intentions to continue WFH is crucial for researchers and practitioners. This novel understanding will contribute to the design and implementation of successful hybrid work arrangements.

Combining existing WFH (Baruch & Nicholson, 1997) and EWFH frameworks (Awada et al., 2021) categorizing WFH success factors, we utilize the 'worker – workspace – work' trichotomy from Awada *et al.* (2021) to identify factors influencing IT professionals' WFH intention. Specifically, we examine (1) characteristics of the worker including demographics and the family situation, (2) characteristics of

the workspace including available equipment and the physical home office setup and (3) the work context addressing the experiences during EWFH, especially consequences of the increased level of technology-enabled communication. We derive the following research question: *How do characteristics of the worker, characteristics of the workspace and the work context during EWFH influence IT professionals' WFH intentions?*

We address this research question by conducting a concurrent mixed-methods study. Data is collected via an online questionnaire distributed among 92 IT professionals from an international engineering company. We argue that EWFH represents a new and distinct environment, as most interactions happen in a virtual setting (DeFilippis et al., 2022; Waizenegger et al., 2020). The quantitative data is analyzed using structural equation modeling. The qualitative data consists of responses to six open questions and is analyzed according to thematic text analysis.

Our results suggest that IT professionals with a strong preference for drawing boundaries between work and private life express lower WFH intentions. IT professionals' perceived productivity during EWFH positively impacts their WFH intentions. Our study contributes to the literature that aims to reflect on and learn from COVID-19-induced changes (Carillo et al., 2021; Grzegorczyk et al., 2021; Kniffin et al., 2021) as well as previous WFH literature examining factors for and against WFH (Fischer et al., 2021; Laumer & Maier, 2021). We add an IT professionals' perspective to the WFH intentions literature investigating why employees want to continue WFH (Jain et al., 2022; Moglia et al., 2022; Weber et al., 2022). Moreover, we extend recent literature reviews exploring why employees want to adopt WFH in the pre-pandemic environment (Fischer et al., 2021; Laumer & Maier, 2021).

2. Literature review

WFH is a specific case of telework (or telecommuting) in which employees do not work from various locations but from their homes (Baruch and Nicholson 1997; Wheatley, 2012). Despite the broad distribution of mobile devices and ICT that enabled WFH in the past decades (van der Lippe & Lippényi, 2020), pre-pandemic WFH remained low (Milasi et al., 2020). In the European Union, only 3% of employees worked frequently and 8% worked sometimes from home (Grzegorczyk et al., 2021). While research on telework is extensive (e.g., T. D. Allen et al., 2015; Baruch, 2000; Gajendran & Harrison,

2007), the specific context of WFH has been researched only to a limited extent (Waizenegger et al., 2020). On top of that, the pandemic situation yielded a new environment: EWFH. COVID-19-induced EWFH differs from WFH due to limited preparation for an unprecedented increase of WFH levels and the strong reliance on ICT for work and interactions with colleagues to reduce face-to-face interactions to a minimum (Carillo et al., 2021; Waizenegger et al., 2020). The literature on EWFH is growing at a fast pace with prominent studies, amongst others, from psychology (Kniffin et al., 2021; Wang et al., 2021), human resource management (Carnevale & Hatak, 2020), information systems (Carillo et al., 2021; Waizenegger et al., 2020), or transportation science (Beck & Hensher, 2020; de Haas et al., 2020).

2.1 WFH intention research

Most EWFH studies focus on immediate and short-term pandemic-induced effects on work and employees. Literature exploring how experiences during EWFH impact employees' long-term WFH intentions is in its infancy. We identified Jain *et al.* (2022) as a prominent study in this nascent debate and acknowledge transportation science as the discipline discussing this issue the most. In the following, we summarize recent EWFH literature, which investigates factors explaining WFH intentions (Table 1). We identified ten additional studies following Jain *et al.* (2022) by applying backward and forward search (Webster & Watson, 2002).

Table 1: Literature review.

Note: For a detailed description of the 'worker – workspace – work' trichotomy see chapter 2.2.

Study	**Discipline**	**Used Theory**	**Factors Influencing WFH Intentions** *(+) Increasing and (-) Decreasing WFH Intention (1) Worker, (2) Workspace, (3) Work Category*		
Asgari *et al.* (2022)	Transportation Science	-	• Perceived productivity	(+)	(3)
			• Family situation (caretaking)	(-)	(1)
			• Clear work-life boundaries	(-)	(1)
de Abreu e Silva (2022)	Regional Science	-	• EWFH experiences	(+)	(3)
			• Home situation (separate room)	(+)	(2)
			• Short commuting distances	(-)	(1)
Delbosc *et al.* (2022)	Transportation Science	Transtheoretical Behaviour Change Model	• Organizational and social support	(+)	(3)
			• Perceived productivity	(+)	(3)
			• "Re-norming" of WFH attitudes	(+)	(3)

Jain *et al.* (2022)	Transportation Science	Theory of Planned Behaviour	• Organizational and social support • Appropriate technology • Perceived productivity (indirect)	(+) (+) (+)	(3) (2) (3)
Kogus *et al.* (2022)	Transportation Science	-	• Long commuting distances, • Perceived productivity • Family situation (caretaking)	(+) (+) (-)	(1) (3) (1)
Kong *et al.* (2022)	Transportation Science	-	• WFH experience pre-pandemic • EWFH experiences • Perceived productivity	(+) (-) (-)	(3) (3) (3)
Moglia *et al.* (2022)	Regional Science	Theory of Planned Behaviour	• EWFH experiences • Nature of work and org. rules • Impaired communication	(+) (+) (-)	(3) (3) (3)
Olde Kalter *et al.* (2021)	Transportation Science	-	• Perceived productivity, pleasure • EWFH experiences • Appropriate technology	(+) (+) (+)	(3) (3) (3)
Stefaniec *et al.* (2022)	Transportation Science	-	• Perceived productivity • Long commuting distances	(+) (+)	(3) (1)
Ton *et al.* (2022)	Transportation Science	-	• Organizational support • Home and family situation • Social isolation	(+) (+) (-)	(3) (1) (1)
Weber *et al.* (2022)	Psychology	Social-Ecology Framework	• Perceived productivity, • Long commuting distances • Better privacy, fewer interruptions • Career progression	(+) (+) (+) (-)	(3) (1) (3) (3)

Table 1 shows that WFH intention research remains "conceptually and methodologically immature" (Weber et al., 2022, p. 2). Next to the discipline of transportation science, with eight articles overall, we identified one article from psychology and two from regional science. We did not find any IT professionals (except Morrison et al., 2019) or information systems study. Different theories are utilized, such as the 'theory of planned behavior,' the 'social-ecology framework,' or the 'transtheoretical behavior change model.' However, most studies did not use a dedicated theory. We observed multiple factors having increasing and decreasing effects on employees' WFH intentions. The factors most frequently identified to increase WFH intentions are perceived productivity (six studies), followed by experiences during EWFH (four), organizational and social support (three) and appropriate technology

(two). Factors decreasing WFH intentions include an improper home or family situation (two), social or professional isolation (two) and reduced perceived productivity (one).

Except for two studies (Delbosc et al., 2022; Kogus et al., 2022), all studies conclude that most employees want to increase WFH in the future. However, all reviewed studies only account for employees' preferences and do not consider organizational plans to implement hybrid work arrangements (Asgari et al., 2022; Delbosc et al., 2022). First evidence shows that managers have changed their perception and allow higher WFH levels in the future (Rose & Brown, 2021).

2.2 Frameworks to categorize WFH factors

Baruch and Nicholson (1997) present a first attempt to categorize factors influencing whether WFH is a positive experience for individuals. They state that successful WFH depends on four realms: (1) the home/work interface, which describes the family status of a person as well as the professional setup of the workspace at home; (2) the job and the nature of the work of a person; (3) the individual, which means a variety of individual characteristics, such as personality traits and attitudes; and (4) the organization a person works in and its culture, which refers to organizational and managerial support for WFH.

Awada *et al.* (2021) present a more recent framework to categorize WFH factors, the 'worker – workspace – work' trichotomy. They study how EWFH influences employees' productivity and work engagement and suggest that these three aspects influence the success of WFH: (1) characteristics of the worker describe demographic information, such as gender and age, as well as the employees' physical and mental health status; (2) characteristics of the workspace include having a professional home office setup and a dedicated room for work at home; and (3) the work context describes whether employees can draw boundaries between their work and private life, as well as their family situation. The work context also covers increased expectations regarding employees' availability and means of communications.

For our study, we adopt the framework by Awada *et al.* (2021) due to its emphasis on employees' availability and means of communications which are highly relevant for the specific context of EWFH. We see that all characteristics mentioned by Baruch and Nicholson (1997) can be mapped to the 'worker

– workspace – work' trichotomy. The family status (1) and individual characteristics (3) refer to the worker category. The professional setup of the workspace (1) and organizational support (4) refer to the workspace category. Finally, the nature of the work (2) corresponds to the work category.

Our literature review shows that all identified factors influencing WFH intentions can be categorized along the 'worker – workspace – work' trichotomy (Table 1): characteristics of the worker are concerned with employees' family status (see Asgari *et al.*, 2022; Kogus *et al.*, 2022; Ton *et al.*, 2022); characteristics of the workspace refer to having a separate room (see de Abreu e Silva, 2022), appropriate technical equipment (see Jain et al., 2022; Olde Kalter et al., 2021) and experiencing organizational support (see Delbosc et al., 2022; Jain et al., 2022; Ton et al., 2022); and the work context describes the nature of the tasks and experiences made during EWFH including perceived productivity, the ability to draw boundaries between work and private life and the flow of communication (mentioned by all reviewed studies). In the following, we suggest seven factors influencing IT professionals' WFH intention.

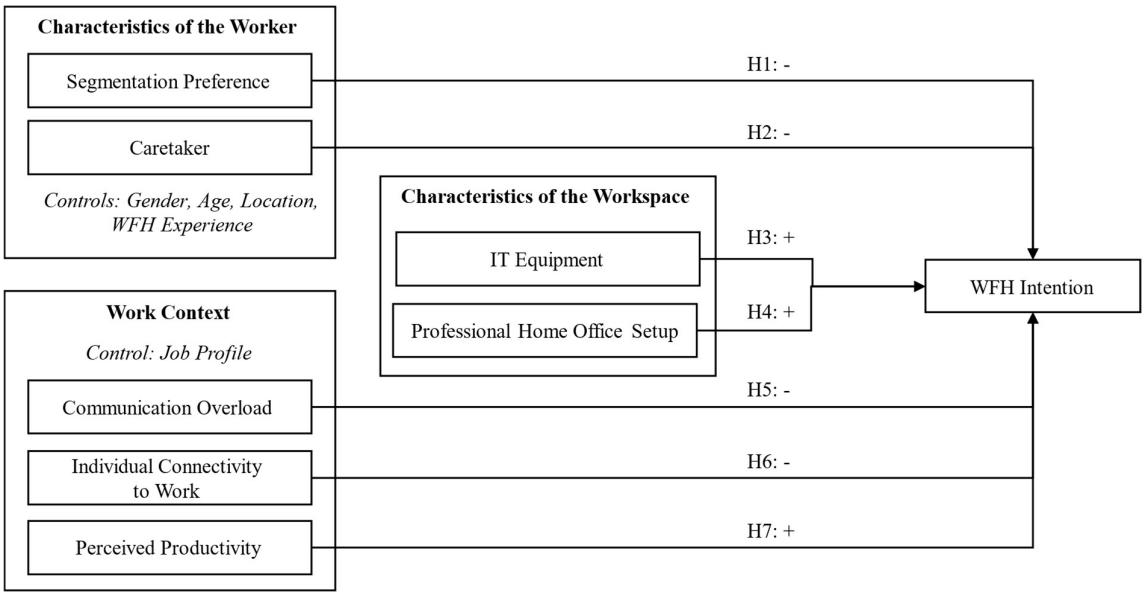
3. Research model and hypotheses development

The EWFH period differed from previous WFH in that closed kindergartens or schools required families to reconcile work and family life in the same environment. We, thus, selected two characteristics of the worker, that were especially relevant in the EWFH phase, i.e., IT professionals' segmentation preference and taking care of family members. Regarding characteristics of the workspace, pre-pandemic and EWFH literature (Baruch & Nicholson, 1997; e.g., de Abreu e Silva, 2022) revealed that having a separate room with adequate furnishing and technological equipment is important for WFH intentions. We, therefore, selected technical equipment and professional setup at home as two characteristics of the workspace that are likely to impact IT professionals' WFH intentions. The work context was most frequently mentioned by previous EWFH studies and covered many different variables (Table 1). We selected three factors that we deem highly relevant for how IT professionals experienced the EWFH period and that influence their WFH intentions. In the EWFH period, the home office became the default work location for many employees, so ICT became the primary communication means. To facilitate electronic communication, organizations pushed collaboration platforms, such as Microsoft Teams,

during EWFH (Gibbs et al., 2021; Microsoft, 2022; Spataro, 2020). The reduced possibility for face-to-face activities, such as watercooler chats, lunch, coffee breaks and personal meetings motivated employees to compensate for the lack of physical interaction with ICT-enabled communication (DeFilippis et al., 2022; Whillans et al., 2021; L. Yang et al., 2021). We expected that the experiences made with the increased level of ICT-enabled communication, i.e., communication overload and connectivity to work, were especially relevant for employees' WFH intentions. Lastly, we selected perceived productivity as a characteristic of the work context during EWFH which was also a prominent factor in earlier EWFH studies (Table 1).

Next to the predictors, we included gender, age, location, prior experience with WFH and job profile, i.e., whether participants had managerial responsibilities, as control variables. Figure 1 depicts our research model. In addition to factors that were previously studied by EWFH literature, our research model features the three factors segmentation preference, communication overload and individual connectivity to work that were mentioned by previous studies (e.g., Moglia et al., 2022; Weber et al., 2022), but not explicitly examined in the context of WFH intentions.

Figure 1: Research model.



3.1 Characteristics of the worker

Segmentation Preference: We examine IT professionals' segmentation preference, which has been indicated to influence employees' preferences for WFH (T. D. Allen et al., 2021; Van Yperen et al., 2014). Segmentation preference refers to "a preference to keep aspects of different life domains […] separate from one another on a cognitive, physical, or behavioral level" (Büchler et al., 2020, p. 2). While 'segmentors' prefer clear boundaries between work and private life, 'integrators' enjoy more permeable boundaries (Kniffin et al., 2021). Compared to conventional WFH, using ICT during EWFH was necessary for communication and continuing business (Carillo et al., 2021; Waizenegger et al., 2020). Pre-COVID-19 literature has already found that increased use of ICT leads to blurred boundaries and permeability between work and private lives (Derks et al., 2014; Park et al., 2011). We hypothesize:

H1: *A high segmentation preference decreases IT professionals' WFH intention.*

Caretaker: As a pandemic-specific factor, IT professionals with young children or elderly family members had to take on multiple roles during working hours. Due to closed kindergartens and schools, they had to provide their children with the needed supervision and care while balancing their work requirements (Alipour et al., 2020; Wang et al., 2021). This situation might have impacted their perceived productivity and well-being during EWFH (Kniffin et al., 2021; Waizenegger et al., 2020), leading to a reduced intention to work from home in the future. We hypothesize:

H2: *Taking care of family members during EWFH decreases IT professionals' WFH intention.*

3.2 Characteristics of the workspace

IT Equipment: Virtual collaboration with coworkers requires suitable IT equipment, including hardware such as notebooks and monitors and software such as collaboration platforms (Bélanger & Allport, 2008). While appropriate IT equipment is necessary in the office, it is even more important for working from another location than the office or in hybrid teams, as communication, collaboration and access to information is provided only virtually (Bockstahler et al., 2020, 2022; Herrmann & Frey Cordes, 2020). Ad-hoc face-to-face communication for solving minor problems is not possible. Internal IT help desks or support hotlines are crucial to ensure that devices and tools work smoothly in WFH

settings (Carillo et al., 2021). During EWFH, organizations made considerable investments in collaboration platforms, such as Microsoft Teams or Zoom, which will also support WFH in the future (Barrero et al., 2021). The quality of employees' IT equipment is an important factor in organizations' information flow (Bockstahler et al., 2020; Crummenerl et al., 2021; Hüllmann, 2022). By appropriate IT equipment, we refer to having the hardware and software necessary to access all information, materials and programs needed for daily work. We hypothesize:

H3: *An appropriate IT equipment during EWFH increases IT professionals' WFH intention.*

Professional Home Office Setup: Pre-COVID-19 literature has emphasized the need to provide employees with appropriate work equipment, such as ergonomic chairs or height-adjustable desks, to reduce musculoskeletal disorders (T. D. Allen et al., 2015). During EWFH, not all employees had a dedicated room to work in and had to use mock-up workplaces that did not display the necessary ergonomic characteristics and sometimes interfered with the needs of other household members (Waizenegger et al., 2020). We hypothesize:

H4: *A perceived professional home office setup during EWFH increases IT professionals' WFH intention.*

3.3 Work context

Communication Overload: Although the use of ICT and collaboration platforms enables seamless collaboration, extensive use bears the risk of communication overload (Aral et al., 2012; Karr-Wisniewski & Lu, 2010), which is defined as "a measure of the extent to which, in a given period, an organization's member perceives more quantity, complexity, and/or equivocality in the information than an individual desires, needs, or can handle in the process of communication" (Chung and Goldhaber, 1991, p. 8 as cited in Cho, 2017). Being overloaded by electronic communication means that employees experience frequent interruptions and distractions by colleagues (Karr-Wisniewski & Lu, 2010), accompanied by the perceived obligation to answer messages immediately (Bayer et al., 2016). IT professionals often face tasks that benefit from uninterrupted individual work (Karlsen & Ytre-Arne, 2022; Lansmann, 2023; Lansmann et al., 2022; Newport, 2016), which are preferably executed in a quiet

environment, for example, when working from home (Boell et al., 2016; Engelen et al., 2019). We hypothesize:

> ***H5:*** *A high level of IT professionals' communication overload during EWFH decreases their WFH intention.*

Individual Connectivity to Work: Compared to conventional WFH agreements, during EWFH, IT professionals knew that most of their colleagues also worked from home and were available through ICT-enabled communication. Work was only 'one click away', often resulting in longer work hours, as the possibility to engage in leisure activities was limited due to lockdown measures (Richter, 2020). The co-location of work and private domains rendered gaining mental distance from work difficult due to the lack of physical boundaries (Golden, 2012). We, thus, suggest that during EWFH, IT professionals experienced a high level of individual connectivity to work. Individual connectivity to work is a state in which employees possess the technical and social ability to connect to other technical and social entities (Mattern et al., 2021; Mattern & Klein, 2022). Individual connectivity to work is required in many work environments and is often considered a prerequisite for modern work (Kolb et al., 2012). However, negative effects occur when employees are extensively exposed to work-related stressors through a frequent and intense activation of this connectivity (Mattern, 2021). Since many IT professionals had not regularly worked from home before the EWFH period (Gartner, 2020; Milasi et al., 2020), the new situation required adjusting and coping quickly with the new setting while no rules and guidelines regarding individual connectivity to work had been established beforehand (Cambier et al., 2019; Derks et al., 2014). We hypothesize:

> ***H6:*** *A high level of IT professionals' individual connectivity to work during EWFH decreases their WFH intention.*

Perceived Productivity: Early EWFH literature has reported increases in employees' perceived productivity compared to working in the office (Birkinshaw et al., 2020; Bockstahler et al., 2020; Bodanowitz, 2020). For many, being wholly devoted to work and highly productive reflects the image of the ideal worker (Bailey & Kurland, 2002; Pelham & Swann, 1989; Reid, 2015). Therefore, we expect that when IT professionals perceive that WFH increases their productivity level, they have a stronger

desire to work from home to reap occupational rewards, maintain a positive self-image, or enjoy more leisure time (Kurkland & Bailey, 1999; Reid, 2015). We hypothesize:

> ***H7:*** *A high level of IT professionals' perceived productivity during EWFH increases their WFH intention.*

4. Methodology

We used a concurrent mixed-method approach, i.e., we adopted a single-phase embedded design and collected quantitative and qualitative data at the same time (Saunders et al., 2019) via an online questionnaire (Venkatesh et al., 2013). The complete questionnaire, including all descriptions and control variables, is available in the supplementary material (file A). The study was conducted in English. Our quantitative data provided empirical evidence for relationships between (1) characteristics of the worker, (2) characteristics of the workspace, the (3) work context and IT professionals' WFH intentions. Answers to six open questions constituted the qualitative data that corroborated the quantitative results and allowed for contextualizing the quantitative insights (Goldkuhl, 2019). The qualitative data enabled us to identify additional factors that play a role in IT professionals' WFH intentions beyond the hypothesized predictors. Combining quantitative and qualitative methods enabled us to get a bigger picture of the EWFH phenomenon and its effects on future WFH environments (Teddlie & Tashakkori, 2009; Venkatesh et al., 2013). The online questionnaire was pretested and enhanced with the support of two graduate students and two IT professionals from the surveyed organization for general face validity. Additionally, the two IT professionals contributed detailed contextual information about the organization's WFH journey since March 2020 and ensured compliance with the rules and guidelines established by the company. The reporting of our methods follows the recommendations of Kakhki *et al.* (2021), with details in the supplementary material (file D).

4.1 Sample and procedure

Our sample consisted of IT professionals working in the global IT division of an international engineering company we call EngiTec. The company manufactures fastening and demolition technology

for construction professionals and has roughly 30,000 employees worldwide. During the first six months of the COVID-19 pandemic, EngiTec specified two WFH periods: The first period from the 16th of March 2020 until the 15th of June 2020 was termed 'WFH Phase,' while the second period following the 15th of June was called 'Return To Our Offices.' We collected the data via a Microsoft Forms online questionnaire in August and September 2020, thus, during a phase where EngiTec's IT professionals were slowly returning to the offices. Some IT professionals continued WFH, while others returned to the office entirely.

We targeted the global IT division with around 400 IT professionals across three central locations in Europe, the United States of America and Asia. The study was advertised at an internal event and via EngiTec's internal communication system. The advertisement included information about the study, its purpose, the data collection context, data usage and publication. To the best of our ability, the research approach was made transparent, fair and respectful. When inviting the participants to our study, we stated that we would ensure anonymity of the data and that only aggregated, non-identifiable results would be published and shared with EngiTec. We emphasized that participation was voluntary and that dropping out was possible at any time. The advertisement was the only interaction between the researchers and the survey participants before and during data collection and analysis.

Table 2 describes the sample. The final sample comprised 92 IT professionals (response rate 23%). The response rate of 23% is slightly below average compared to other managerial studies (Baruch & Holtom, 2008) but is in line with recent trends (Yan & Fan, 2010). We found no differences between early and late respondents. No weight adjustments were performed. Various actions were implemented to ensure the quality of survey participation. First, demographic information was collected and carefully assessed. The sampled participants were distributed across all three locations, spanning all predefined job profiles and showed a high range in age and tenure at EngiTec (Table 2). Hence, our sample was a good fit for representing EngiTec's global IT division. Second, participants were registered with their company email in the survey tool to prevent multiple submissions. Third, the time taken for the survey was checked to be above 10 min (the median time to completion was 25 min). Fourth, out of 98 submitted responses, 6 were eliminated due to implausible data. Missing data was not an issue as all respondents submitted complete and useable survey responses. Corollary, no imputation was performed. Fifth, two

items were reversed coded (Table 3). Sixth, the open questions and qualitative data indicated that all participants responded seriously to the questionnaire (Table 4). Finally, the questionnaire was supported by the management team of the global IT division at EngiTec and participants were encouraged to take part. Although no incentives were provided and participation was voluntary, the study's contents addressed the employees' working arrangements and participants could voice their opinion on WFH. As a result, their voluntary participation would influence future organizational arrangements at EngiTec, which may have motivated employees to participate.

Table 2: Participants description.

Gender	Male: 70%			Female: 30%	
Age in Years	20-29: 22%	30-39: 40%	40-49: 26%	50-59: 11%	>59: 1%
Years at EngiTec	<6 mths: 2%	6 mths-2 yrs: 29%	2-5 yrs: 27%	5-15 yrs: 26%	>15 yrs: 16%
Job Profile	Leaders: 32%			Non-leaders: 68%	
Location	Europe: 57%		Asia: 38%		United States: 5%
People in Household	1-person household: 17%		2-person household: 37%		> 2-person household: 46%
Children in Household	0: 63%	1: 14%		2: 15%	>2: 8%
Young Children (< 3yrs)	0: 63%		1: 26%		2: 11%
Taking care of family members during WFH	Yes: 45%			No: 55%	
Professional Home Office Setup	Yes: 72%			No: 28%	

4.2 Participants' working conditions

In general, EngiTec's IT professionals' tasks require a high level of collaborative work. They must coordinate work with colleagues and external partners, sometimes across different time zones. In addition to collaborative work, IT professionals need uninterrupted individual work to focus on complex tasks. They follow an agile working style, often facing new tasks. Spontaneous demands and requests characterize their working days more than recurring tasks.

The shift to EWFH marked a disruption in the working lives of EngiTec's IT professionals. The majority had never worked from home (67%) and only 9% had regularly worked from home before the pandemic. The nature of their work changed: 42% of the IT professionals noted an increase in their tasks during EWFH, while 17% stated a change in task priorities. Remarkably, none of the IT professionals reported having fewer tasks than before the pandemic. 54% participated in more meetings during EWFH. The communication was primarily digital, which led to a steep growth in using the communication platform Microsoft Teams, which had only recently been introduced at EngiTec.

4.3 Measures

We followed the recommended guidelines for construct measurement and validation procedures accepted in the information systems field (MacKenzie et al., 2011). We relied on established measures that have been widely used, published and evidenced to be reliable (Table 3). Four variables were operationalized by single-item and the remaining four variables via multi-item measures. Single-item measures are as "valid and reliable as their multi-item counterparts" (M. S. Allen et al., 2022, p. 4), even though Cronbach's alpha cannot be reported. We included gender, age, IT professionals' location and prior experience with WFH as control variables inherent to the worker and job profile as a control variable inherent to the work context.

Table 3: Operationalization of measures.

Measure	Items	Literature
Single-Item Measures		
WFH Intention	Q32: If you could choose freely (putting regulations aside) how many days per week would you work from home?	(Jain *et al.*, 2022; Moglia *et al.*, 2022; Stefaniec *et al.*, 2022; Weber *et al.*, 2022)
Caretaker	Q20: Did you take care of family members during working hours during the WFH phase?	(Jain *et al.*, 2022; Ton *et al.*, 2022;

	• No, I didn't look after family members during my working hours. • Yes, I did take care of family members with the support of another person. • Yes, I did take care of family members without the support of another person.	Weber *et al.*, 2022)
Professional Home Office Setup	Q12: Did you have a professional home office setup (e.g., separate room, adequate interior and equipment) during the WFH phase? • Yes. • No.	(Jain *et al.*, 2022; Ton *et al.*, 2022; Weber *et al.*, 2022)
Perceived Productivity during EWFH	Q21: Please complete the following statement: Compared to working in the office, in the home office I felt..." • Far less productive. • Less productive. • Equally productive. • More productive. • Far more productive.	(Asgari *et al.*, 2022; Bockstahler *et al.*, 2020; Stefaniec *et al.*, 2022; Weber *et al.*, 2022)
Multi-Item Measures (5-point-Likert scale: 1 = strongly disagree – 5 = strongly agree)		
Segmentation Preference	Q29: Please indicate to what extent the respective statement applies to you. • I like to be able to leave work behind when I go home. • I like to have possibilities to integrate private and work life based on my personal needs (reverse coded). • I don't mind integrating work into private life based on business needs (reverse coded). • I prefer to keep work life at work.	(Büchler *et al.*, 2020; Kreiner, 2006; Park *et al.*, 2011; Yang *et al.*, 2019)
IT Equipment	Q17: How do you rate the technical equipment of your home office workplace? • The IT equipment (devices and applications) enables me to work seamlessly. • The available information and communication technology works reliably and stably. • The available IT equipment fulfills my personal job requirements and needs.	(Bockstahler *et al.*, 2020; Jurecic *et al.*, 2018)

	• In case of issues, I know where to find information to resolve the problem myself (e.g., Work Smarter, Yammer). • If I have problems with the technology, I get support from the IT Service Desk quickly.	
Communication Overload	Q18: Please indicate to what extent the respective statement applied to you during the WFH phase. • I received too many electronic messages (e.g., email, chat). • I felt I have to send more electronic messages than I wanted to send. • I felt that I spend too much time on electronic communication (e.g., calls, virtual meetings, emails, instant messaging, chats, etc.). • I felt that I was overloaded with electronic messages. • I felt that I had to use too many different communication channels.	(Cho *et al.*, 2011; Chung and Goldhaber, 1991; Fan *et al.*, 2021; Lee *et al.*, 2016)
Individual Connectivity to Work	Q19a: Please indicate to what extent the respective statement applied to you during the WFH phase. • I was always available for my colleagues and/or clients, also during non-working hours. • For me, it was common to check and answer emails or other work-related messages during non-working hours. • I kept myself up to date on work-related matters outside of business hours.	(Bregenzer and Jimenez, 2021; Büchler *et al.*, 2020)

WFH Intention was measured in a prospective hybrid work scenario with up to five days WFH (Grzegorczyk et al., 2021). Additional single-items were *Caretaker*, *Professional Home Office Setup* and *Perceived Productivity during EWFH*. *Segmentation Preference* was measured by four adapted items from Kreiner's (2006) segmentation preference scale. The scale has yielded high reliability scores (Cronbach's alpha) in previous studies such as Park *et al.* (2011; α = .94), Büchler *et al.* (2020; α = .63) and Yang *et al.* (2019; α = .79). *IT Equipment* was measured by five items adapted from Bockstahler *et al.* (2020) and Jurecic *et al.* (2018). *Communication Overload* was measured by five items adapted from Cho *et al.* (2011). The communication overload scale has previously shown high reliability, e.g., Lee *et al.* (2016; α = .82) or Fan *et al.* (2021; α = .84). *Individual Connectivity to Work* was measured by three adapted items from the constant connectivity scale (Büchler et al., 2020). This recent scale considers

connectivity attributes such as perpetual availability and blurred work-life boundaries (Büchler et al., 2020). Although recently developed, the scale has shown sufficient reliability in previous studies, such as Bregenzer and Jimenez (2021; $\alpha = .71$ with an adapted scale). We report on our reliability estimates for all used measures in Table 5 (see Chapter 5.1). The measures were pretested in a pilot study that was previously presented and discussed at an information systems conference (Mattern et al., 2021).

To contextualize the quantitative measures, six open questions were included where participants openly reflected on their EWFH experiences. Table 4 shows all open questions. Except for the final question, these questions were answered by at least 93% of all participants.

Table 4: Qualitative survey questions and responses.

No.	Items in Questionnaire	Responses
#1	Q25: "Which **perks of the home office** that increase your productivity, creativity, inspiration, and well-being did you miss in your office location?	88/92 (96 %)
#2	Q22: "Which **perks of the office** that increase your productivity, creativity, inspiration and well-being did you miss in your home office?"	90/92 (98 %)
#3	Q34: "Taking the current "Return To Our Offices" as well as the WFH phase into account, what would be your **main reason to work from home**?"	90/92 (98 %)
#4	Q35: "Taking the current "Return To Our Offices" as well as the WFH phase into account, what would be your **main reason not to work from home**?"	86/92 (93 %)
#5	Q23: "Please reflect freely on your experiences with remote work during the WFH phase. **What worked well**? **What did not work well**?"	90/92 (98 %)
#6	Q36: "Is there **anything else** you would like to share with us?"	29/92 (32 %)

4.4 Analysis

To test the quantitative research model (Figure 1), we estimated a structural equation model (SEM) using the lavaan package (v0.6-9) in *R* (v4.1.1), which implements a covariance-based approach and estimates structural equation models using maximum likelihood (CB-SEM). Ringle *et al.* (2012) and Hair *et al.* (2021) recommend using CB-SEM when measuring unobservable concepts for "theory testing and confirmation" (J. F. Hair et al., 2021, p. 22). We report multiple robustness checks in the findings, addressing the assumptions underlying structural equation modeling (model specification and fit, data distribution, missing data, multicollinearity, outliers), checking the composite reliability of the used

measurements and accounting for the sample size and common method bias. The source code is available online on OSF.io[1].

Two researchers analyzed the qualitative data through thematic text analysis (Kuckartz, 2014) while using MAXQDA 2022 for coding. In line with the dependent variable of the quantitative model, WFH intentions, the qualitative data was divided into five groups, each representing the days participants wanted to work from home in the future, i.e., '1 Day WFH' until '5 Days WFH'. The qualitative analysis comprised four steps. The researchers familiarized themselves with the data and highlighted unclear and interesting statements in the first step. The second step consisted of developing the initial coding system. The researchers created the two main codes, 'Reasons for WFH' and 'Reasons against WFH', further refined into eight initial sub-codes for each category, informed by the quantitative data. In the third step, the researchers coded the data independently for the first time. They agreed on the initial code definitions and the coding rules, for example, multiple codes could be assigned to one text segment. To organize the intercoder process within MAXQDA, the coding team drew on the recommendations from Rädiker and Morgenstern-Einenkel (2021). Consensual coding was applied to ensure intercoder agreement (Kuckartz, 2014, p. 74). The two researchers compared their coding and discussed differences until they agreed on the code. During this step, they refined the code system and developed further sub-codes. In the second coding round, as the fourth step, the researchers applied the refined code system to the whole dataset, which did not result in additional sub-codes. The code system is available in the supplementary material, including code definitions and example quotes (file B).

4.5 Ethical considerations

An ethics committee was not consulted. However, the data collection was conducted within the legal frameworks of the involved countries and the case company. All participants were thoroughly informed, their data deidentified, and only aggregated results were presented and published to the company and the public. We also presented these aggregated results at a "Lunch and Learn" session at EngiTec in

[1] https://osf.io/ymukp/

April 2021. All employees were able to dial in and have the results explained to them followed by an open discussion. The study was not pre-registered.

5. Results

5.1 Quantitative results

Descriptive statistics and bivariate correlations are shown in Table 5. The significant bivariate Pearson correlations show moderate effect sizes. The highest correlation is the positive relationship between perceived productivity during EWFH and WFH intentions with an effect size of $\beta = .52$ ($p < .001$). Surprising is the correlation close to 0 for individual connectivity to work and perceived productivity.

Table 5: Descriptive statistics (mean, standard deviation, Cronbach's alpha, variance inflation factors) and bivariate correlations.

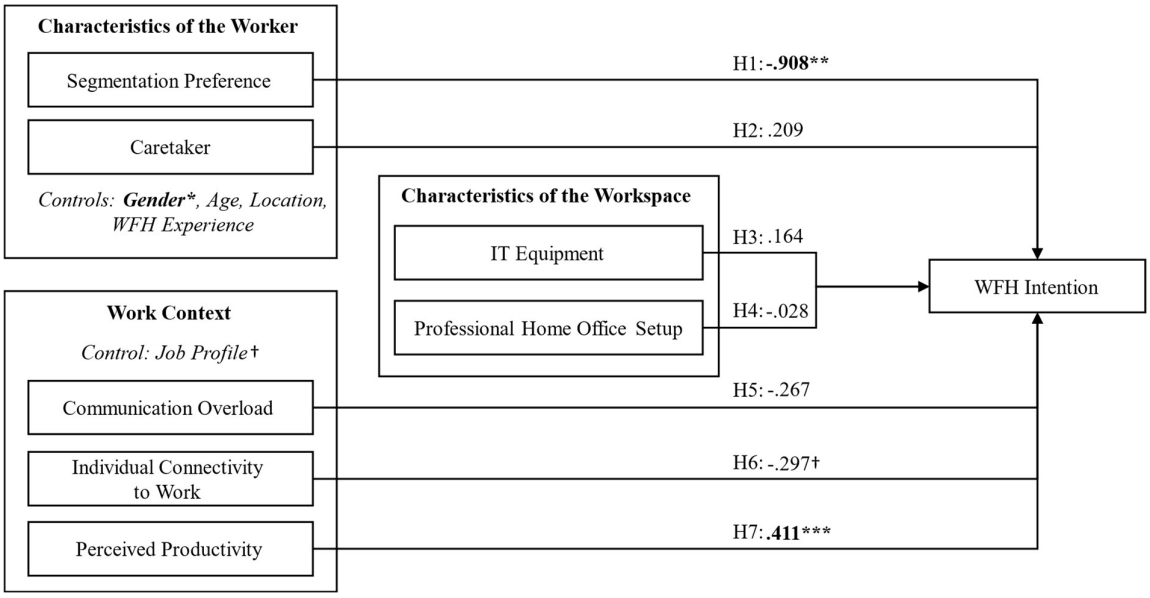
Note: *p<.05, **p<.01, ***p<.001,[1] see Table 2, Control variables: 9 = Gender, 10 = Age, 11 = Job Profile, 12 = WFH Experience, 13 = Location

		M	SD	CR	VIF	1	2	3	4	5	6	7	8	9	10	11	12	13
1	Segmentation Preference	3.08	.70	.64	1.44	1.0	.07	-.19	**-.23***	.16	**-.36*****	-.15	-.19	**.25***	-.18	.19	.09	-.13
2	Caretaker[1]				1.49		1.0	.03	.07	-.02	.07	-.05	.06	-.02	.14	**.46*****	.07	.17
3	IT Equipment	4.25	.59	.76	1.48			1.0	.48	**-.30****	-.08	**.28****	**.26****	-.06	.04	-.03	-.05	.05
4	Professional Home Office Setup[1]				1.69				1.0	**-.30****	.09	**.32****	**.24***	-.06	.14	**-.32****	.09	.02
5	Communication Overload	2.89	.94	.91	1.37					1.0	.19	**-.33****	**-.38*****	.05	-.05	.21	-.04	-.02
6	Individual Connectivity to Work	3.37	.95	.85	1.45						1.0	.00	-.09	-.08	**.24***	.13	-.06	.13
7	Perceived Productivity	3.60	1.04		1.40							1.0	**.52*****	.1	.01	.07	.16	-.09
8	WFH Intention	2.77	1.21										1.0	.19	.05	.03	.11	-.14

The SEM results are graphically presented in Figure 2. Our data and analysis support hypotheses H1 and H7. Segmentation preference is the strongest predictor for WFH intention ($\beta = -.908$, $p < .01$), followed by perceived productivity during EWFH ($\beta = .411$, $p < .001$). Individual connectivity to work ($\beta = .297$) is significant at the $p < .1$ level, indicating that IT professionals who feel technically or socially disconnected from work while WFH prefer to go to the physical office. Concerning the control variables, results show that gender significantly influences IT professionals' intention to WFH ($\beta = .582$, $p < .05$). Women significantly prefer a greater extent of WFH. Job profile is significant at the $p < .1$ level with an effect size of $\beta = -.347$, indicating that leaders often want to work from the office. The remaining control variables reveal insignificant effects.

Figure 2: SEM path coefficients for the research model.

Note: †p<.1, p<.05*, **p<.01, ***p<.001. RMSEA = .074; CFI = .840.



5.1.1 Model specification, fit and assumptions

The model shows an adequate fit (root mean square error of approximation (RMSEA) = .074, comparative fit index (CFI) = .840; Schumacker and Lomax, 2016). The model specification was tested against a mediator model in which the hypothesized constructs are mediated by perceived productivity during EWFH. In this mediator model, communication overload significantly predicts perceived productivity during EWFH (β = -.330, $p < .05$). The direct effects of perceived productivity, segmentation preference, gender, and job profile on WFH intentions remain consistent. Other mediating and indirect effects are insignificant. The mediator model has a similar fit quality compared to the hypothesized model (RMSEA = .076, CFI = .844). Hence, for parsimony, we stuck with the originally hypothesized model.

Structural equation modeling requires multivariate normality for quasi-metric-scaled variables. We used visual interpretation (QQ-plot of Mahalanobis Distance^2 vs Quantiles of χ^2; Yuan & Zhong, 2008) and the recently proposed Doornik-Hansen test to check for the assumption of multivariate normality (Doornik & Hansen, 2008). The Doornik-Hansen test achieves higher power and reliability than traditional tests (e.g., Mardia), particularly for smaller sample sizes and survey data with Likert scales

(Doornik & Hansen, 2008; Farrell et al., 2007; Górecki et al., 2020; Pauly & Scheufele, 2019; Romão et al., 2010). It is readily available in standard software (Korkmaz et al., 2014). SEM is robust to nonnormal data for categorical variables (J. Hair et al., 2018; Olsson et al., 2000). The test shows that the quasi-metric data is multivariate normal distributed (E = 15.486, df = 12, p = .216). Outliers were visually inspected using the same QQ-plot as before (Mahalanobis Distance² vs. Quantiles of χ^2) and tested with the Bonferroni outlier test (Fox, 2015). No outliers were identified (p > .05).

Missing data was not an issue as all respondents submitted complete and usable survey responses. Multicollinearity was tested with variance inflation factors (VIFs). The VIFs are below two for all variables, indicating no multicollinearity (Table 5). A VIF higher than ten would indicate issues with multicollinearity (J. F. Hair et al., 2021; Schumacker & Lomax, 2016).

5.1.2 Composite reliability of measures

The composite reliability of the latent factors is determined using Cronbach's alpha. All values of Cronbach's alpha are between the boundaries of .60 and .95, deemed acceptable for exploratory covariance-based structural equation modeling. The results, thus, indicate robust, homogeneous, non-redundant construct measurements (Straub et al., 2004). The full results of a confirmatory factor analysis (CFA), including the factor loadings, are available in the supplementary material (file C). An exploratory factor analysis was not conducted as the factor model was deduced from the literature and a CFA is more appropriate "if an a priori factor structure exists" (Green *et al.*, 2016, p. 419; see also Bandalos and Boehm-Kaufman, 2009; Floyd and Widaman, 1995; Henson and Roberts, 2006).

5.1.3 Sample size and common method bias

The minimum sample size was determined with the inverse square root method and tested with an ex-post power analysis (J. F. Hair et al., 2021). The inverse square root method looks at the minimum significant path coefficient in the model and provides a conservative estimate of the required sample size. It is preferred over the rule of thumb ("10*number of observations") because the rule of thumb is outdated and yields imprecise estimates (Goodhue et al., 2012; Kock & Hadaya, 2018). "Researchers should primarily draw on the inverse square root method, which is superior in terms of precision and

ease of use" (J. F. Hair et al., 2021, p. 20). According to the inverse square root method, our minimum significant path coefficient ($\beta = .297$) commands a minimum sample size of $n \geq 69$ at a 5% significance level (J. F. Hair et al., 2021, p. 18). Additionally, power analyses are strongly encouraged (Sarstedt et al., 2023). Power analyses based on Cohen *et al.* (2002) suggest a sample size between $n = 56 – 98$ for an anticipated effect size between 0.20 and 0.30 at a significance level of 5%. All tests assume a statistical power of 80%.

We tested for common method bias in two ways. First, we performed Harman's single-factor test, which showed that only 19% of the total variance could be explained by one factor. This is acceptable and well below the 50% threshold (Podsakoff et al., 2003). Second, we checked the bivariate correlations among the latent constructs and found that there are no high correlations (all below < .50). These correlations indicate that no common method bias may be present (Bagozzi et al., 1991).

5.2 Qualitative results

IT professionals answered the six open questions concisely, often resulting in listings of factors (see example quotes in the supplementary material, file B). The short and precise responses allowed us to code each statement unequivocally and count their occurrences. We interpreted the occurrences as an indication for the importance of the reasons for and against WFH within and across the five groups, i.e., '1 Day WFH' until '5 Days WFH'[2]. In line with this indication, we found that IT professionals who intended to work one day from home named more reasons against WFH than in favor of WFH. In the group '2 Days WFH', reasons for and against WFH were balanced, while in the group '3 Days WFH', more reasons for than against WFH were named. In the remaining two groups, '4 Days WFH' and '5 Days WFH', the reasons for WFH were doubled and quadrupled, respectively (Table 6).

[2] We want to stress that we used this indication as auxiliary means for our qualitative data analysis. We used the (sub-)codes as the primary means to understand and analyze the qualitative data. The code occurrences were used as an additional source of information while compiling the main reasons for and against WFH (see the summary of reasons at the end of Chapter 5.2). We state the limitations of our qualitative data in Chapter 6.3.

Table 6: Code occurrences per group.

Group	Number of Participants	Reasons to WFH	Reasons not to WFH
1 Day WFH	15	45	87
2 Days WFH	23	134	127
3 Days WFH	33	230	153
4 Days WFH	10	75	30
5 Days WFH	11	93	26

In the following, we provide deeper insights into the reasons for or against WFH, as mentioned by our 92 participants. Six codes were mentioned as reasons for both for and against WFH: (1) Perils versus perks of environments, (2) increased flexibility versus blurred boundaries between work and private life, (3) improved versus impaired team collaboration, (4) increased versus decreased perceived productivity, (5) more versus fewer breaks and (6) improved versus impaired health. 'No commuting', 'Corona worries' and 'Location of coworkers' only described reasons for WFH. 'Social isolation' and 'Professional isolation' only described reasons against WFH.

(1) Perils versus perks of environments: The main advantage of the workspace at home appeared to be the calm and quiet atmosphere in contrast to the noisy open offices at EngiTec. Combined with fewer interruptions, this enabled a better focus, especially on complex tasks ("*Being able to focus on individual activities without disruptions*"; ID 24, 1 Day, #3[3]). Some IT professionals mentioned that their private work equipment was better than the equipment in their office. Yet, the disadvantages of the home environment were the second most mentioned category of the motivations not to work from home. IT professionals enjoyed the alimentation provided in the office and not everyone had better private work equipment than in the office ("*I miss my multi monitor setup*"; ID 49, 5 Days, #2). Especially group '1 Day WFH' seemed to have improper equipment at home.

(2) Increased flexibility versus blurred boundaries: IT professionals named the ability to integrate private appointments or emergencies into the workday as one of the main reasons to work from home.

[3] The "ID" refers to the specific participant, '1 Day - 5 Days' indicates the WFH intention group of the participant (see Table 6), and '#1 - #6' indicates which of the six open questions was answered (see Table 4).

They appreciated the opportunity to spend more time with family members and to take more short breaks ("*There is a balance, as now I am able to go to the gym to work out during lunch time which can never be done in the office due to the travel hours. Healthy lifestyle now due to home cooked food, exercise, family and work"*; ID 45, 4 Days, #6). Acknowledging the positive implications of flexibility and schedule control, IT professionals deplored issues of blurring boundaries between work and private life. Disadvantages of an increased work-to-family conflict were frequently mentioned ("*A challenge was to manage to look after kids during work hours due to home schooling"*; ID 27, 2 Days, #5), especially by group '1 Day WFH' followed by the groups '2 Days WFH' and '3 Days WFH'. The analysis showed that groups '1 Day WFH', '2 Days WFH' and '3 Days WFH' struggled more with detaching from work during the EWFH period than the '4 Days WFH' and '5 Days WFH' groups ("*Psychologically, it was hard to find a separation between work and personal life as the transition between work and home disappeared when we started working from home*"; ID 64, 3 Days, #5).

(3) Improved versus impaired team collaboration: IT professionals viewed Microsoft Teams as a facilitator of team collaboration and an enabler of good team communication. The tool was appreciated because it allowed IT professionals to send short informal messages and use emojis, which helped convey emotions. IT professionals across all groups reported more efficient meetings and better preparation by participants (*"Fully virtual meetings were very productive and efficient"*; ID 61, 2 Days, #5; "*WFH worked very well, more equal meetings [i.e., "fully virtual"] with better outcome when they were well prepared"; ID 85, 3 Days, #5)*. Despite positive experiences with team collaboration during the EWFH period, a fraction of statements pointed out grievances in team collaboration. For example, the need to schedule a meeting for every (small) issue and an overall lack of informal communication (*"I missed ad-hoc / unplanned conversations and the possibility to just walk over to colleagues"*; ID 4, 1 Day, #4). Problems of communication overload and back-to-back meetings were mentioned, albeit rarely. Most IT professionals preferred face-to-face over remote team collaboration. They pointed to the advantages and joys of collaborating in person and having quick ad-hoc interactions. For example, in-person workshops with whiteboards or brainstorming sessions with Microsoft Surface Hubs were appreciated (*"I missed meeting colleagues in meeting rooms with Surface Hubs for brainstorming sessions"*; ID 24, 3 Days, #2). They found in-person collaboration particularly valuable in challenging

phases of projects. IT professionals in group '2 Days WFH' mentioned communication overload most frequently. Impaired team collaboration was a repeatedly mentioned reason for group '1 Day WFH' to work from the office, followed by group '2 Days WFH'.

(4) Increased versus decreased perceived productivity: Recurrently, IT professionals reported experiences of productivity increases and mentioned perceived increased productivity as the main reason to continue WFH *("Increased productivity and ability to focus on tasks with much less distraction"*; ID 59, 3 Days, #3). They linked perceived increased productivity to a better work environment at home and reduced commuting time. IT professionals appreciated the increased ability to focus and concentrate when working individually at home (*"The ability to focus and work in peace at home. The office is far too noisy due to the open office concept"*; ID 96, 4 Days, #1). Only group '1 Day WFH' mentioned perceived productivity losses ("*Working on individual tasks worked well but I still have the feeling that I'm working more efficiently in the office*"; ID 16, 1 Day, #5), whereas the other four groups mentioned perceived productivity gains.

(5) More versus fewer breaks: IT professionals reported that multiple breaks during the day, such as going for a walk or exercising for improved focus, increased perceived productivity and better work-life integration (*"Being able to take a quick break and see my family. Being able to eat lunch everyday with my family"*; ID 39, 5 Days, #1). They integrated breaks in the afternoon to continue working in the evening, benefiting from the increased flexibility while WFH. In contrast, IT professionals missed regular coffee or lunch breaks in the office. Some forgot to take breaks during the day due to the lack of institutionalized breaks with colleagues.

(6) Improved versus impaired health: Health benefits as a motivation to work from home comprised better eating habits, for example, due to more home-cooked meals. In contrast, IT professionals complained about eyes, back and shoulder strains and lower back pains, which they ascribed to the longer seating and screen times and improper furniture at home ("*Longer hour seating and screen time + less comfortable seating than what's provided in the office = more eyes, back and shoulder strains"*; ID 29, 1 Day, #5).

Reason for WFH – No commuting: IT professionals enjoyed not needing to travel to the office when WFH. Thereby, they saved time to either start working early in the morning or having more time for taking care of themselves, for example, by sleeping longer or enjoying a prolonged breakfast. The flexibility of WFH allowed working when they were most productive. IT professionals indicated that eliminating commuting time saved energy by avoiding traffic jams or making them less tired by omitting stress from traffic or public transportation ("*Flexibility and time gained from no commute*"; ID 15, 2 Days, #1). This motivation was stronger for groups '4 Days WFH' and '5 Days WFH' than for the other groups.

Reason for WFH – Corona worries: IT professionals feared a risk of infection with the COVID-19 disease in the office and felt much safer at home, constituting a major reason for WFH. They were not only worried about themselves but also wanted to protect their family members (*"To safeguard me and my family from this pandemic"*; ID 72, 1 Day, #3).

Reason for WFH – Location of coworkers: For many IT professionals, the commute to the office is not worth the effort as all team members are WFH and therefore not available for physical interactions in the office ("*All coworkers are remote anyways, so [there is] no difference"*; ID 31, 4 Days, #3). As meetings and workshops are conducted online, the office does not offer benefits compared to the home (*"Meetings are anyhow remote so why commuting to the office and sit in calls for 8 h"*; ID 13, 2 Days, #3). These reasons were only mentioned rarely overall.

Reason against WFH – Social isolation: IT professionals viewed not having regular contact with colleagues and being unable to socialize as a major disadvantage of WFH. They missed the regular exchange with colleagues in the office, which reduced feelings of loneliness (*"Sometimes I've missed meeting with colleagues at coffee corner or have a lunch together"*; ID 24, 3 Days, #5). Physical interaction with colleagues was frequently reported as one of the perks of the office. A lack of face-to-face interaction was often noted as one of the main reasons not to work from home. Coffee and lunch breaks were pointed out to be beneficial for discussing work-related topics or connecting with team members and people from other departments.

Reason against WFH – Professional isolation: IT professionals' statements suggested that WFH reduced networking opportunities because of the lack of regular physical interaction and that networking was more successful in the office (*"Building a personal network from home is also very difficult and time consuming"*; ID 17, 2 Days, #4). Maintaining close personal contact with one's supervisor was one of the main motivations for not WFH (*"Having 1:1 with my manager"*; ID 60, 3 Days, #4). They feared that the team spirit and the feeling of connectedness to other team members might suffer while WFH because fewer informal exchanges between colleagues took place and face-to-face interaction was missing (*"I need regular physical meetings with my team lead and my colleagues"*; ID 22, 3 Days, #4). In comparison to social isolation, professional isolation was mentioned less often.

In sum, the three main reasons (in descending order of importance) for WFH were: (1) Fewer distractions due to the quieter atmosphere at home combined with fewer interruptions from coworkers led to better and longer focus on complex tasks. This effect positively impacted IT professionals' perceived productivity levels. (2) The reduced commuting time could be used flexibly for work or private matters. Accordingly, IT professionals could start and end their workday flexibly, replenishing their energy and increasing their perceived productivity and well-being. (3) Increased flexibility due to WFH resulted in better work-life integration, allowing for more breaks to recharge or household chores.

Opposing this, the three main reasons (in descending order of importance) *not* to work from home were: (1) Missing face-to-face interactions, primarily informal and ad-hoc communication. Meetings, especially workshops, benefited from in-person communication and specific tools only available in the office. (2) Reduced breaks and physical activity due to back-to-back virtual meetings led to feelings of fatigue and exhaustion. (3) Blurred boundaries between work and private life, including distractions and interruptions at home, rendered productive work at home difficult.

5.3 Contextualizing quantitative with qualitative insights

The quantitative data shows that segmentation preference is the strongest predictor of IT professionals' WFH intention. The qualitative data illustrates that IT professionals who want to work fewer days from home perceive the blurred boundaries between work and private life as taxing, especially when they

have to take care of family members which has been more challenging during EWFH compared to pre-pandemic WFH (see '(2) Increased flexibility versus blurring boundaries').

The second strongest predictor for IT professionals' WFH intentions, perceived productivity, is mirrored in many ways in the qualitative data. The qualitative insights suggest that the effect is driven by gaining time through less commuting and lesser distractions and interruptions by coworkers in the home office (see '(4) Increased versus decreased perceived productivity'). Other factors mentioned in the qualitative data, which contextualize the impact of perceived productivity, are environmental factors allowing for better and longer focus (see '(1) Perils versus perks of the environment'), IT professionals' control over their schedule through increased flexibility of working times (see '(2) Increased flexibility versus blurring boundaries') and the ability to replenish their resources during the day (see '(5) More versus fewer breaks'). Additionally, the collaboration platform Microsoft Teams seems to enable rich and efficient team collaboration that improves the IT professionals' perceived productivity (see '(3) Improved versus impaired team collaboration').

According to the quantitative data, the third strongest predictor of IT professionals' WFH intentions is gender with women preferring to work more days from home than men. Surprisingly, the qualitative data suggests that this effect is driven by increased perceived productivity gains rather than the ability to integrate care and housework with work ("*At first, it was tough and chaotic having to work and take care of family member at the same time. But after the first two weeks, I have established a routine or rhythm of doing things, with better planning and time management, I managed to be more productive in managing work and family matters."*; ID 80, 5 Days, #5).

The quantitative data indicates that the IT professionals' job profile might influence WFH intentions, in that leaders often want to work more often from the office. The qualitative data corroborates this finding as leaders perceive it difficult to maintain the 'team spirit' and develop their teams without physical interactions at the office ("*Connection to other team members to be part of the EngiTec Family*"; ID 36, 2 Days, #4).

Lastly, individual connectivity to work might increase IT professionals' intention to WFH. IT professionals who feel technically or socially disconnected from work while WFH or have difficulties

detaching from work prefer to go to the physical office. Qualitatively, we find that connectivity to work via Microsoft Teams is perceived as a double-edged sword. It allows IT professionals to efficiently engage in work tasks but also makes it more difficult to stop working as it enables them to work 24/7 even in the absence of a physical office ("*Logging out was always challenging as your office is also your house, but it was a bit easier for me as I had a separate room where I could simply close the door and call it a day.*"; ID 99, 3 Days, #5).

6. Discussion

Our results show that segmentation preference is the strongest predictor of WFH intention (H1). Segmentation preference is the individual attitude of drawing boundaries (Kreiner, 2006). 'Segmentors', employees who appreciate a strict separation between private and work life, prefer going to the office space, whereas 'integrators' favor WFH (Kniffin et al., 2021). This finding aligns with previous literature that has identified related attitudes, such as self-discipline as important factors for WFH (Wang et al., 2021).

Perceived productivity during EWFH is the second strongest predictor of WFH intention (H7). In line with previous COVID-19 (Barrero et al., 2021; Felstead & Reuschke, 2023; Hofmann et al., 2020; Kogus et al., 2022; Stefaniec et al., 2022) and telework literature (Gajendran & Harrison, 2007), the IT professionals in our study report being (far) more productive when WFH. Those IT professionals who do not feel productive at home want to work fewer days from home. Our findings suggest that IT professionals want to maintain or achieve the positive self-image of being successful and productive by creating conditions that maximize their perceived productivity level. When they perceive that WFH reduces their productivity, they are less likely to continue working in this environment.

A third relevant factor for WFH intention is gender. While other studies have remained inconclusive about the relationship between gender and WFH intention (Stefaniec et al., 2022; Weber et al., 2022), we find a significant effect showing that women prefer a greater extent of WFH than men. This finding suggests that women benefit more from the increased flexibility of working places and times, although primarily due to increased perceived productivity gains in addition to childcare and taking care of household activities which have also been reported in other COVID-19 (Barrero et al., 2021) and

telework studies (Fischer et al., 2021). Yet, as we do not find support for H2, our results remain inconclusive concerning the role of caretakers and how this influences WFH intentions of IT professionals. Interestingly, Asgari *et al.* (2022) have found that taking care of family members negatively impacts perceived productivity but positively influences WFH intention. The likely reason is that, after the pandemic, kindergartens and schools are open so IT professionals can reap the benefits of a flexible blending of work and private life.

As IT professionals are increasingly available for work through electronic devices and tools, we positioned individual connectivity to work as a potential factor influencing WFH intention (H6). The effect (significant at $p < .1$) gives a first hint in this direction. However, further research is necessary to validate this effect (Cambier et al., 2019; Derks et al., 2014). Previous research on EWFH has shown that employees can cope with an increased level of individual connectivity to work by detaching from work and including breaks (Mattern et al., 2021), suggesting that, with sufficient coping strategies, employees might not have reservations about WFH. We do not find evidence for the negative effect of being *extensively* connected to work, that is, being emotionally, mentally, or behaviorally overloaded by the level of connectivity. The IT professionals show moderate levels of individual connectivity to work. Future research should address the difference between a moderate and extensive level of connectivity to examine whether WFH increases individual connectivity to work (Cambier et al., 2019; Derks et al., 2014). Likewise, job profile shows a significant effect at the $p < .1$ level, pointing to studies that have found that leaders experienced more difficulties and obstacles than non-leaders while EWFH (Carillo et al., 2021) possibly leading to lower WFH intention.

We do not find support for H3 and H4. These findings suggest that appropriate IT equipment is expected for conducting work and thus does not play a significant role in choosing whether to work from home in the future (Barrero et al., 2021; Fischer et al., 2021). The qualitative data highlights the importance of appropriate IT and work equipment, such as ergonomic chairs and desks. IT professionals view appropriate equipment as a precondition for productive work and well-being (Jain et al., 2022; Moglia et al., 2022). The qualitative data suggests that specific workspace conditions, for example, adequate size of the working room, influence the motivation to work from home, substantiating earlier literature (Laumer & Maier, 2021).

We do not find a significant relationship between communication overload and WFH intention (H5). Research has found that spatially dispersed teams substitute missing face-to-face activities with extensive use of ICT to maintain their relationships with their colleagues and to conduct their daily business (Waizenegger et al., 2020). In our sample, more than half of the IT professionals experienced more meetings during EWFH than before, accompanied by intensive use of the recently introduced collaboration platform Microsoft Teams. The increase in overall communication is in line with recent studies (Cao et al., 2021; DeFilippis et al., 2022; Gibbs et al., 2021; L. Yang et al., 2021), yet it remains inconclusive whether this leads to communication overload.

In addition to quantitatively testing our hypotheses, we explored other predictors for WFH with the qualitative data, which uncovered heterogeneous factors. IT professionals state that the chance to avoid interruptions and distractions from colleagues in the office is a strong motivator for WFH. This is in line with recent (Olde Kalter et al., 2021; Weber et al., 2022) and previous telework research (Bailey & Kurland, 2002; Bélanger, 1999; Laumer & Maier, 2021), which has proposed that the work environment at home may be advantageous due to reduced interruptions and distractions by colleagues. The home working environment enables IT professionals to craft their working schedule and to include breaks according to their needs (Gajendran & Harrison, 2007). Our results further establish reduced commuting time as a strong motivation for WFH, supporting previous research (Bélanger, 1999; Kogus et al., 2022; Laumer & Maier, 2021; Stefaniec et al., 2022; Weber et al., 2022). Gibbs *et al.* (2021) have found that reinvesting the time saved from commuting can be a source of increased productivity. However, this does not automatically lead to increased productivity because of increased communication costs and distractions (Gibbs et al., 2021). Although less commuting time is often mentioned as a factor favoring WFH (Fischer et al., 2021; Laumer & Maier, 2021), our qualitative analysis does not reveal whether IT professionals use the saved time for personal or work-related matters.

IT professionals mention the reduced possibility of face-to-face interaction with colleagues as one main reason against WFH. During EWFH, all IT professionals worked from home, reducing the benefit of going to the office. This is a recent manifestation of "contagious offsite work" (Rockmann & Pratt, 2015), a phenomenon describing network effects creating a reinforcing cycle so that coworkers who usually prefer to work from the office are working from home since the benefits of collocation depend

on the number of known colleagues who also work from the office. This effect can lead to decreased productivity for individuals and teams (van der Lippe & Lippényi, 2020).

In sum, for our sample, characteristics of the worker, such as segmentation preference, are more important for WFH intention than characteristics of the workspace or experiences during EWFH as the work context. Reasons for an increase in perceived productivity are heterogeneous. Many IT professionals enjoy uninterrupted individual work while WFH, whereas others prefer the office for the same reason due to home-work interferences. While saving commuting time was an important reason for WFH pre-COVID-19, the availability of coworkers to decide where to work is likely to be an important factor in the future. Our quantitative results, corroborated and extended by the qualitative insights, revealed key factors that help understand why IT professionals want to continue WFH.

6.1 Theoretical implications

Concerning the emerging debate about WFH intentions against the backdrop of EWFH experiences (Jain et al., 2022; Weber et al., 2022), we make two contributions. First, we contribute a theoretical framework to WFH intention research. So far, few studies have used a dedicated theory (Table 1). The theory of planned behavior has been the leading theoretical lens, arguably due to its widespread use in transportation research (Delbosc et al., 2022). We suggest the 'worker – workspace – work' framework by Awada *et al.* (2021) as a categorization of factors influencing IT professionals' WFH intentions and show how earlier WFH frameworks (Baruch & Nicholson, 1997) can be mapped to this trichotomy (see Chapter 2.2). Second, applying the 'worker – workspace – work' framework by Awada *et al.* (2021), we find that segmentation preference as a characteristic of the worker seems to be a strong indicator of IT professionals' intention to work from home in the future. IT professionals' work context impacts WFH intentions, specifically whether they have perceived WFH as increasing their productivity. The third category, the workspace, has been reported in the qualitative data but does not show in the quantitative results.

As an avenue for future research, we suggest the "push-pull-mooring" (PPM) framework as an additional, fruitful conceptual lens for upcoming studies in the WFH intention debate. The PPM framework has been widely applied in behavioral studies, especially intention research (Bellini et al.,

2019; Hou & Shiau, 2020). Stemming from human migration theory, it helps to understand "the movement of a person (a migrant) between two places for a certain period of time" (Jackson, 1986 as cited in Fu, 2011, p. 280). Applied to the WFH context, this entails choosing between the office or the home as a place for work. Specifically, the PPM framework can be used to investigate push factors towards working from the office (reasons against WFH or 'stressors'), pull factors towards WFH (reasons for WFH or 'attractors'), as well as personal (individual characteristics) and social (organizational norms) issues as mooring factors.

While survey research has dominated WFH intention research, more mixed-method or qualitative studies are needed to better understand the nuanced contextual home and office environments. In our qualitative analysis, we show that motivations for and against WFH are diverse and sometimes contradictory. Depending on personal and social issues, the same factor can work for or against WFH. As a result, we call for more diverse research designs.

6.2 Managerial implications

The pandemic situation displayed specific characteristics from which organizations can learn (Carillo et al., 2021; Grzegorczyk et al., 2021; Waizenegger et al., 2020). While IT professionals have different preferences regarding the extent of WFH in the future, most prefer a hybrid model with two or three days WFH, primarily to experience the benefits of fewer distractions and interruptions to focus on complex tasks. Hybrid work arrangements are accompanied by increased complexity and variance of organizational life (Gratton, 2021; Hadley & Mortensen, 2022). In line with person-environment fit theories (Carillo et al., 2021; Fischer et al., 2021), we argue for an individualized approach (Asgari et al., 2022; Weber et al., 2022). This is also the preferred approach by organizations, such as Dropbox (Horovitz, 2022) and SAP (Lehn, 2022), in contrast to a one-size-fits-all approach, such as the fixed two-WFH-days approach from Apple and Google (Finnegan, 2022; Kelly, 2023). We are aware that organizations are restrained in their decisions due to legal and tax regulations. As our qualitative analysis reveals, individual preferences and constraints are heterogenous and sometimes even contradictory (see the summary of main reasons at end of Chapter 5.2) and must be considered when designing guidelines about the number of days employees are allowed to work from home.

To tame the inevitable higher levels of complexity in hybrid work arrangements, we argue to develop norms and guidelines on how work gets done on a team level. Many employees simultaneously engage in multiple projects and teams, dealing with different forms of hybrid work (Lansmann, 2023; Lansmann et al., 2022). Therefore, we suggest communicating norms and guidelines on how team collaboration should be conducted (Kniffin et al., 2021). Such team 'contracts' are increasingly mentioned in the COVID-19 literature (Bockstahler et al., 2022; Carillo et al., 2021; Grzegorczyk et al., 2021) and can contain rules regarding reaction and non-reaction times, the needed number of physical meetings, and how hybrid meetings should be organized so that all team members can participate equally. However, the individual is responsible for maneuvering between potentially conflicting team contracts. Characterized by a "(re)negotiation and (re)arrangement of [IT professionals'] working patterns" (Waizenegger et al., 2020, p. 438), team contracts must be living documents that are regularly updated to cater for the increased complexity and variance in future organizational life.

6.3 Limitations and future research

Our sample consists of IT professionals who are likely to be tech-savvy and experienced in using electronic communication. Due to the international context at EngiTec, IT professionals were already used to virtual meetings and collaboration at unusual times before the pandemic. A joint assessment of the sample characteristics with two managers of the surveyed department showed not only the sample's representativeness for the targeted IT department but also finds that the sample is relatively homogeneous. As a result, the magnitude of the two main effects may be driven by a low variability between the participants. Nevertheless, we believe that the results are generalizable to other IT departments across industries because the targeted department is a "traditional" IT department that runs operations for a globally operating manufacturing firm. They work with enterprise resource planning (SAP), Microsoft Office and run the backend information infrastructure, i.e., they engage in process-related infrastructure work. At the same time, they develop and maintain software, i.e., they execute artefact-related application work. Still, future research should validate our findings with a more heterogeneous sample, considering different branches and levels of digital expertise.

The questionnaire includes a mix of multiple Likert, categorical and ordinal scales. Since the common regression framework is used based on maximum likelihood estimation of the covariance matrix, the statistical validity of the model fit is invariant to the differences in scales. Nevertheless, the different scales must be considered for interpreting the estimated coefficients. As our hypothesized relationships are all measured by binary values or on 5-point scales, interpreting the coefficients is trivial. Although multiple scales do not affect the validity of the statistical inferences, they could have confused the participants. Our pilot testing showed that the survey items were clear to the participants, and the pilot test participants espoused no concern about the different scales. The feedback collected after the survey was completed also indicated no complaints regarding confusing scales. Furthermore, previous studies have judiciously tested and validated all scales (Table 3). Finally, a multi-group CFA could uncover measurement variance across subgroups. Such a multi-group analysis checks if all subgroups understood the measurement items in the same way by comparing the constructs' factor loadings via a Chi^2 test. However, as previously recognized, our sample is homogeneous and does not have clear subgroups. Therefore, a multi-group analysis is computationally infeasible in our case (Byrne, 2004, 2009). Future research may replicate our analysis with a heterogenous sample and conduct further multi-group analyses to identify measurement variance across groups.

We acknowledge that our sample size (n = 92) remains close to the minimum sample size and is driven by the two large main effects. However, such a sample size means that (smaller) effects are not detected (Chin et al., 2003; Dijkstra & Henseler, 2015). It does not raise the identified effects into question, nor does it bias the estimates (Goodhue et al., 2012). A larger sample might have provided more insights into our other hypothesized relationships. Other papers with models of similar complexity work with similar sample sizes as we do (Bhattacherjee, 2001; Maier et al., 2022). Future research can replicate our findings with samples of different heterogeneity and size to provide more insights into the inconclusive hypotheses.

We are aware that common method bias might be a problem due to the cross-sectional design of our study (Podsakoff et al., 2003). However, common method bias tests indicate that this is not the case. Future studies should validate our findings with other data sources, such as behavioral data or interviews

that allow for follow-up questions about IT professionals' constraints and preferences and theorize more complex relationships.

The six open-ended qualitative questions were asked simultaneously with the quantitative constructs as part of the same online questionnaire. Thus, the qualitative data in our study differs from other qualitative data, primarily interviews, as we were not able to ask follow-up questions, adjust questions to resolve misunderstandings, or assess participant reactions (Goldkuhl, 2019). Whereas some participants used the open-ended questions to give extensive reflections, the majority answered in short and precise listings of factors (see example quotes in the supplementary material, file B).

7. Conclusion

Considering the envisaged rise of hybrid work arrangements, WFH is an essential and enduring part of future work. Designing this future of work requires balancing individual preferences and constraints as well as organizational needs. Through a mixed-methods study, we shed light on IT professionals' WFH intentions by learning from the EWFH period. The findings suggest that characteristics of the worker, such as segmentation preference, are more important for IT professionals' WFH intention than characteristics of the workspace or the work context. The qualitative data provides a rich yet heterogeneous list of factors and allows to contextualize the quantitative findings to assess the question of why IT professionals prefer (not) to work from home.

Our study contributes to the literature reflecting on COVID-19-induced changes (Carillo et al., 2021; Grzegorczyk et al., 2021; Kniffin et al., 2021). We contribute a theoretical framework to WFH intention research and an IT professional perspective to the emerging debate about why employees want to continue WFH (Jain et al., 2022). As IT professionals are used to working closely with ICT – an important skill during EWFH – our findings advance the debate on how different professions have coped with the pandemic-induced unprecedented changes in work environments. Empirically, we add a detailed analysis of WFH intentions grouped by different extents of WFH, which show that motivations for and against WFH are diverse and sometimes contradictory among these groups.

Our results highlight the need to consider individual needs and preferences while designing the future of working from home. We conclude that a one-size-fits-all approach strictly limiting the extent of WFH

cannot be justified. Instead, we propose team contracts and flexible hybrid work arrangements to align individual and organizational needs and preferences.

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Appendix - Data integrity statement

All authors confirm that they presented the research clearly and truthfully to the best of their ability. The authors did not fabricate, distort, or manipulate data in order to alter their results.

The original data will be stored securely in the university datastore according to the principles findability, accessibility, interoperability, and reusability (FAIR) – the datastore stores primary research data indefinitely. With permission of the case company, this data can be access by other researchers.

All readers can inspect the full source code of the analysis, as it available on OSF.io. Thereby, readers can check the correctness of the implementation of the statistical analysis. The data, on the other hand, remains proprietary and cannot be freely shared without the consent of the case company.

Simon Lansmann assumes responsibility for the collected data's accuracy and authenticity and for the qualitative data analysis. Joschka A. Hüllmann assumes responsibility for the quantitative data analysis methods' accuracy and solidity.

The authors or readers may find issues in the data or methodology after publication. The authors confirm that they will report these issues to journal editors and resolve them via publishing a correction.

Simon Lansmann, Jana Mattern, Simone Krebber, Joschka A. Hüllmann

Supplementary files

A Complete questionnaire

Part 1: Demographics and Personal Situation ("The following information is used to record specific aspects about your personal situation as well as your work context at EngiTec")

Q1: Please enter your gender.

- ☐ Male
- ☐ Female
- ☐ Diverse

Q2: Please enter your age.

- ☐ Under 20
- ☐ 20 – 29
- ☐ 30 – 39
- ☐ 40 – 49
- ☐ 50 – 59
- ☐ Over 59

Q3: Which job profile applies best to you?

- ☐ Team Leader
- ☐ Project Manager
- ☐ Product Owner
- ☐ Architect
- ☐ Process Consultant
- ☐ IT Analyst
- ☐ Technical Specialist
- ☐ IT Developer
- ☐ Other (please specify)

Q4: Where is your office located?

- ☐ Europe
- ☐ Asia
- ☐ United States
- ☐ Other (please specify)

Q5: For how long are you working for EngiTec?

- ☐ Less than 6 months
- ☐ 6 months to 2 years
- ☐ 3 to 5 years
- ☐ 6 to 15 years
- ☐ More than 15 years

Q6: How many people live in your household, including yourself?

- ☐ I live alone
- ☐ 2
- ☐ More than two

Q7: How many children live in your household?

Q7.1: How many children younger than three live in your household? (Only asked when Q7 indicates one or more)

Part 2: Work Situation before COVID-19 ("In this part, we want you to describe your work at EngiTec as well as your home office experience before the COVID-19 pandemic. Specifically, we refer to the time before the 16th of March 2020.")

Q8: Below you will find some statements about your tasks and activities that you normally carry out in your usual work environment. Please indicate to what extent you agree with the individual statements. (5-point-Likert scale: 1 = strongly disagree – 5 = strongly agree)

- ☐ I often have to briefly coordinate with others.
- ☐ My work often requires collaboration with others.
- ☐ My work consists of numerous face-to-face conversations and meetings.
- ☐ I have to work individually over long phases.
- ☐ I often face completely new tasks.

- ☐ I often have to do spontaneous tasks.
- ☐ I work a lot with agile methods (e.g., SCRUM, Design Thinking)
- ☐ My workflow is characterized by recurring planning and execution cycles.
- ☐ I often have to work with people in other locations or other business units within EngiTec.
- ☐ I often have to work with external partners.

Q9: Prior to the COVID-19 pandemic, how many days per week did you typically work remotely?

Q10: When you were in the office, how important were the following activities?

- ☐ Individual work (e.g., analyzing, writing texts, calculating, programming)
- ☐ Conversation – 1:1 (e.g., meeting with team lead)
- ☐ Conferences – 1:n (e.g., vendor meetings, All IT meetings, TTM)
- ☐ Workshops – n:m (e.g., strategy workshops, design thinking)
- ☐ Informal communication (e.g., with colleagues, in the coffee corner)

Q11: What percentage of the conversations and conferences you attend were scheduled vs. ad-hoc (coordination time below x minutes)?

- ☐ Always ad-hoc
- ☐ Mostly ad-hoc
- ☐ Balanced (50%/50%)
- ☐ Mostly scheduled
- ☐ Always scheduled

Part 3: The Work Situation during the COVID-19 Pandemic ("In the following, we focus on the period from the 16th of March 2020 until the 15th of June 2020, i.e. the "Working From Home" (WFH) phase. We want to understand how the shift to remote work influenced your work.")

Q12: Did you have a professional home office setup (e.g., separate room, adequate interior and equipment) during the WFH phase?

- ☐ Yes.
- ☐ No.

Q13: How did the number or relevance of your tasks change during the WFH phase?

- ☐ Nothing changed

- ☐ Less tasks
- ☐ Few more tasks
- ☐ A lot more tasks
- ☐ Other priorities

Q14: How did the number of meetings change during WFH phase?

- ☐ A lot fewer
- ☐ Fewer
- ☐ Same amount
- ☐ More
- ☐ Many more

Q15: Did your working times differ over the course of a week during WFH phase (e.g., starting earlier/later, taking more/less breaks)?

- ☐ Always the same
- ☐ One day different
- ☐ Several days different
- ☐ Each day different

Q16: Please indicate if you used the following communication channels at all, more, equal, or less during WFH than before the COVID-19 pandemic.

- ☐ Phone (Mobile and/or landline)
- ☐ Email
- ☐ Teams/Skype chat
- ☐ Teams/Skype voice call
- ☐ Teams/Skype video call
- ☐ Teams workspaces
- ☐ Yammer

Q17: How do you rate the technical equipment of your home office workplace? (1 = strongly disagree – 5 = strongly agree)

- ☐ The IT equipment (devices and applications) enables me to work seamlessly.
- ☐ The available information and communication technology works reliably and stably.
- ☐ The available IT equipment fulfills my personal job requirements and needs.
- ☐ In case of issues, I know where to find information to resolve the problem myself (e.g., Work Smarter, Yammer).
- ☐ If I have problems with the technology, I get support from the IT Service Desk quickly.

Q18: Please indicate to what extent the respective statement applied to you during the WFH phase. (5-point-Likert scale: 1 = strongly disagree – 5 = strongly agree)

- ☐ I received too many electronic messages (e.g., email, chat).
- ☐ I felt I have to send more electronic messages than I wanted to send.
- ☐ I felt that I spend too much time on electronic communication (e.g., calls, virtual meetings, emails, instant messaging, chats, etc.).
- ☐ I felt that I was overloaded with electronic messages.
- ☐ I felt that I had to use too many different communication channels.

Q19a: Please indicate to what extent the respective statement applied to you during the WFH phase. (5-point-Likert scale: 1 = strongly disagree – 5 = strongly agree)

- ☐ I was always available for my colleagues and/or clients, also during non-working hours.
- ☐ For me, it was common to check and answer emails or other work-related messages during non-working hours.
- ☐ I kept myself up to date on work-related matters outside of business hours.

Q19b: Please indicate to what extent the respective statement applied to you during the WFH phase. (5-point-Likert scale: 1 = strongly disagree – 5 = strongly agree)

- ☐ I was able to forget about work during non-working hours.
- ☐ I was able to distance myself emotionally from work during non-working hours.
- ☐ I was able to get a break from the demands of work during non-work hours.

Q20: Did you take care of family members during working hours during the WFH phase?

- ☐ No, I didn’t look after family members during my working hours.
- ☐ Yes, I did take care of family members with the support of another person.

- ☐ Yes, I did take care of family members without the support of another person.

Q21: Please complete the following statement: “Compared to working in the office, in the home office I felt...”

- ☐ Far less productive.
- ☐ Less productive.
- ☐ Equally productive.
- ☐ More productive.
- ☐ Far more productive.

Q22: Which perks of the office that increase your productivity, creativity, inspiration and well-being did you miss in your home office?

Q23: Please reflect freely on your experiences during the “working from home” phase. What worked well? What worked not so well?

Part 4: The Work Situation after the COVID-19 Pandemic (“In the last part, we investigate what aspects of your work you would like to change in the future. We are interested in work patterns that proved successful for you in the past, either the WFH phase (16th of March 2020 till 15th of June 2020) or the current “Return To Our Offices” phase (after the 15th of June 2020), and that you would like to maintain in the work situation after the COVID-19 pandemic.”)

Q24: For the following work activities, please indicate whether you can do them better in the office or in the home office. (Not doing this activity, better in the office, no difference, better in the home office)

- ☐ Individual work (e.g., analyzing, writing texts, calculating, programming).
- ☐ Conversation - 1:1 (e.g., meeting with team lead)
- ☐ Conferences - 1:n (e.g. vendor meetings, All IT meetings, TTM)
- ☐ Workshops - n:m (e.g., strategy workshops, design thinking)
- ☐ Informal communication (e.g., with colleagues, in the coffee corner).

Q25: Which perks of the home office that increase your productivity, creativity, inspiration, and well-being did you miss in your office location?

Q26: How often would you like to use dedicated spaces for silent and undisturbed work in the office?

- ☐ Very often
- ☐ Often

- ☐ Seldom
- ☐ Never
- ☐ I don't know

Q27: Do you think rules and measures that help reducing interruptions during work are needed?

Q28: In your opinion, what would be useful rules and measures to help reducing interruptions during work?

Q29: Please indicate to what extent the respective statement applies to you. (5-point-Likert scale: 1 = strongly disagree – 5 = strongly agree)

- ☐ I like to be able to leave work behind when I go home.
- ☐ I like to have possibilities to integrate private and work life based on my personal needs.
- ☐ I don't mind integrating work into private life based on business needs.
- ☐ I prefer to keep work life at work.

Q30: Do you think rules and measures that help controlling after-hour availability to work are needed?

Q31: In your opinion, what would be useful rules and measures to help controlling after-hour availability?

Q32: If you could choose freely (putting regulations aside) how many days per week would you work from home? (slider)

Q33: If you could choose freely (putting regulations aside), how flexible do you want your working time to be?

- ☐ I want to work at the same times each day.
- ☐ I want to work at different times one day per week.
- ☐ I want to work at different times several days per week.
- ☐ I want to choose freely when to work at each day per week.

Q34: Taking the current "Return To Our Offices" as well as the WFH phase into account, what would be your main reason to work from home?

Q35: Taking the current "Return To Our Offices" as well as the WFH phase into account, what would be your main reason not to work from home?

Q36: Is there anything else you would like to share with us?

B Detailed code system

Code (Occurrences)	Definition	Example Quote
Reasons for WFH		
Benefits Home Environment (15)	Includes the benefits of the environment and workplace at home.	"Easy possibility to work outside or in different rooms/setups for different type of tasks, e.g., individual work on the terrace." (ID 4, #2)
___/Physical (80)	Statements indicating that individuals enjoy that they are not being distracted when WFH due to reduced noise, better temperature and other "physical" elements of the environment.	"Complex tasks that required constant focus could be completed much more efficiently because there were no distractions around compared to our big office where there's always someone on the phone, talking, or needing something." (ID 11, #5)
___/___/ Less Interruptions (21)	Statements indicating that individuals appreciate that they are interrupted less frequently when WFH (no distractions).	"Silence and no interruptions." (ID 37, #1)
___/IT Equipment (25)	Statements indicating that individuals are satisfied with the IT equipment (monitor, software) at home.	"When I go into a silent box at the office I do not have my screens and keyboards - which I need for programming etc." (ID 69, #3)
___/Comfort (11)	Statements indicating that home environment feels more comfortable (e.g., clothes) .	"Convenience of simply starting the workday without 'overhead' (commute, dress code, etc.), having all amenities (refrigerator, food, etc.) and being able to take a break in the comfort of my home." (ID 34, #3)
___/Work Equipment (8)	Statements indicating that individuals are satisfied with the work equipment (desk, chair, etc. including the room itself) at home.	"Setup of workplace at home was fine - separate room with desk and dual screen setup as well as proper internet made it very effective to WFH." (ID 17, #5)
Increased Flexibility (40)	Includes the benefits that arise because of the increased flexibility and schedule control individuals experience when WFH.	"Extended down times during the day for recharge." (ID 19, #2)

___/Work-Life Related (53)	Statements indicating that individuals enjoy that they experience a better work-life balance, especially spending more time with their family when WFH.	"Much more flexibility during the whole day to organize work & family (never saw my kid so much, while still working my regular pensum)." (ID 88, #5)
___/Work-Related (34)	Statements indicating that individuals enjoy more work-related flexibility.	"Flexibility to work with colleagues across multiple timezones allows things to be done in a more efficient manner." (ID 48, #5)
No Commuting (32)	Includes the benefits that arise because of the omission of commuting to the office when WFH.	"WFH simply cut the overhead of the commute to/from the office." (ID 34, #5)
___/Time Saving (41)	Statements indicating that more temporal resources are available because less time is spend commuting to work.	"time for commuting can be spend in a much better way." (ID 13, #1)
___/___/ Work (16)	Statements indicating that individuals appreciate that they can use the time they usually commute, to work.	"Possibility to start working straightaway in the morning without commute." (ID 4, #1)
___/___/ Life (12)	Statements indicating that individuals like to use the time they save from commuting for personal and family activities.	"I was also able to use the time that I usually take to commute for sports or hobbies or simply catch a little more sleep." (ID 69, #5)
___/Reduced Stress (8)	Statements indicating that individuals experience less stress because of the elimination of commuting.	"I don't have to commute to work which saves time and unnecessary early morning stress as traffic was always bad and unforgiving." (ID 41, #5)
Increased Perceived Product-ivity (58)	Statements indicating that individuals experience and perceive being (more) productive when WFH, especially due to more focus time.	"Being able to better focus on a complex task and getting it done efficiently." (ID 11, #3)
Corona Worries (34)	Statements indicating that individuals recognize the risk of infection in the office and feel safer when WFH (to protect themselves or relatives).	"Risk of virus spread." (ID 41, #3)
Smooth Team Collaboration (21)	Statements indicating that individuals are satisfied with team collaboration when WFH.	"It was more challenging to start new projects while in home office, especially with different team

		members, but it worked very nicely quite soon." (ID 99, #5)
___/Collaboration Tools (4)	Statements indicating that the ICT tools worked particularly well when WFH.	"Microsoft Teams as a major enabler our collaboration has really shaped the way we work with others virtually." (ID 48, #6)
___/Us vs. Them Dynamics (4)	Reduced tensions between employees in meetings since no physical group can dominate the discussions.	"Better quality of meetings in groups, as all participants did use the same medium, no more that 1 person is remote and the rest is in the same room which decreased the participation level previously." (ID 68, #5)
___/Shared Identity (3)	Statements indicating that the virtual environment helps to increase trust and spirit, e.g., by sharing personal information.	"Local coffee corner talks decreased, but this did also help the global team communication because more 'little things' have been shared virtually." (ID 68, #6)
Flexible Breaks (20)	Statements indicating that individuals enjoy that they can have more (better/more recharging) short breaks over the day and can decide more freely when to take them.	"Instead of lunch breaks sometimes I enjoyed doing a long walk with my dog or exercising." (ID 99, #1)
Health Benefits (6)	Statements indicating that individuals experience health benefits at home.	"Healthy lifestyle now due to home cooked food, exercise, family and work." (ID 45, #6)
No Reason not to WFH (23)	Statements indicating that there are no reasons not to WFH.	"There is no reason." (ID 23, #4)
Location of Coworker (8)	Statements indicating that individuals do not perceive a need to WFO as colleagues are not present anyway	"As almost all of the people I work with are not in the physical location of my office anyway, there is not

	(currently due to COVID-19 but also in normal times because of (partially) distributed teams).	really any reason for me to not work from home." (ID 39, #4)
Reasons against WFH Difficult Team Collaboration (69)	Statements that point to grievances in team collaboration (communication and coordination).	"For some topics it is easier to work physically together." (ID 13, #4)
___/Informal, Ad-Hoc Communication (40)	Statements indicating that individuals miss informal and/or spontaneous communication while WFH.	"Quick face-to-face interactions that typically can solve small issues quickly." (ID 53, #1)
___/___/Beyond Active Teams (7)	Statements indicating that individuals miss informal and/or spontaneous communication beyond their active teams while WFH.	"Idea sharing and keeping up to date with business topics from other areas." (ID 22, #2)
___/Shared Identity (16)	Statements indicating that individuals miss communications to build/maintain trust and team spirit while WFH.	"Less physical interaction with colleagues to form the 'bond'." (ID 59, #5)
___/Collaboration Tools (14)	Statements indicating missing physical tools to collaborate in the office.	"I missed meeting colleagues in meeting rooms with Surface Hubs for brainstorming sessions." (ID 24, #2)
___/Communication Overload (6)	Statements indicating large amounts of communication (asynchronous or synchronous).	"Too many messages on Teams." (ID 78, #5)
___/Awareness (4)	Statements indicating limited visibility due to geographical dispersion.	"Not knowing what's going on and what others actually are working on or where they are struggling." (ID 92, #5)
Detriments Home / Benefits Office Environment	Statements including the disadvantages of the environment and the workplace at home and advantages	"Now I have to high speed cook my lunch, eat silently on my own, and clean up." (ID 13, #1)

(15)	of the environment and workplace in the office.	
___/IT Equipment (38)	Statements indicating missing IT equipment at home or better IT equipment in the office.	"I have to purchase new IT equipment, desk, and monitor to support my new WFH lifestyles." (ID 50, #5)
___/Work Equipment (24)	Statements indicating missing proper desk or chair when WFH.	"Working home without a perfect setup in terms of furniture is a big problem." (ID 8, #5)
___/Physical (9)	Statements including limited possibilities at home to change physical working conditions (e.g., different rooms).	"The possibility to change physical space (to get a bit of a change of an environment, e.g., by sitting in a meeting room for a bit, on the terrace...)" (ID 71, #2)
Social Isolation (82)	Statements indicating that individuals miss the personal contact to their colleagues and socializing in general.	"My colleagues." (ID 16, #4)
Blurring Boundaries (13)	Statements indicating that individuals miss having a clear structure and routine as well as disadvantages of an increased boundary permeability when WFH.	"A routine - entering office on time, break for lunch on time, just meet with colleagues and friends, going back home on time." (ID 76, #2)
___/Work-Life Related (22)	Statements indicating that individuals deplore distractions and interruptions of work from family matters.	"A challenge was to manage to look after kids during work hours that are having to do home schooling." (ID 27, #5)
___/Overwork (13)	Statements indicating that individuals experience issues with being overworked and working longer hours when WFH.	"I've missed the boundary split between office and home, making me to continue some work activities in the evening as well." (ID 24, #5)
___/Connectivity to Work (8)	Statements indicating that individuals experience issues with detaching and	"Unable to completely 'shut off' from work past office hours." (ID 46, #5)

	switching off from work during non-working hours when WFH.	
Professional Isolation (14)	Includes the disadvantages on career progression of reduced opportunities to see colleagues in the office when WFH.	"Visibility to colleagues and management." (ID 61, #4)
Less Breaks (13)	Statements indicating that individuals deplore a tendency to forget taking breaks or not having time for breaks when WFH.	"A big amount of the work was done while collaborating with others in Team calls and there was definitely a tendency to 'forget' breaks." (ID 28, #5)
Health Issues (10)	Statements indicating that individuals experience health issues when WFH.	"Longer hour seating and screen time + less comfortable seating than what's provided in the office = more eyes, back and shoulder strains." (ID 29, #5)
Decreased Perceived Product-ivity (3)	Statements indicating that individuals experience a decrease in productivity when WFH.	"Working on individual tasks worked well but I still have the feeling that I'm working more efficiently in the office." (ID 16, #5)

C Confirmatory factor analysis

	IT Equipment	Communication Overload	Connectivity to Work	Segmentation Preference
IT Equipment 1	0,899			
IT Equipment 2	0,710			
IT Equipment 3	0,854			
IT Equipment 4	0,346			
IT Equipment 5	0,265			
Communication Overload 1		0,808		
Communication Overload 2		0,884		
Communication Overload 3		0,842		
Communication Overload 4		0,858		
Communication Overload 5		0,744		
Individual Connectivity to Work 1			0,735	
Individual Connectivity to Work 2			0,935	
Individual Connectivity to Work 3			0,768	
Segmentation Preference 1				0,466
Segmentation Preference 2				0,446
Segmentation Preference 3				0,839
Segmentation Preference 4				0,500

D Evidence quality, transparency, and translucency report

In the following, we are addressing the best practices related to evidence quality, transparency, and translucency from Kakhki et al. (2021), Appendix B, pp. 82 – 84.

A statement that authors sign to ensure that they have presented their research clearly and truthfully and not fabricated, distorted, or manipulated data in order to alter their results.

We have presented our research clearly and truthfully to the best of our ability. None of the data are fabricated or distorted (see Appendix Data integrity statement).

A statement in which one author assumes responsibility for collected data's accuracy and authenticity.

Simon Lansmann assumes responsibility for the collected data's accuracy and authenticity. Unfortunately, the data is proprietary and cannot be shared without the consent of the case company.

A statement in which one author assumes responsibility for data-analysis methods' accuracy and solidity.

Joschka A. Hüllmann assumes responsibility for the quantitative data analysis methods' accuracy and solidity. Simon Lansmann assumes responsibility for the qualitative data analysis.

An ethics committee evaluates a research proposal and approves it if the study does not harm the rights and welfare of human subjects involved in the study. In institutions that do not have ethics committees, authors should ensure that they follow the law and regulation of their country. Also, they need to run the survey by their experienced colleagues and consult about potential challenges associated with their survey research.

An ethics committee was not consulted. However, the research and data collection was conducted within the legal frameworks of the involved countries and the case company. All participants were thoroughly informed, their data deidentified, and only aggregated results were presented and published to the company and the public. We also presented the results at a "Lunch and Learn" session at EngiTec. All employees were able to dial in and have the results explained to them. Parts of the survey were pretested in a pilot study previously presented and discussed at an information systems conference (Mattern et al. 2021). The audience identified no ethical concerns.

Authors need to adopt a well-studied and working survey or follow guidelines in the literature (Churchill, 1979) for changing an existing survey or developing a new one.

We follow the recommended guidelines for construct measurement and validation procedures established in the information systems field (MacKenzie et al., 2011). We rely on established measures that have been widely used, published, and evidenced to be reliable (Table 3). We report the reliability of the measures and validity diagnostics for our sample in the paper (Table 5). The measures were pretested in a pilot study that was previously presented and discussed at an information systems conference (Mattern et al. 2021).

Make human subjects aware of the data-collection duration, data-collection context, and potential risks and benefits that participation in the study may have. Participating in a study requires the participants' willingness and they can leave the study during any stage.

The study was advertised to all employees of the targeted IT division at the case company EngiTec. The advertisement included information about the study, its purpose, the data collection context, data usage, and publication. The study was conducted online via Microsoft Forms. Our steps were guided by a

transparent, fair, and respectful research approach. We stated that every participant would remain anonymous and that only aggregated, non-identifiable results would be shared with the company or would be published. We emphasized that participation was voluntary and that dropout was possible at any time. Further, we discussed the development and administration of the survey with two EngiTec employees to ensure compliance with the rules and guidelines established by the company.

Authors need to collect and use various measures such as demographic information, attention and comprehension questions in a questionnaire, and paradata to ensure that they study relevant respondents, prevent multiple submissions, and obtain responses that meet quality-control criteria (McClain et al., 2019). Paradata can be contaminated with noise. For instance, researchers cannot tell if spending a long time on a question means that the subject focused on finding a proper response to the question or was busy with other non-survey-related activities. Therefore, researchers need to use paradata correctly along with other quality measures.

Various actions were implemented to ensure the quality of survey participation. First, demographic information was collected and carefully assessed. It demonstrates representativeness for the sampled population. Second, participants were registered with their company email in the survey tool to prevent multiple submissions. Third, the time taken for the survey was checked to be above 10 minutes. Fourth, all responses with implausible data were eliminated. Missing data was not an issue as all respondents submitted complete and usable survey responses. Fifth, selected items were reversed coded. Sixth, the open questions and qualitative data showed that all participants responded seriously to the questionnaire (Table 4). Finally, the questionnaire was supported by the management team of the global IT division, and participants were encouraged to take part. However, no incentives were provided beyond "improve your workplace," and participants could just not take part if they did not want to.

Authors need to include discussions and statistical checks to ensure that various factors involved in the study did not lead authors to systematically eliminate subject subgroups. Discussions and statistical checks also ensure that non-respondents do not impact the demography of collected responses and responses properly represent the study population. Authors can use three methods to ensure that nonresponse bias does not exist: compare sample demographics and population, compare early and late respondents, and weight adjustments (Sivo et al., 2006).

Sample characteristics were compared to the population and were assessed as representative of the population. This assessment was conducted together with the managers of the surveyed department. The response rate was 23%, which is slightly below average compared to other managerial studies (Baruch and Holtom 2008) but is in line with recent trends (Fan and Yan 2010). We found no differences between early and late respondents. All respondents completed the survey in August and September 2020. No weight adjustments were performed.

Authors need to pre-register methods and stick to it so that the results are confirmatory rather than exploratory (Wagenmakers et al., 2012). Authors need can identify their research design and submit it to ethical review boards before they begin collecting data.

The study was not pre-registered, but a pilot study was conducted and presented (Mattern et al. 2021). No ethical concerns were identified.

Authors need to report reliability measures to ensure that the items used in data collection are consistent and can reliably measure the constructs that the research uses.

Reliability estimates are reported for all measures (Table 5).

Authors need to contrast the sample and study population demographics to reveal study limitations. Research generalization requires a clear argument based on the induction that the findings in a specific sample remain true across the entire population (Seddon & Scheepers, 2012). Therefore, authors need to identify study limitations for proper evidence induction and to understand the extent to which the findings generalize to the target population.

Sample characteristics were compared to the population. A joint assessment of the sample characteristics with managers of the surveyed department showed the sample's representativeness for the targeted IT department. However, we find that the sample is relatively homogeneous. Subsequently, we elaborate on the implications on the generalizability of the findings (see also chapters 5.1.3 and 6.3).

Authors may find issues in their data or methodology after publication. They should properly report these issues to journal editors and resolve them via retracting the paper or publishing a correction.

This practice is not applicable for now. However, we will follow this practice when it becomes relevant.

The population that a study draws sample from impacts findings' generalizability. Therefore, the sample should reflect details about characteristics and qualities of the population.

As mentioned before, we find that the sample is relatively homogeneous. Subsequently, we elaborate on the implications on the generalizability of the findings.

Sampling deals with drawing from the population in a way that ensures that findings generalize from a sample to the population (Pinsonneault & Kraemer, 1993). Incorporating a proper sampling method ensures that the final dataset represents the study population. Authors should justify the sampling methods they use and discuss their impact on generalizability.

A joint assessment of the sample characteristics with managers of the surveyed department showed not only the sample's representativeness for the targeted IT department, but also found that the sample is relatively homogeneous. Nevertheless, we believe that the results are generalizable to other IT departments across industries, because the targeted department is a "traditional" IT department that runs operations for a globally operating manufacturing firm. They work with ERP (SAP), and Microsoft Office, and run the backend information infrastructure, i.e., they engage in process-related infrastructure work. At the same time, they develop and maintain software, i.e., they execute artefact-related application work.

Authors should describe how they found participants that represent the population, such as via recruiting online and snowballing. Each method has merits and pitfalls and authors need to be aware of the potential impact that each method may have on creating a skewed picture of the population (Devlin, 2017). They should clearly describe the recruitment method and its impact on findings' generalizability.

The questionnaire was advertised at an internal event and via EngiTec's internal communication system. The department's management supported it but no incentives were provided, except for "improve your workplace" / "state your opinion". Participation was voluntary.

The type and value of incentive (e.g., a draw for a camera, a $10 gift card, extra credit, a customized finding report) impacts participants and the quality of their responses. The selected incentive should be suitable for study subjects. Thus, authors need to report on the incentive and its relevance. If they offer no incentive, authors need to discuss participants' motivation to provide quality responses.

No incentives were provided to the participants. However, the study's contents address the employee's working arrangements, and the participants can voice their opinion on working from home. As a result,

their voluntary participation may influence future organizational arrangements, which motivates employees to participate.

Authors should report various details:

- Location of data collection (online or in a physical location)

- Time required to fill each questionnaire

- Number of reminders sent to respondents

- Data-collection duration

- Communication medium, such as emails, mails, and social media

The data collection was conducted online using Microsoft Forms. The median time to completion was 25 minutes. No reminders were sent to the invited participants. Data collection took place in August and September 2020. The survey was closed afterwards. The questionnaire was advertised at an internal event and via EngiTec's internal communication system. It was supported by the department's management.

Authors need to provide the instrument with its related guidelines and questions with exact phrases as respondents saw them. If the survey is in another language, authors need to explain the translation process and provide an authentic translation to the publication language

All instruments are reported in Table 3, including their sources. Reliability and further diagnostics are reported in Table 5. The full survey is visible in the supplementary files A.

Any interaction between researchers (survey administrators) and participants may impact the sample. Therefore, authors should report details about any such interaction such as communication mode, communication content, and provided explanations and clarifications.

No interactions between participants and researchers took place. The researchers were merely involved in formulating the advertisements for the survey.

Authors need to report each sample's descriptive characteristics, which includes the number of initially submitted questionnaires, received questionnaires, complete responses, acceptable responses, response rate, means for responses, and standard deviations for responses.

400 employees are invited and eligible to participate in the survey. We received 98 submitted responses, from which 6 were eliminated due to implausible data. Missing data was not an issue as all respondents submitted complete and usable survey responses. As a result, 92 completed responses remained for analysis (response rate 23%). Descriptive data, including means, standard deviations, and further diagnostics, are reported in Table 5.

Authors need to report demographic information for respondents that researchers need to compare the sample with the population and to identify results' generalizability. Accordingly, demographics vary across different studies. Such demographics can include age, gender, location, income, job position, experience, and expertise.

The demographic information collected includes age, professional tenure, job profile, location, people in the household, children in the household, and professional home office setup (see Supplementary files A, Part 1). The demographic information was carefully assessed together with managers from the case

company. It was concluded that the sample demonstrates representativeness for the sampled population, allowing for generalizations to the population.

Authors need to explain the methods used to identify outliers, non-relevant, and duplicate responses.

Various actions were implemented to ensure the quality of survey participation. First, participants were registered with their company email in the survey tool to prevent duplicate responses. Second, the time taken for the survey was checked to be above 10 minutes. Third, all submissions with implausible data were eliminated. Missing data was not an issue as all respondents submitted complete and usable survey responses. Outliers were visually inspected using the same QQ-plot (Mahalanobis Distance^2 vs. Quantiles of χ^2) and tested with the Bonferroni outlier test (Fox, 2015). No outliers were identified ($p > .05$). Fourth, the open questions and qualitative data showed that all participants responded seriously to the questionnaire (Table 4). Finally, the questionnaire was supported by the management team of the global IT division, and participants were encouraged to take part. However, no incentives were provided beyond "improve your workplace", and participants could just not take part if they did not want to.

Authors need to explain the quality measures such as attention questions and paradata that they used to screen data and identify thresholds used for discarding data.

This prompt was previously addressed in the best practice about "paradata to ensure that they study relevant respondents, prevent multiple submissions, and obtain responses that meet quality-control criteria."

Authors need to report imputation methods that they used to handle missing data.

No imputation was applied because all respondents submitted complete and usable survey responses.

Authors need to identify the demographic information of respondents whose responses they discarded and compare it to the demographic information of respondents with acceptable responses. They need to identify any significant differences between the two groups that may lead to bias.

The 6 eliminated responses espoused the same characteristics as the rest of the sample. No anomalies were detected.

Authors need to provide raw data, explain variables, and describe how to handle specific data files. Authors need to provide a survey instrument that includes constructs, items, and exact wording that they used for data collection. Authors need to share codes and programs necessary to reproduce the results of the study.

Unfortunately, the data is proprietary and cannot be shared without the consent of the case company. Conversely, the full source code of the analysis will be shared on OSF.io. It is implemented in R (v4.1.1) using the lavaan package (v0.6-9).

Authors need to provide a means of justification that proves they collected data (a report created by data-collection platform such as Qualtrics that identifies the number of responses, their location, the study's duration, and so on). Authors need to share specific statistical analysis that reviewers and editors request.

These contents are described in the manuscript in section "4.4 Analysis."

Authors need to include a statement in the paper in which they identify how readers who want to replicate the results can get access to the data. If authors cannot share data, the statement should explain why.

All readers can inspect the full source code of the analysis, as it available on OSF.io. Thereby, readers can check the correctness of the implementation of the statistical analysis. The data, on the other hand, is proprietary and cannot be shared without the consent of the case company.

Authors need to identify a data steward who will respond to replication requests.

Simon Lansmann assumes responsibility for the collected data's accuracy and authenticity and the qualitative data analysis. Unfortunately, the data is proprietary and cannot be shared without the consent of the case company. Joschka A. Hüllmann assumes responsibility for the quantitative data analysis methods' accuracy and solidity. Inquiries about the data or procedures can be directed to us.

The data steward needs to maintain data for a long enough time after publication by storing it in a safe place.

The original data will be stored securely in the university datastore according to the FAIR principles (findability, accessibility, interoperability, and reusability)—the datastore stores primary research data indefinitely. With permission of the case company, this data can be access by other researchers.

Authors need to protect respondents' privacy by de-identifying data before sharing it.

All observations are deidentified, and only aggregated insights are shared publicly.

Authors need to share specific statistical analyses when reviewers and editors request them. For instance, provide the covariance matrix plus descriptive statistics to enable SEM analysis.

The full source code is shared on OSF.io (see chapter 4.4). Details about the statistical analysis are found in section 4 of the paper and in the supplementary files C. A correlation matrix with standard deviations is provided and allows for recomputing the SEM analysis without the proprietary data (Table 4).