
Staying connected: The crucial nexus of information and communication technology and trust when leading SME employees who work flexibly

¹ Henning Tirrel*, Hans Rüdiger Kaufmann** and Lothar Winnen***

*University of Nicosia, Cyprus, School of Business, Management and MIS, Henning.Tirrel@web.de, ORCID: <https://orcid.org/0000-0002-4610-3158> (corresponding author)**

*University of Nicosia, Cyprus, School of Business, Management and MIS & University of Applied Management Studies Mannheim, Germany, hans-ruediger.kaufmann@hdwm.org**
Fachhochschule Südwestfalen – University of Applied Sciences, Germany, Mechanical Engineering, winnen.lothar@fh-swf.de****

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Abstract: In this article the nexus between ICT, leadership and trust is examined with reference to employees that work flexibly in place and time in SMEs. Via in-depth interviews, participants discuss how these aspects must be designed. The results reflect that the availability of high-quality ICT and correct usage of it is a critical aspect, as it can hinder leadership due to interrupted communication flows. Transformational leadership sets a well-functioning and trust-increasing framework because it does not rely on controlling employees by turning on webcams from afar. Trust is the foundation for flexible working, which must exist both between leaders and employees and between employees and colleagues. The analysis of the empirical findings suggests that technological aspects of virtual leadership are crucial because these have the power to successfully enable and empower leading employees or vice versa. This study presents a conceptual framework which depicts the relationships grounded by the data.

Keywords: *technology, ICT, flexible work, leadership, trust, workplace flexibility practices*

Introduction

Imagine leaders would have allowed their employees to work where and when they want to 20 or 30 years ago – unthinkable for most companies due to the prevailing understanding of leadership and the (not) existing IT infrastructure. The idea of relocating work to other places is not new, but dates back to the 1980s (Toffler, 1980a; 1980b). Nowadays we are facing a situation in which increasingly more employees are enabled to work flexibly, which is certainly amplified by the COVID-19 pandemic. Information and communication technology (ICT) empowers employees to work from most locations whenever they want to (Bean and Hamilton, 2006; Coenen and Kok, 2014; Kingma, 2016), so companies are forced to integrate ICT as it enables information sharing efficiently (Hou, 2020) and leaders as well as employees can use it for communication (Cowan, 2014; Darics, 2020; Sharpp et al., 2019). Therefore, “organizations need to fully utilize the advancement and development of information technology” (Chen et al., 2021, p. 470). This means that leaders must have the ability to use

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ICT (Oberer and Erkollar, 2018) given the growing trend of working life being increasingly characterized by the usage of technology “and [that] virtual work continues to grow in breadth and importance among many industries and organizations” (Charlier et al., 2016, p. 745). Therefore, it is important to pay “attention to the various ways team leaders shape technology practices” (Larson and DeChurch, 2020, p. 12).

According to Kingma (2016), work is no longer limited to the premises of the company (as already anticipated from Toffler) but can also be done in so-called third workspaces like coffeehouses, bars or virtual environments (Ducheneaut et al., 2007; Oldenburg, 1999; Williams, 2006) since “work is no longer a place to go to” (Petrulaitiene et al., 2017, p. 153) due to increased requirements for flexibility and autonomy (Smith et al., 2018). The third workspace has been derived from Oldenburg’s three places; home, workplace and third place which includes all other locations (Oldenburg, 2001; 1999; Oldenburg and Brissett, 1982). The situation in which companies allow their employees to work when and from where they want to, is summarized under the workplace flexibility practice (WFP, i.e., enabling “employees and employers to adjust corporate activities in order to adapt to the demands of the working life and the economic climate” (Whyman and Petrescu, 2015, p. 1098)) called internal numerical flexibility. WFPs are used for gaining and defending a competitive advantage and are strategically relevant (Whyman et al., 2015) while internal numerical flexibility focuses on the adjustment of the internal organisation of the work of a company with reference to chances (Martínez-Sánchez et al., 2011; Martínez-Sánchez et al., 2008). Therefore, work time is a relevant factor because it is easier to enhance or reduce it instead of recruiting or firing employees (Kok and Ligthart, 2014). It is “the ability of workers to make choices influencing when, where and for how long they engage in work-related tasks” (Hill et al., 2008, p. 152) as “flexibility [...] provides a concrete lever to organisations for enhancing organisational performance” (Grzywacz et al., 2008, p. 200) and it increases the employee’s autonomy as well as commitment (Dimitrova, 2003). Moreover, the degree of flexibility offered by companies results in higher achievements for employees and employers alike (Rastogi et al., 2018). In this regard, Weitzel et al. (2019) state that 67.4 percent of German employees request the opportunity to work from where they want to while only 43.4 percent of the companies provide this opportunity for them.

When employees make use of working in third workspaces whenever they want to, they also have to be led appropriately. In this regard, transformational leadership, the prevailing view of leadership in organisational behaviour (Judge et al., 2008) which “dominates the leadership landscape” (Antonakis, 2012, p. 257), is discussed as a possible way of leading employees in these circumstances where leaders and employees do not meet regularly in person and eventually also do not have overlapping working times which can be challenging for both of them (Mesu et al., 2013). Transformational leadership concentrates on various leader behaviours (Ehrnrooth et al., 2020; Podsakoff et al., 1990; Yang et al., 2010). In general, “leadership is important for motivating followers and mobilizing resources towards the fulfilment of the organization's mission” (Antonakis and House, 2014, p. 746).

In addition to leadership, the role of trust is often highlighted when employees work flexibly because leaders (without discussing one or different leadership styles) should trust their employees and vice versa because otherwise a non-supportive corporate culture is established in which leaders and employees expect the other one only to work productively when seeing them in the company’s facilities (Nordbäck et al., 2017). Prior research points out that trust is harder to maintain if employees work flexibly (Bos et al., 2002; Cascio, 2000). Research already highlights that trust can be fostered via transformational leadership (Braun et al., 2013; Jena et al., 2018; Podsakoff et al., 1990), but without studying employees working flexibly.

In this study the nexus between ICT, transformational leadership and trust will be investigated when leading employees that work flexibly in time and place with a major emphasis on SMEs

(small and medium-sized enterprises). This focus has been chosen because on the one hand HRM-literature in this field and on SMEs is “historically underdeveloped” (Whyman and Petrescu, 2015, p. 1099) while on the other hand 99.8% of the European Union’s (Eurostat, 2021) and 99% of the OECD (Organization for Economic Co-operation and Development) companies are SMEs, generating 50 to 60% of the value added (OECD, 2019). Hence, this study’s aim is to identify and conceptualize how employees who work flexibly in SMEs should be led successfully and to uncover the roles of ICT and trust in this regard because “further research is required to determine why labour flexibility in SMEs is not as high as one might expect” (Mesu et al., 2013, p. 131), supported by Kotey (2017) who underlines that more research on working flexibly in SMEs is needed. Nordbäck et al. (2017, p. 410) highlight that “future research should explore flexibility structures and communication flows in other countries, industry sectors and occupations” besides from large Finnish companies which again might be influenced by (not) using ICT. In addition, “the spatialisation of work in third workspaces enables the continuity of work” (Kingma, 2016, p. 191), if employees are led successfully. As a result of the lack of attention given to this area, the following general research question emerges:

RQ: How should employees who work flexibly be led appropriately in SMEs?

This question was explored by conducting a qualitative case study in which twelve German experts, mainly working in SMEs, have been selected and interviewed. Qualitative research has been used for generating a holistic understanding of how leadership should be set up and how it should be supported as qualitative studies enable researchers to describe, interpret and explain certain behaviours (Ruhle and Süß, 2020). Investigating leading employees that work flexibly in SMEs helps to clarify how leaders (and employees) should effectively interact in times they do not see each other and the importance of the role played by ICT in this regard. This study contributes to knowledge in several ways. First, the impact of ICT on the leadership of employees who work flexibly is presented as the wrong usage of ICT has the potential to cause leadership to fail due to interrupted or misunderstood communication flows. ICT can also affect the working life in a positive manner as it can enhance performance, for instance through the use of artificial intelligence. Second, the influences of transformational leadership and trust highlight the relevance of trusting employees because trust is the foundation for flexible work which differs from controlling employees (like in transactional leadership). Therefore, transformational leadership is an appropriate leadership style as it fosters a team which is important because employees also have to trust their co-workers. Hence, leaders may implement trust-building activities. Third, a conceptualization is presented visualizing the insights gained and presenting underlying relationships. Therefore, the overall contribution of this study focuses on the critical role of ICT, leadership and trust when leading employees who work flexibly, which is currently in the limelight due to the COVID-19 pandemic causing employees to work from alternate locations outside the company’s premises.

Theoretical context

In the literature, there are existing models explaining how several WFPs are used in SMEs like the model from Whyman and Petrescu (2015) or Martínez-Sánchez et al. (2008). However, Whyman and Petrescu (2015) did not associate these WFPs, especially internal numerical flexibility, to leadership, although Mesu et al. (2013) indicate a positive relationship between transformational leadership and internal numerical flexibility, without providing reasons for this based on in-depth analysis and by only analysing and excerpt of transformational leadership behaviours, instead of using all dimensions. In addition, Mesu et al. (2013) analysed the issue from a statistical perspective, ignoring the profound analysis of the relational level, i.e., how can transformational leadership work in the case of flexible work, especially under consideration of using ICT as indicated by Tirrel et al. (2021). Thus, Soga et al. (2022, p. 659) “call for research on the impact of the digital divide and the understanding of different

contexts”, in this case German SMEs, to deepen the understanding of how working flexibly functions in these contexts. According to Bass (1985, p. 25), a transformational leader is “someone who raised their awareness about issues of consequence, shifted them to higher-level needs, influenced them to transcend their own self-interests for the good of the group or organisation, and to work harder than they originally had expected they would”. So, transformational leaders inspire, motivate and build a morale which enables teams to succeed (Howell and Avolio, 1993). This leadership style is about lifting “ordinary people to extraordinary heights” (Boal and Bryson, 1988, p. 11), so higher employee performance as well as satisfaction can be achieved (Misra and Srivastava, 2018). According to Podsakoff et al. (1990) there are six key leadership behaviours; identifying and articulating a vision, providing an appropriate model, fostering the acceptance of group goals, high performance expectations, providing individualized support and intellectual stimulation, representing “one of the two best-established TL measures” (Ehrnrooth et al., 2020, p. 385). These key behaviours have been used in various studies (e.g., Ehrnrooth et al., 2020; Gundersen et al., 2012; Ramsey et al., 2017). Purvanova and Bono (2009) point out that transformational leadership is able to deal with computer-mediated communication, so employees can be reached without meeting them in person. Although transformational leadership is the flagship (Ehrnrooth et al., 2020), it remains unclear as to how transformational leadership affects employees which work flexibly. This leads to the first detailed research question (DRQ):

DRQ1: How does transformational leadership influence employees that work flexibly?

In the literature of the third workspace, there are various studies (Martínez-Sánchez et al., 2008; Mesu et al., 2013; Whyman and Petrescu, 2015), but leadership and trust (both or one of them) are not included in existing studies, even though this triad (third workspace, leadership and trust) is important since trust functions as a glue in dispersed teams (Crisp and Jarvenpaa, 2013; Moser and Axtell, 2013). Trust is based on “personal relationships and past or future memberships in common social networks that define the shared norms of obligation and responsibility” (Jarvenpaa and Leidner, 1999, p. 809). Mayer et al. (1995, p. 712) define trust as “the willingness of a party to be vulnerable to the actions of another party based on the expectation that the other will perform a particular action important to the trustor, irrespective of the ability to monitor or control that other party”. The aspect of trust has also not been included in the study by Mesu et al. (2013), although trust affects performance in virtual work settings (Crisp and Jarvenpaa, 2013). Moreover, the literature provides studies highlighting that transformational leadership positively affects trust (Braun et al., 2013; Jena et al., 2018; Podsakoff et al., 1990; Yukl, 1989), but without studying employees that work flexibly or WFPs. If employees do not meet regularly, technology is not very helpful in terms of maintaining relationships as trust declines when visual and vocal guidance is lacking (Bos et al., 2002; Rocco, 1998). However, this might have changed in the meantime due to the technological advancements. Furthermore, employees cannot be controlled by leaders when employees work flexibly due to different working hours and locations. Thus, trust might have the power to circumvent control, i.e., leaders do not have to control, if they literally trust their employees. Therefore, trust can be understood as a kind of solving instrument for Eisenhardt’s (1989) principal agent theory. In addition, Nordbäck et al. (2017) indicate that trust is also important among employees as mistrust can reduce performance. However, Nordbäck et al. (2017), did not consider the roles of leadership and technology in studying trust in flexible work settings. Since transformational leadership in particular has an influence on trust (Braun et al., 2013; Jena et al., 2018; Podsakoff et al., 1990; Yukl, 1989) and the influence of technology on leadership and trust is unclear, this study takes a comprehensive glance at all of these aspects (leadership, trust, technology). So, leadership should foster a supportive and trustful culture when employees work flexibly (Baruch, 2000; Nordbäck et al., 2017), leading to the second DRQ:

DRQ2: How does trust influence employees that work flexibly?

As previously mentioned, technology seems to be crucial for leading employees that work flexibly because technology is an enabler for reaching out to employees, e.g., via computer-mediated communication (Purvanova and Bono, 2009) and the development of technology has an impact on communication towards employees due to novel communication tools, allowing (a)synchronous communication (Men, 2014). ICT can be used for leaders and employees to communicate with each other (Coenen and Kok, 2014) as well as for leading employees that work flexibly, e.g., via online interaction or electronic file sharing (Ibrahim, 2015). E-mails, (mobile) phones or virtual networks can be used for reaching out to employees (Coenen and Kok, 2014; Franssila, 2013; Lal and Dwivedi, 2009; Taskin and Edwards, 2007), whilst it is important to understand how (non)verbal communication between leaders and employees functions and that the communication should be positive, interactive as well as supportive if employees work flexibly (Darics, 2020). According to Men (2014), transformational leadership is in general capable of using technology to communicate with employees in large companies. Furthermore, the implementation of new technologies, such as webcams or video and audio messages, enable a rich communication and the establishment of strong relationships (Sheer, 2011). Men (2014) discusses that transformational leaders prefer the usage of personal communication with employees via telephone or face-to-face as they can build stronger relationships by focusing on the individual. For that reason, communication skills in a virtual setting are very important for leaders (Men, 2014). Moreover, Kingma (2016) compares a laptop with an internet connection to a mobile office. This is why Chatterjee et al. (2023) highlight digital leadership skills and its influence on organization performance.

Although ICT seems to be highly important, existing studies are lacking the inclusion of ICT in researching the nexus between leadership and trust in combination with employees that work flexibly (Braun et al., 2013; Jena et al., 2018; Martínez-Sánchez et al., 2008; Mesu et al., 2013; Nordbäck et al., 2017; Whyman and Petrescu, 2015). Therefore, it is still unclear how ICT facilitates transformational leadership for employees that work flexibly, which leads to the third DRQ:

DRQ3: How does the usage of ICT influence the leadership of employees that work flexibly?

Method

This study is designed as a holistic multiple case study for understanding differences or similarities which leads to strong results based on deep empirical foundations (Baxter and Jack, 2008; Eisenhardt and Graebner, 2007; Yin, 2014). It is founded on narrative descriptions of the phenomenon of interest (Scholz and Tietje, 2002) leading to grounded and accurate results (Eisenhardt and Graebner, 2007) because the world will be understood “from the perspective of those studied” (Pratt, 2009, p. 856).

Analytical approach and participants

A purposive sampling was applied because participants have been selected strategically in order to fit to the research phenomenon (Berg and Lune, 2014; Bryman, 2016; Miles et al., 2014; Yin, 2014). Moreover, it is a sampling method focusing on purposefully generating rich data (Creswell, 2014; Yin, 2011). The interviews ended when theoretical saturation was achieved (Charmaz, 2006). This led to twelve interviews in total.

Expert interviews have been applied because occupational or professional knowledge, process and procedural knowledge was in the limelight (Littig, 2009). The experts selected deeply understand topics, are able to solve issues and provide solutions in uncertain situations (Froschauer and Lueger, 2009). Since the study took place in Germany in July and August 2020, participants are Germans with a managerial background as Managing Director, HR manager or comparable, with three quarters of them working in SMEs (small and medium-sized enterprises), according to the definition of the European Commission (2015). One quarter of the sample is working in larger companies. These companies should also be included when

studying SMEs as they more often tend to have a professional human resources management department (Lepak and Snell, 2002). More details regarding the specificity of SMEs have not been discussed due to practical reasons since the interviewees had a limited amount of time which was used for data generation and not discussing if they work in an SME by focusing on its characteristics (cf. Matejun, 2017; Torrès and Julien, 2005; Welsh and White, 1981). This study does not focus on a specific industry, leading to a heterogenous sample with cross-industry knowledge which provides more general results. Two sample members are female whilst ten sample members are male. The sample's characteristics are summarized in table 1.

Table 1: Qualitative study sample

No.	Position	Professional experience current position / total (years)	Industry	Company size (FTE)	SME
I1	Cross-company Managing Director of a group of companies	8 / 20	Software development	109	Yes
I2	Head of Human Resource Management and Personnel Development	11 / 15	Metal product manufacturer / metal industry	310	No
I3	Commercial Director & Chairman of the board of an association for the promotion of vocational orientation	0.5 / 26	Housing construction and housing maintenance & vocational orientation	32	Yes
I4	Owner & Lecturer at a German university, former Global Director HR at a company in the tourism industry (70,000 employees)	14 / 35	Business consulting, focus on HRM	0	Yes
I5	Managing Director & Business Consultant	5 / 18	Business consulting, focus on new work	26	Yes
I6	Managing Director	8 / 27	Fuelling technology, fuel tank facilities, mineral oil	73	Yes
I7	Executive Director, focus on HRM, Administration and Finance	20 / 27	Internet services	114	Yes
I8	Managing Director & HR Consultant	7 / 37	Employment Agency / Headhunting	3,5	Yes
I9	Managing Director & Lecturer at a German university of applied sciences	20 / 25	Trade and processing of technical rubber products	25	Yes
I10	Head of Human Resources, former Member of the Executive Board in an automotive sales company (300 employees) & former Head of Human Resources in a plant construction company (16,000 employees)	2 / 30	Textile retail trade	250	No
I11	Managing Director	5 / 40	Services, Trade & Construction	45	Yes
I12	Head of Human Resource Management	19 / 40	Food retail trade	12,000	No

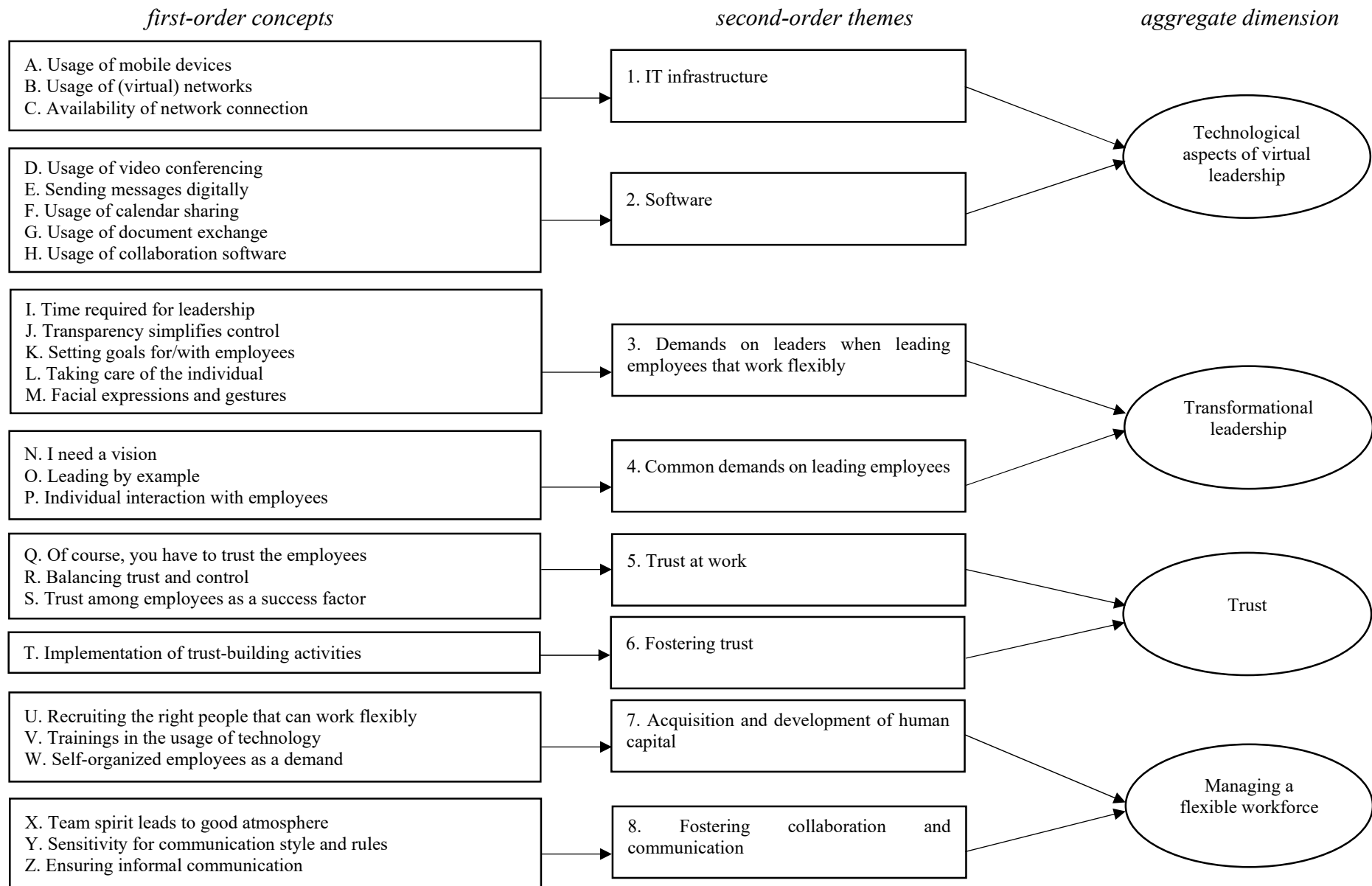
Data has been generated by applying a semi-structured interview guide and, therefore, making use of interviews as “a powerful data collection strategy” (Teddlie and Tashakkori, 2009, p. 229) when researchers are well-informed referring to the research topic (Saunders et al., 2016; Yin, 2014). The interview guide developed to answer DRQs and interview questions, is based on existing knowledge and went through a three-stage pilot testing procedure as recommended by Kallio et al. (2016). Finally, the interview guide contained 14 questions.

The interviews were either conducted face-to-face (twice), or electronically by using video conferencing software (ten times). In order to work ethically and in line with GDPR (General Data Protection Regulation), anonymity was assured and all interviewees participated voluntarily. All interviews lasted between 45 and 90 minutes, so in-depth conversations took place (Cridland et al., 2015; Saunders et al., 2016). The interviews have been audio-recorded and transcribed afterwards.

Data analysis

The Gioia methodology was used for analysing the data because this is a rigorous approach which follows three steps from raw data to theoretical constructs (Gioia et al., 2013). According to Gioia et al. (2013), the first step is the open coding which is very close to the original data, uses informant-centric terms (*in vivo*) and was applied to fully understand all underlying aspects referring to the DRQs. In the second step, similarities or differences in first order categories have been identified (similar to axial coding by Strauss and Corbin (1998)) by the researcher, which underlines that researchers must be knowledgeable agents, because they bring the logic to the data simultaneously at multiple levels (Gioia et al., 2013). Therefore, the second-order themes are more researcher-centric and analyse underlying structures (Gioia et al., 2013; Van Maanen, 1979). Within the last step, abstract aggregate dimensions (theoretical categories) are established out of the second-order themes by the researcher (Gioia et al., 2013). Figure 1 illustrates the final data structure which emerged from the analysis of the interviews, representing a required component for rigorous research (Pratt, 2008; Tracy, 2010), because Gioia et al. (2013, p. 21) state “no data structure; know nothing”. Finally, the data structure will be used to set up relationships between the concepts in the last section of this article (Gioia et al., 2013). Table 2 in the appendix contains examples for the first-order codes and shows them transparently.

Figure 1: Conceptual Model



Presentation and discussion of results

This study uncovered how employees should be led while using ICT when working flexibly from a technological as well as a leadership perspective. Moreover, a flexibly operating workforce needs to be built on trust and has to be managed. Below it will be outlined how these aspects proceed in detail, organised in line with the aggregate theoretical dimensions and discussed with the current findings from the literature.

Technological aspects of virtual leadership

The interviewees pointed out that technology is highly important in the leadership of flexibly working employees because “there is a big issue of digitalization in all areas” (I11).

IT infrastructure

The IT infrastructure is understood as “the foundation for all kinds of information resources” (Hou, 2020, p. 577) serving as an enabler for connecting and sharing of information. Mobile devices are an important part of the IT infrastructure. Employers have to ensure that both leaders and employees are equipped with the necessary devices; “What I am getting at is that two years ago we started replacing every stationary PC here in the company with a mobile workstation” (I1). Mobile phones, laptops as well as high-definition webcams (for video meetings, ensuring that facial expressions and gestures are visible) are required to communicate from almost everywhere and at any time. Accordingly, equipping employees with high-quality technology is, on the one hand, the prerequisite for communication to take place regardless of time or location. On the other hand, it is the solution for interrupted communication flows, which are discussed in the literature (cf. Chen et al., 2021; Cowan, 2014; Darics, 2020; Hou, 2020; Sharpp et al., 2019). In addition, misunderstandings are reduced when employees can interpret facial expressions and gestures, enabled by high-quality webcams and microphones. This provides the answer to Darics’ (2020) question of how nonverbal communication functions in flexible work settings. However, equipping employees with mobile devices entails the risk of data theft because employees have access to sensitive information without leaders having the possibility to monitor them, so they can ‘steal data’, which is what happened to I6: “Flexible working is a big problem for us because we have data protection and because we have been bitten once when an employee committed data theft”. Moreover, for some leaders it is important that all devices used within the company are from the same brand so the internal IT department is used to typical problems and can easily solve them.

Devices are used to connect with the company’s server via (virtual) networks so employees (and leaders) can access relevant information anywhere at any time: “Especially those who are not on site must, of course, be well connected. They must access the firm network” (I2). Files, software systems as well as customer data can then be used to work productively, e.g., via cloud computing. I10 stresses the importance of having access:

“One of the basic requirements for flexible working is very powerful IT equipment for employees. I got to know the meaning at a former employer who had several thousand SAP workstations. As these employees had access from everywhere, to the SAP network, they could see what the performance level of the wind energy generators was, what jobs are to be done and much more. But the same applied to the people who worked exclusively in the office”. This follows Kingma’s (2016) idea of having a laptop that acts as a mobile office. Thus, SMEs have to understand investments in ICT literally as investments, instead of costs (Eze and Chinedu-Eze, 2018), which enable performance also in the long run.

For accessing the company’s networks, network connection must be available and usable as well as stable. In the current field of study in Germany, interviewees are facing some problems: “We experience it right now during the Corona crisis, how many people do not have a fixed line connection, i.e., no DSL connection anymore or live in areas where LTE barely works. That means, my leadership actually fails because of the technology. And that is a huge problem for me, especially in the less developed areas” (I12). Thus, companies have to invest in stable

technology, so leadership does not fail and communication flows, also among employees, do not interrupt. This investment (as noted by Eze and Chinedu-Eze (2018), so no costs) is the prerequisite for a performant flexible working environment.

Software

Besides IT infrastructure, the right software must be used, so employees and leaders can work productively. The relevance of having the right software has already been discussed in the literature (Coenen and Kok, 2014; Franssila, 2013; Lal and Dwivedi, 2009; Taskin and Edwards, 2007) and is thus in line with our findings. However, our findings enhance the discussion in the literature according to what is really needed, especially by taking the technological development into account. The participants, for instance, agreed on using video conferences since these are comparable to leading employees face-to-face as facial expressions and gestures are visible, if the correct hardware is available. Moreover, screens can be shared and people can virtually discuss documents. Although the communication is more efficient in video conferences, social aspects are still lacking:

“And now you are in a meeting, a virtual one, and have an outcome that gets at least 80 percent close to the result [of a face-to-face meeting]. That is quite interesting. [...] Of course, you still have to meet from time to time, so you can have a drink together [...]. But working on this agenda works great on a virtual basis” (I9).

Another software is used for written communication like sending e-mails or messages within a chat. Chats enable people to write one message that reaches a selected group of recipients, so senders do not have to write the same message several times. One leader pointed out that this is the only way employees in his company should operate as this ensures high quality information for all project participants as well as possible substitution:

“If an employee sends me something in the operational business, we are only talking about the classic operational business here, I don't want it sent by e-mail, but he rather has to upload it in SharePoint, in Teams, in One-Drive, according to the guidelines” (I8). So, our findings are in line with existing research, where the relevance of (a)synchronous communication has been discussed (Men, 2014), but did not include the latest software available and used in German SMEs. Furthermore, it is not only about having the software, but also about being trained in using it appropriately. Thus, these findings complete the picture in the literature.

Another important software solution is calendar sharing from leaders as well as employees, because this allows others to see whether or not someone is currently available and it makes appointment management easier. If leaders share the calendar first, they set an example that employees will probably follow. However, this also includes making critical appointments transparent: “So, when I tell people that I'm unlocking my calendar, as a personnel manager I also have difficult appointments. My managers have always known that” (I4). This feature has been discussed by Ibrahim (2015) and is therefore in line with existing research.

Moreover, files should always be stored virtually so document exchange is possible. This makes work life easier since people do not have to bring papers. It enables employees to access virtual storages faster and substitutions are realizable. For this, assignments of permissions should be associated with selected employees so that not everyone is able to see every document. I12 explains how they use document exchange within the HR department:

“We have drives where all our references are stored or they are stored in libraries. We've actually always known it this way.” This feature has also been discussed by Ibrahim (2015) and is therefore in line with existing research.

Finally, collaboration systems combine some or all of the above-mentioned aspects, so they function as a transparent internal business network which connects people (e.g., in a chat) and arranges data. I5 summarizes it and states:

“A communication software, Microsoft Teams for example, where you can chat regularly with each other, exchange messages, share data with each other, but also have video conferences.”

This call for transparency was not discussed in the literature so far, especially not in association with replacing control by transparency. This will be discussed further in the following sections.

Transformational leadership

Besides dealing with technology, leadership is an interaction between human beings who – in this case – are geographically dispersed and working at different times. Therefore, this chapter deals with demands on leaders which either have to lead employees that do (not) work flexibly with a focus on transformational leadership according to DRQ1. Referring to the interviews, there are *demands on leaders when leading employees that work flexibly* as well as *common demands on leading employees*, regardless of whether they work flexibly or not. In general, transformational leadership with its key behaviours (cf. Podsakoff et al., 1990) is an appropriate leadership style for flexibly working employees. This becomes apparent when looking at the aggregate dimensions (cf. figure 1) and the first-order concepts, which in part include the six key behaviours, cf. K until P.

In the literature, there is an ongoing discussion on how communication flows interrupt due to using technology (cf. Chen et al., 2021; Cowan, 2014; Darics, 2020; Hou, 2020; Sharpp et al., 2019). However, Purvanova and Bono (2009) highlight that transformational leaders are able to deal with computer-mediated communication. This contradiction is due to less visible facial expressions and gestures, so that employees are less readable when they work flexibly, e.g. when they use a mobile phone. So, it is often not possible to interpret the body language, except when video conferences are used. However, in video conferences leaders can only see what is within the focus of their employee's webcam. On the one hand, leaders and employees must be equipped well with technology. Otherwise, both cannot use computer-mediated communication appropriately as indicated by Purvanova and Bono (2009). So, communication flows can still interrupt, but it is up to the leaders to first ensure that leaders and employees are accordingly equipped and second that both, leaders and employees, use technology appropriately. Moreover, video conferences force leaders to invest more time, although transformational leaders are able to deal with technology:

“One is again the factual level, the other is the relational level. I like to have a relationship level with an employee. So, relationship level means having the feeling that I have him with me, that he is attentive. But that also costs time, that's right. That costs time, and that's why I say the other communication is more effective” (I7).

Transformational leadership also contains working with goals (Podsakoff et al., 1990), which have to be implemented and to be measurable if employees work flexibly, as stated by I9:

“This measurability is important. If this is given, then everyone can actually do what they want and how they want to do it. They can work from where and for how long and we actually do it” (I9).

Thus, employees have the opportunity to work from anywhere and enables leaders to focus on employees achieving their goals. The other key behaviours are also included in the results, like leading employees individually as every employee has his/her own needs, regardless of where/when they work. This is emphasized by I4 by stating “But I believe that, especially when working mobile, it is even more important to take care of the individual. So, [...] if you don't see each other all the time, it's very important to talk to the individual employee or leader and also have a look at how you are doing”. This underlines the relevance to understand that leadership takes more time when employees work flexibly. I4 states “They actually need more leadership, because they are no longer tied into a system where you meet a colleague here and drink coffee, and then have a chat with someone there and then run into the manager's room. [...] So, the time required for leadership is increasing”. This means that leaders have to motivate themselves to invest more time in order not to make employees feel forgotten as they are not physically at the same location. This has not been discussed in the literature so far. Thus, it is a contribution to knowledge.

By following Podsakoff et al.'s (1990) key behaviours, leaders agree on the importance of having and articulating a vision which guides employees and conveys the meaning of their work. Moreover, employees are focused since they understand where a company is heading to: "So, I need a vision, I need a goal, a set of values that everyone can align with, because as a manager I often lead at a distance. And that means that everyone has to orient themselves to a vision or a direction and stick to it" (I5).

Furthermore, leaders should be appropriate role models for employees to follow. One way that they can lead by example is by not always being reachable, so employees understand that they do not have to work all day long. "That would be the main exemplary function for me, that the set rules for cooperation and collaboration, are also adhered to by the supervisor himself" (I3). Finally, leaders should treat every employee equally, making sure that the same work environments and degrees of flexibility are available to everyone:

"And I can work wherever I want, and that is not a privilege for me alone, but every employee has that, and it goes right through from the facility manager to the board of directors, and it is all done in the same way, all equipped with the same quality" (I1).

Interestingly, this again helps employees to avoid isolation/feeling left out: "I believe that it is also important for employees not to be forgotten" (I2), and it underlines that every employee is appreciated regardless of their position or rank within a company. This underlines the impact of transformational leadership on trust which is in line with current research (Braun et al., 2013; Jena et al., 2018).

Moreover, leaders strive for transparency because this simplifies controlling of employees. Software often enables a high degree of transparency since results and the status quo are visible for everyone. However, leaders preferred not to equate transparency with control, but understand it as a leadership supporting issue in terms of setting and reviewing goals. I9 stated in this respect: "At the end of the day, you can see that in the results", but only if the status quo of the results is transparent. In general, leaders agreed on leading employees by setting individual or group goals which, in the end, accounted for raising transparency: "Yes, of course, you must be transparent, just like goals with individual employees, the same basically applies" (I3). These objectives function as a guideline for employees, motivate them and can also be part of a bonus system. However, literature often focuses on how to control employees (Dimitrova, 2003; Mayer et al., 1995) but not on using transparency and trust instead of control. This again highlights a contribution of this study in which leadership uses transparency and also enables employees to be transparent, so control can be reduced or even eliminated.

Trust

Leaders have to trust employees when they work flexibly because they cannot control them all the time. This is of paramount importance since a high level of trust is the foundation for employee performance in flexible work settings (Crisp and Jarvenpaa, 2013). So, trust at work is the foundation for a successful flexible work arrangement – in line with existing research (e.g., Crisp and Jarvenpaa, 2013) – because if there is no trust, flexible work would not have been implemented since leaders cannot control employees. Leaders have firstly to give trust before employees pay it back. However, both have constantly to work on it, to keep trust at a high level: "So, it is a valuable asset. It is an asset that must be defended and acquired again and again from all sides" (I10). Although there are also negative examples in which employees were not allowed to work flexibly on Fridays or Mondays (meaning they seem to have an extended weekend), I5 summarizes this aspect: "So, mobile working is not possible without trust". This underlines that relationships need to be maintained, also in flexible work settings. Bos et al. (2002) as well as Rocco (1998) highlight that this might be more complicated, but due to technological advancements it is nowadays also possible to maintain a trustful relationship between leader and employees. However, this is a task which leaders have to take care of, which again is time-consuming.

Leaders are rather focusing on trust when employees work flexibly instead of controlling them because of managerial reasons as explained by I5: “So, of course I can call you every morning, are you already sitting at work? I can monitor via webcam. That is no problem. Or talk about it every day, okay, how many hours did you book today? But that is not trust”. With reference to trust, technology again comes into play because this raises transparency. As discussed in the transformational leadership section, transparency is a leadership instrument which has to be implemented and to be used in flexible work settings. This can also enhance trust (cf. Braun et al., 2013; Jena et al., 2018). However, some leaders test if employees are working as agreed on: “I can test this quite well. Sometimes I even test it” (I9), an attitude, which somehow shows a behaviour led by distrust. All in all, leaders agreed on trust as a very important aspect which is the foundation for working flexibly. So, trust is a kind of solution for the principal agent theory as it glues a workforce, including its leaders, together, as indicated by Crisp and Jarvenpaa (2013) as well as Moser and Axtell (2013).

Trust is also important for employees because they usually cannot see their colleagues either. They should not end up thinking: “He was not available again just now. He's probably still sitting on the sofa or lying in bed” (I5). Activities, usually organised by leaders, are arranged in order to foster trust between employees and leaders as well as between employees. This complements the findings from Nordbäck et al. (2017), by underlining the high relevance of trust within the workforce. However, this must be managed by leaders. Meeting in a different context and discussing private matters functions as a social glue which binds the people together, as required by Crisp and Jarvenpaa (2013) and Moser and Axtell (2013). So, there is a gap between what is theoretically desired and what has been implemented in German SMEs.

Managing a flexible workforce

Acquisition and development of human capital

The interviewees pointed out that the right people must be recruited for working flexibly. These employees must be well organised and able to set up their own agenda day by day because no leader is physically present to tell them what to do. Employees need to be capable of arranging where and when they work on their own. They also have to be able to communicate if something is not going well in a timely manner. Therefore, “you can do it very easily if you do trial work days or something similar to see if something is basically right and fits” (I11) leading to a high “probability that this time investment will pay off later in the collaboration” (I4).

For current employees, it is useful to implement training, e.g., on how to communicate virtually, how to gesticulate, how to write messages properly to the correct receivers. I12 sums it up:

“That you need to have training in the company accordingly [...] for the leader in particular, so that he/she learns to deal with it and to train the employee in the application of the technology.”

It is essential to either have or acquire the appropriate employees with the necessary human capital, or it must be developed by employers to set the foundation for a high-performing workforce.

The construct managing a flexible workforce was derived from this study's data. Managing a flexible workforce applies for either having and developing or recruiting the needed human capital, “or the knowledge, skills, and abilities of individuals” (Kang and Snell, 2009, p. 68), because not only leaders have to be able to use ICT, but the employees as well. If employees are not well trained in the use of ICT, leaders can send messages, which end up not being read by employees and leaders will realize it too late as messages are part of asynchronous communication. In addition, employees may not know how to behave in virtual meetings so that the communication is not clear and free of misunderstandings which in the end may not only hinder leadership, but be counterproductive in terms of giving employees the opportunity to work flexibly. Furthermore, misunderstandings among employees may arise which reduces

trust within the workforce. To sum this up, skills need to either be available or to be enhanced as they are a prerequisite of flexible work.

Fostering collaboration and communication

Disharmonies which may arise in a team are understood as being counterproductive. Leaders have to create a positive team spirit, fostering collaboration among employees, so that working together with colleagues is fun. This again helps to keep everyone bound to the team which is also able to deal with pressure because “you can then bear it better as a team” (I7) than as an individual.

To keep employees (and leaders) motivated, rules for communication are set up, including to check whether or not an employee is currently working instead of directly reaching out to him/her because, due to flexibility in time, employees may have different working times than their leaders. An overlap of time is often required so employee and leader can communicate synchronously with each other, although leaders do not expect employees to be available 24 hours a day, seven days a week, but respect and urge employees to rest and recover. Moreover, in virtual settings a precise written communication is needed which does not lead to mistakes and is a reliable basis for leaders and employees. Additionally, in video conferences gestures and facial expressions have to be used explicitly in front of the webcam, so messages are not misinterpreted, as pointed out by I8:

“So, if I am joking around somewhere now, or if I say something rather sarcastically, I may have to articulate with my hands up here rather than I do down here. Because you do not get all that. That means I can insult someone if he does not see my hands.”

Beside the formal communication, leaders pointed out that informal communication (issues not related to work) is a necessary component, because spontaneous talks do not take place. Therefore, leaders set up digital quizzes or digital wine tastings which are used for informal communication. If there are too many participants in a video conference, it is difficult to combine (in)formal communication because it would take too long to address everyone directly. In flexible workforces, personal informal meetings are also arranged by leaders: “Or if you say, okay, it's summer, we'll go and have a barbecue. But then it's more social than having a business meeting” (I8). A lack of informal communication may end up in a situation where employees feel socially isolated and not appreciated.

Social capital (“knowledge embedded in and available through relational networks among employees” (Kang and Snell, 2009, p. 68)) is included in managing a flexible workforce as well because participants highlighted that it is important to have a good team spirit as well as a good working atmosphere, which is, for instance, created by informal communication. This is even more important when employees do not meet regularly, so it has to be managed by arranging virtual team events like having a beer together online or chatting in a virtual canteen. A positive work environment supports productive behaviour, so leaders have to manage their workforce by organising those events and showing their employees that they are also allowed to communicate informally during work time. However, it is up to the employees to make use of these offers for the positive effects to occur.

Contributions

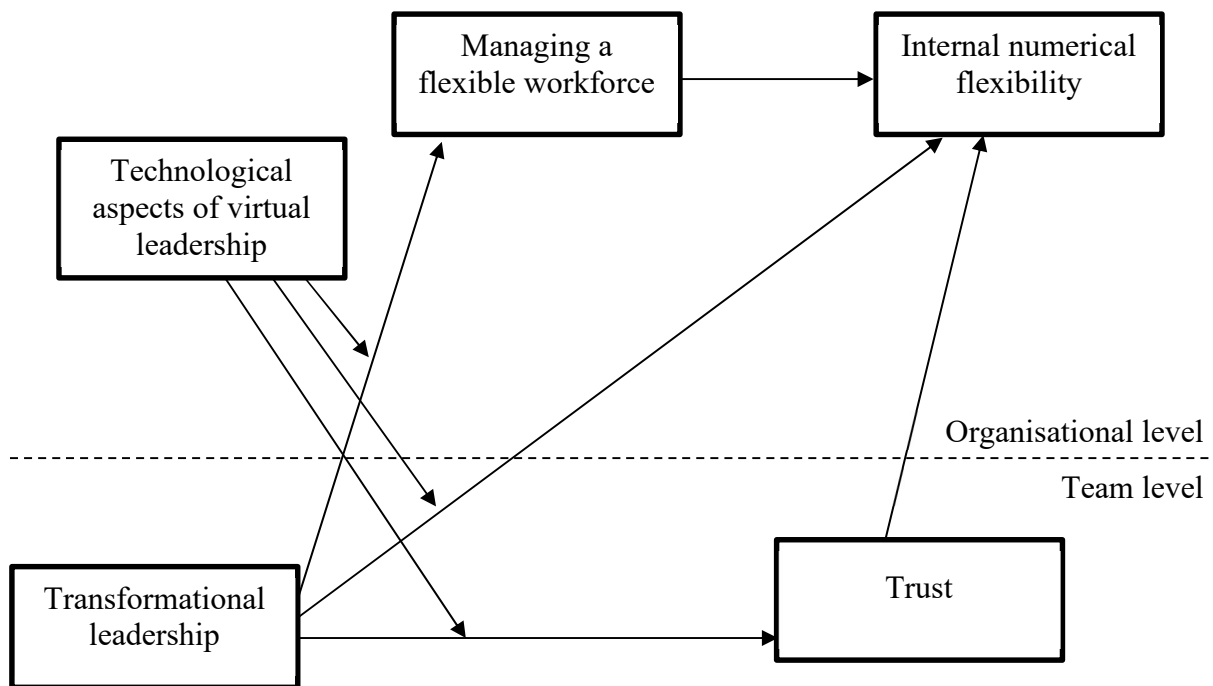
This study's aim was to identify and conceptualize how employees who work flexibly should be led successfully and to uncover the roles of ICT and trust in this regard in SMEs. The content analysis of data generated through interviews concluded that the correct usage of ICT is crucial for leadership when employees are working flexibly as ICT affects all relationships. Therefore, the construct was included in the conceptual framework as a moderating construct which can strengthen or weaken the relationships between transformational leadership and trust, internal numerical flexibility and managing a flexible workforce. In addition, managing a flexible workforce has been identified as a relevant construct, which probably mediates the relationship between transformational leadership and internal numerical flexibility, as leaders and

employees have to be trained in the usage of technology. Moreover, social aspects, like humour or team spirit are also included. A well-developed team culture, in which leaders also play an important role, is important when working flexibly. So, it is important to implement informal communication, for instance and leaders have to manage their workforce. Therefore, this construct is implemented as a mediating one in the conceptual framework.

Figure 2 summarizes the findings in a conceptual framework on organisational as well as team level.

Figure 2: Conceptual framework on influencing factors of internal numerical flexibility in SMEs

Theoretical contributions



The contributions to theory of this study are multifaceted. This study contributes to theory as two new constructs were identified as being relevant when employees work flexibly; *Technological aspects of virtual leadership* as well as *managing a flexible workforce*. These two constructs have previously been described/defined and therefore also implemented in the conceptual framework (cf. figure 2). The leaders highlighted that technology massively intervenes their leadership if employees work flexibly. Therefore, leaders and employees have to be skilled in using technology appropriately. This is expressed by the construct managing a flexible workforce; including human and social capital (cf. Kang and Snell, 2009).

Accordingly, the addition of technology in the leadership of flexibly working employees is a fundamental benefit because it significantly improves leadership, e.g., through visual and vocal guidance via video meetings, so misunderstandings are reduced. These theoretical insights contribute to the recent literature in this field by highlighting the positive aspects of technology in leadership (cf. Chen et al., 2001; Cowan, 2014; Darics, 2020; Sharpp et al., 2019). Therefore, this finding is closing the gap on generating new information on how the digital divide affects working flexibly, as raised by Soga et al. (2022). Moreover, this research contributes with its novel findings on the discussion of how technology affects leadership of flexibly working employees by using technology, also known as e-leadership, virtual or remote leadership, as called from Van Wart et al. (2019).

Furthermore, this study highlights that it is important and possible to implement trust-building activities by the leaders, also when employees work flexibly. This will in the long run enhance trust, following the established relationship between transformational leadership and trust (Braun et al., 2013; Jena et al., 2018; Podsakoff et al., 1990; Yukl, 1989), enabled by technology. However, this is not possible if leaders do not update/train their skills on implementing and using technology as an intervening aspect on the relationship of trust. So, the theory of trust-building activities has to be enhanced by including virtual activities, initiated by leaders. This constitutes a theoretical contribution as it deepens the understanding on how technology supports trust-building in SMEs. In this way, trust can be established and maintained between leaders and employees as well as among employees. However, leaders have to take time for it. Thus, leadership is more time-consuming when leading flexibly working employees. This underlines and explains the novel triptych of leadership, technology and trust which should no longer be analysed separately since they interrelate.

Practical contributions

From a practical perspective, the study uncovers that transformational leadership fits well to situations in which employees work flexibly in SMEs and that transformational leadership enhances trust which is a relevant antecedent of internal numerical flexibility (i.e., working flexibly). According to the interviewees, a leader should be a role model for employees to follow, deal with and support employees individually, foster group goals so employees can identify themselves with the team instead of getting isolated, have high-performance expectations and stimulate employees intellectually as well as articulate the company's vision so employees can take it as a guideline. These factors are comparable to Podsakoff's et al. (1990) key behaviours, underlining that being a transformational leader works very well for SMEs, if employees work flexibly. However, the interviews uncover that even if a leader is a transformational one, leadership is hindered if technological aspects of virtual leadership are not applied (well) as communication flows are interrupted (literature discusses the interruption of communication flows in other contexts (Chen et al., 2021; Cowan, 2014; Darics, 2020; Hou, 2020; Sharpp et al., 2019)) or misunderstandings arise due to not being able to communicate well virtually (cf. facial expressions and gestures are invisible). Using technology can also have positive effects because if leaders and employees are equipped well and know how to communicate via which software for which reason, it enables working flexibly, as proposed by Kingma (2016). Therefore, a dynamic, long-term and costly investment in ICT, not a one-time investment, is necessary for SMEs as they have to face global challenges and changes (Eze and Chinedu-Eze, 2018). Moreover, technological aspects could be of help in terms of being more productive or efficient in the future, as stated by I8: "I want to have tools, I want to have IT that makes work fun and that will perhaps in the future also take things off my hands via artificial intelligence, that simply help me to track things, to track processes."

Trust is much more important when employees work flexibly because employees cannot be observed/controlled easily and trust is understood as the basis for a flexible workforce. Therefore, flexible work is not possible without trust. Moreover, leaders pointed out that trust-building activities should be implemented to maintain trust as it is vulnerable and destructible. But this is only possible if leaders trust their employees and do not suspect them of enjoying an extended weekend if they do not appear in the office on Mondays or Fridays. Transformational leaders have the ability to foster trust (being in line with current research (Braun et al., 2013; Jena et al., 2018)), even if employees are not at the same location at the same time.

In addition, a high degree of trust can lead to less control and it should also be established and maintained by employees, so they trust each other as well. If employees do not trust each other, they may suspect colleagues of being in bed instead of working as they literally do not see each other in the office. Therefore, the findings from this study highlight that trust is highly

important as it ties a dispersed workforce together. Thus, on the one hand, they are in line with existing studies (Crisp and Jarvenpaa, 2013; Moser and Axtell, 2013; Nordbäck et al., 2017; O'Hara-Devereaux and Johansen, 1994), but on the other hand, our results reveal that trust is multifaceted and is not limited to the relationship between leader and employee. It must also exist among employees and trust-building activities must be used judiciously to build or maintain trust by leaders. In contrast to Bos et al. (2002) and Rocco (1998), this study uncovered that using high-quality technology equipment (e.g., webcams) properly (skilled users (leaders and employees) are a prerequisite so miscommunication will be circumvented) raises trust because visual and vocal guidance are no longer lacking. This again comes in line with required ICT investment for SMEs.

Limitations

This study has underlying limitations. First, it was limited to German companies, which does not allow for a cross-national or cross-cultural view. However, a heterogeneous sample was selected, which allows cross-industry considerations. Future studies could analyse leadership of flexibly working employees in different countries/cultures and reveal similarities or differences.

Second, the study analysed leaders only. Future studies could also evaluate the perspective of employees working flexibly and, thus, reveal different or common points of view.

Third, this study was conducted in times of the global COVID-19 pandemic, in which many companies have just started to introduce flexible working. Nevertheless, the results are interpretable, as many leaders emphasized that they already had many years of experience with the topic.

Future research should also address how the technological aspects of virtual leadership in particular can be operationalized for quantitative studies. This would also allow cross-sectional or longitudinal quantitative analyses with reference to technology, leadership and trust in the context of flexibly working employees in SMEs, providing further insights.

Moreover, it could be of interest to study how the motivation and performance of employees changed, after they were trained in using ICT properly. This could eventually be done by a field experiment, comparing the behaviour of (un)trained employees.

Conclusion

The results of this study have been summarized in the conceptual framework in figure 2, visualizing the relationships of influential factors on working flexibly in SMEs. This study uncovered the need of using ICT properly when leading employees that work flexibly as well as being trained in doing so because technological aspects of virtual leadership have the power to either support or hinder leadership in SMEs. Therefore, a moderating effect on relationships is implied, which is suggested for explanation in future quantitative studies. It was also uncovered that leading employees that work flexibly is a complex and time-consuming task which does – in addition to transformational leadership and management skills – require skills in using modern and innovative technology.

Additionally, a flexible workforce in SMEs needs to be managed which is an additional construct, related to internal numerical flexibility derived out of this study's findings. Managerial as well as theoretical insights on the critical role of ICT in leading employees who work flexibly have been uncovered and the identified gap has been closed as it was presented how ICT, leadership and trust influence internal numerical flexibility. In addition, a new conceptual framework has been provided depicting expected relationships between constructs. The issue of working flexibly in one of the three workspaces (here included in internal numerical flexibility) is currently discussed with its positive and negative aspects in companies (SMEs as well as larger companies), prompted by the COVID-19 pandemic, so another important aspect regarding this trend has been analysed in this study. I12 concluded "it is a highly relevant topic, and I believe it will change the world of work in a sustainable way".

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Appendix

Table 2: Aggregate dimensions, themes, concepts, and representative data

Aggregate dimension, 2nd order themes and 1st order concepts	Representative data
Overarching aggregate dimension: Technological aspects of virtual leadership	
<i>1. IT infrastructure</i>	
A. Usage of mobile devices	A1. "What I am getting at is that two years ago we started replacing every stationary PC here in the company with a mobile workstation" (I1). A2. "And, of course, the smartphone has become a daily companion somewhere in the meantime, to communicate, to organize one's work, to retrieve e-mails. Of course, this works from anywhere then" (I2).
B. Usage of (virtual) networks	B1. "We had all possibilities via laptop. You could access our data, but also the customer data via the software TeamViewer" (I6). B2. "One of the basic requirements for flexible working is very powerful IT equipment for employees. That means I got to know it at a former employer who had several thousand SAP workstations. That these employees had access to the SAP network from everywhere" (I10).
C. Availability of network connection	C1. "Then, of course, it is important that you use a technique that works well at low thresholds. Especially in Germany there are big problems with the mobile phone network. Is that even possible? Does it work? Do I have internet access everywhere?" (I3). C2. "You have to have the stability to be able to access servers, information and the like with your devices wherever you are, so that you can process this information very quickly" (I11).
<i>2. Software</i>	

D. Usage of video conferencing

D1. "I think that these video conferences are not really unpleasant, I have to say. Videoconferencing leads to a very focused discussion of the topic and that one is preparing oneself, right" (I7).

D2. "In the meantime, you may want to produce or discuss results again via video conference" (I5).

[...] Full table can be obtained upon request
